THE GOVERNMENT OF
THE REPUBLIC OF MALAWI

MINISTRY OF HEALTH

NATIONAL CERVICAL CANCER STRATEGIC PLAN 2022 - 2026

Contents

Foreword

Globally, Malawi has the world's highest incidence and mortality rates of cervical cancer. It is the leading cause of cancer deaths among women in the country. In 2020, cervical cancer accounted for 37% of all new cancer cases among females. Globocan 2020 estimated that the age-standardized incidence and mortality rates of cervical cancer were 67.9 and 51.5 per 100,000 population respectively, and that there were 4,145 new cases and 2,905 deaths from cervical cancer in 2020, an increase from the 2012 statistics of 3,684 new cases and 2,314 deaths from the disease. Almost all cases of cervical cancer are caused by the persistent human papilloma virus (HPV) infection with one or more of the "high-risk" (or oncogenic) types of HPV. HIV has synergistic relationship with HPV and hence, complicated cervical cancer epidemiology. Malawi has one of the highest HIV prevalence in the world and Malawi Demographic and Health Survey 2015-16 reported a 9% HIV prevalence among adults 15 – 49 years with higher prevalence observed among women (17%) than men in the same age group.

Malawi government recognizes this huge burden of cervical cancer which is preventable with largely human papillomavirus vaccination, screening and treatment of cervical pre-cancer. For the past 5 years, Malawi has been implementing activities to mitigate the burden of cervical cancer guided by the National Cervical Cancer Control Strategy 2016 – 2020. In responding to the emerging evidence, challenges faced in implementing cervical cancer control activities and lessons learnt over the years, the Ministry of Health has developed a National Cervical Cancer Strategic Plan for the period 2022 – 2026. The Malawi National Cancer Control Strategic Plan 2019 – 2029 provides strategies for all cancer control including cervical cancer but the National Cervical Cancer Strategic Plan 2022 – 2026 provides further depth in the strategies which take into account the unique features of cervical cancer Prevention and control.

The National Cervical Cancer Strategic Plan 2022 – 2026 provides direction and recommendations for practical evidence-based interventions that should lead to significant progress in reducing the incidence and morbidity of cervical cancer, and improve quality of life of cervical cancer patients in the country. The Strategic Plan builds on the World Health

Organization (WHO) comprehensive approach to cervical cancer control, and has outlined specific intervention cutting across the continuum of cervical cancer control under the following key strategic pillars: i) Governance, Advocacy and Resources mobilization; ii) Public Awareness and Demand Creation; iii) Primary Prevention; iv) Screening and Treatment of pre-cancerous lesions; v) Early detection and Cervical Cancer Treatment; v) Palliative care and Survivorship and; vi) Research, Monitoring and Evaluation.

We believe that with partnership, multi-sectoral collaboration and national ownership, implementation of the planned strategies will go a long way towards achieving the WHO Global Strategy to accelerate the elimination of cervical cancer, which has the following targets by the year 2030: 90% HPV vaccination coverage of eligible girls, 70% screening coverage with a high-performance test and 90% of women with cervical disease receive appropriate treatment (90% of women with pre-cancer treated, and 90% of women with invasive cancer managed).

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Acknowledgements

The Ministry of Health (MOH) would like to thank members of the CECAP National Strategic Plan (NSP) revision Task Force that was established to oversee the revision and development of this NSP, for their contributions and commitment that made development of this NSP possible. The Ministry also acknowledges the contribution of members of the CECAP Steering Committee, whose mandate was to provide technical guidance and monitoring towards development of this NSP. Special thanks to Dr. Lameck Chinula from the University of North Carolina (UNC) Project Malawi for leading the development of this NSP in collaboration with the CECAP stakeholders and the Task Force members including Dr. Fannie Kachale, Director of Reproductive Health Directorate (RHD), Dr. Henry Phiri, Deputy Director of Reproductive Health Services, Mrs. Twambilire Phiri, Chief Reproductive Health Officer responsible for Cervical Cancer Program at RHD, Dr. James Kachingwe, from Health Policy Plus project, who is the Technical Advisor to the Ministry of Health on Cervical Cancer Prevention and Control, Mr. Temwani Jenda from ITECH, a Monitoring, Evaluation and Data Manager, Dr. Clara Sambani and Dr. Bridon M'baya, assistant Consultants. The Ministry also acknowledges the overall contribution of the key informants and all members representing key stakeholders of the CECAP. The names of members of the CECAP National Strategic Plan (NSP) revision Task Force are listed in Annex 1. Funding for the preparation, development and printing of the NSP was provided by The United States Agency for International Development (USAID) and United States **President's** Emergency Plan for AIDS Relief (**PEPFAR**) through the Health Policy Plus project; the World Health Organization (WHO), National AIDS Commission (NAC), Partners in Hope, Community of Saint' Egidio – Disease Relief through Exellent and Advanced Means (DREAM) Program, Clinton Health Access Initiative (CHAI), Baylor College of Medicine – Children's Foundation Malawi, International – Training and Education Center for Health(I-TECH) and the UNC Project Malawi – Partnerships for Enhanced Engagement in Research (PEER) Cervical Cancer Project.

Dr. Charles Mwansambo

Secretary for Health

Abbreviations and Acronyms.

AOGM	Association of Obstetricians and Gynecologists of Malawi
BLM	Banja La Mtsogolo
CECAP	National Cervical Cancer Program
CHAI	Clinton Health Access Initiative
CMED	Central Monitoring and Evaluation Division
CMST	Central Medical Stores Trust
CSO	Civil Society Organization
DHA	Department of HIV and AIDS
DHRD	Department of Human Resources and Development
DNA	Deoxyribonucleic Acid
DREAM	Disease Relief through Excellent and Advanced Means
EHP	Essential Health Package
EID	Early Infant Diagnosis
EPI	Extended Program on Immunization
FPAM	Family Planning Association of Malawi
HEU	Health Education Unit
HSSP	Health Sector Strategic Plan
DHIS	District Health Information System
HPV	Human papillomavirus
HP+	Health Policy Plus
IAEA	International Atomic Energy Agency
IARC	International Agency for Research on Cancer
ICPD	International Conference on Population and Development
I-TECH	International Training and Education Center for Health
KCH	Kamuzu Central Hospital
KUHeS	Kamuzu University of Health Sciences
LEEP	Loop Electrosurgical Excision Procedure

LMIC	Low-and-Middle Income Countries
MBS	Malawi Bureau of Standards
MBTS	Malawi Blood Transfusion Services
MSF	Médecins Sans Frontières
MOH	Malawi Ministry of Health
NCD	Non-communicable Diseases
NGO	Non-governmental Organization
NHP	National Health Policy
NSP	National Strategic Plan
PACHA	Pediatric and Child Health Organization
PEER	Partnerships for Enhanced Engagement in Research
PEPFAR	The U.S. President's Emergency Plan for AIDS Relief
RH	Reproductive Health
RHD	Reproductive Health Directorate
SOS	Save Our Souls Foundation
STI	Sexually Transmitted Infection
TWG	Technical Working Group
UNC	University of North Carolina
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
VIA	Visual Inspection with Acetic Acid
WHO	World Health Organization

1. INTRODUCTION

1.1. Background

Cervical cancer is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer deaths in women worldwide [1]. Globocan 2020 statistics estimated that globally there were 604,000 new cases and 342,000 deaths from cervical cancer in 2020. The vast majority of countries disproportinately burdened by cervical cancer are found in sub-Saharan Africa, Melanesia, South America, and South-Eastern Asia, with the highest regional incidence and mortality occuring in sub-Saharan Africa [1]. Furthermore, the human development index (HDI) and poverty rates have been shown to account for more than 52% of global variance in death from cervical cancer [2], with this disparity evident even within high-income countries like the United States, where the cervical cancer death rate is two-fold higher among women residing in high-poverty versus low-poverty areas [3].

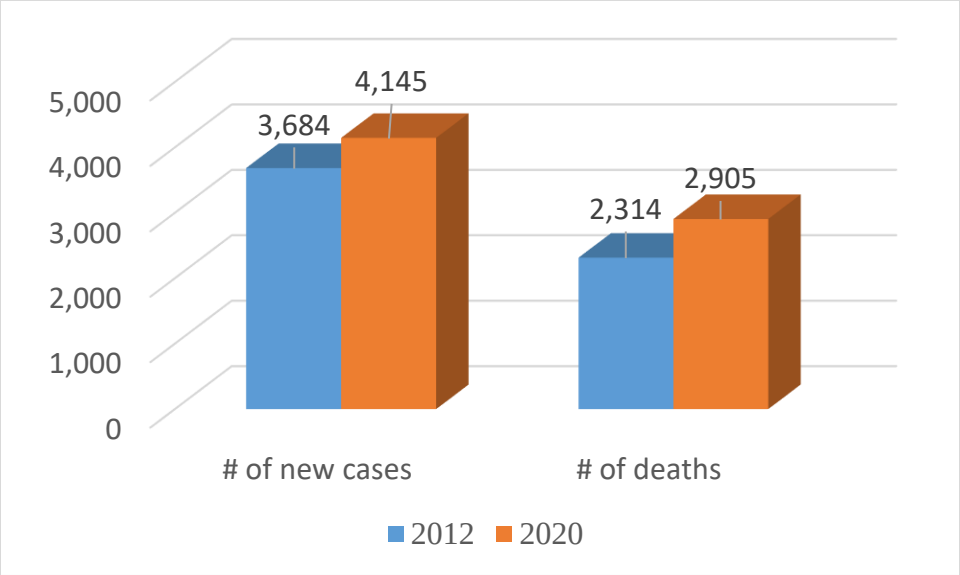
Human papillomavirus (HPV) infection, the most common sexually transmitted infection (STI), is a prerequisite for the development of cervical cancer, but not sufficient cause of cervical cancer [4]. The International Agency for Research on Cancer (IARC) Monographs classified 12 oncogenic HPV types as group 1 carcinogens [5]. There are other important co-factors for cervical cancer development, and include some STIs (HIV and Chlamydia trachomatis), smoking, a higher number of childbirths, and long-term use of oral contraceptives [6]. HIV and HPV have a synergistic relationship in such a way that women living with HIV have higher prevalence of HPV infection, persistent infection with HPV, infection with multiple types of HPV, and cervical squamous intraepithelial neoplasia comapared to their HIV-uninfected counterparts [7,8]. HIV also causes up to 22-fold increased risk of cervical cancer [8].

1.2. Cervical Cancer Burden in Malawi

Malawi has the world's highest incidence and mortality rates of cervical cancer [1]. Cervical cancer is the leading cause of cancer deaths among Malawian women, and accounted for 37% of all new cancer cases among females in 2020 [9]. Globocan 2020 estimated that the age-standardized incidence and mortality rates of cervical cancer were 67.9 and 51.5 per 100,000

population respectively, and that there were 4,145 new cases and 2,905 deaths from cervical cancer in 2020, an increase from the 2012 statistics of 3,684 new cases and 2,314 deaths from the disease (Fig. 1) [9]. The 5-year prevalence of cervical cancer was estimated at 7,029 [9].

Figure 1. Burden of cervical cancer in Malawi



HPV prevalence varies with HIV status among women in Malawi. High risk HPV positivity of up to 39% has been reported among women living with HIV in Malawi with HPV types 35, 58 being more frequent than HPV 16, and 18 in some studies [10,11]. Malawi has one of the highest HIV prevalence in the world, which also complicates the cervical cancer epidemiology. Malawi Demographic and Health Survey 2015-16 reported a 9% HIV prevalence among adults 15 – 49 years with higher prevalence observed among women (17%) than men in the same age group [12].

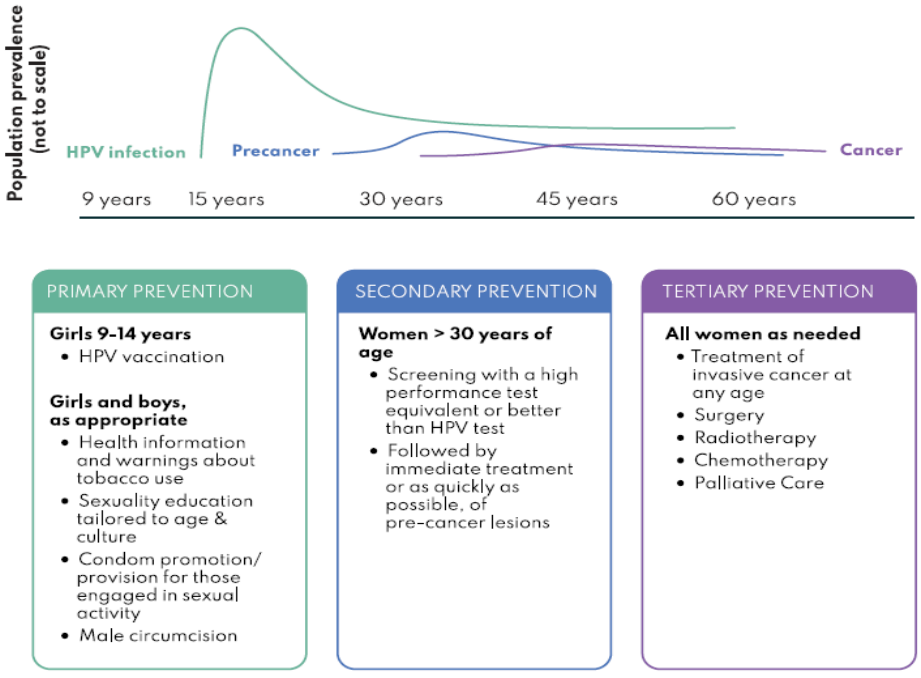
2. CERVICAL CANCER PREVENTION AND CONTROL

Almost all cases of cervical cancer are caused by the persistent HPV infection with one or more of the “high-risk” (or oncogenic) types of HPV. The persistent HPV infection may lead to the development of high grade cervical squamous intraepithelia neoplasia (i.e. cervical pre-cancer) which, if left untreated, can lead to invasive cervical cancer, which is potentially fatal [13].

Unlike several cancer types, the natural history of cervical cancer is well understood. While majority of HPV infections resolve spontaneously and do not cause symptoms or disease, persistent HPV infections with high risk HPV types may lead to cervical pre-cancer. In immunocompetent women, there is a very slow progression of the disease from persistent cervical HPV infection, which can take 10 - 20 years, particularly from normal (healthy) to cervical pre-cancer, and then to invasive cancer [14]. The 10- to 20-year lag between pre-cancer and cancer offers ample window of opportunity to screen, detect and treat pre-cancer and avoid its progression to cervical cancer. However, immunocompromised women (e.g., those living with HIV) progress more frequently and more quickly to pre-cancer and cancer.

The World Health Organization developed a comprehensive approach to cervical cancer prevention and control. The core principle of this framework is to act across the life course of the disease with programmatic effective interventions in relevant age groups to prevent HPV infection and cervical cancer (Fig. 2) [15].

Figure 2: WHO comprehensive approach to cervical cancer prevention and control



The cervical cancer prevention and control framework requires multidisciplinary approach and includes the following key components: HPV vaccination, screening and treatment of cervical pre-cancerous lesions, and treatment and palliative care for cervical cancer. In November 2020, WHO Director-General launched the Global strategy to accelerate the elimination of cervical cancer. The Strategy set the following targets for each of the three cervical cancer control pillars for 2030: 90% HPV vaccination coverage of eligible girls, 70% screening coverage with a high-performance test and 90% of women with cervical disease receive appropriate treatment (90% of women with pre-cancer treated, and 90% of women with invasive cancer managed) [16].

Monitoring and evaluation of the control strategies form a key component for any required modifications to the implemented strategies to ensure continued effectiveness of the interventions.

2.1. HPV Vaccination for Primary Prevention

Primary prevention of cervical cancer aims at preventing HPV infection and/or minimising exposure to other risk factors for cervical cancer development. The most effective primary prevention method is the use of HPV vaccination for the adolescent girls. The WHO recommended target group for vaccination is 9- 14 years old girls, with 2 doses administered over a period of 6 months, and 3 doses recommended for adolescents living with HIV. The HPV vaccines prevent over 95% of HPV infections caused by HPV types 16 and 18. The available HPV vaccines, Cervarix and Gardasil, have some cross-protection against other less common HPV types which cause cervical cancer, with Gardasil also protective of HPV types 6 and 11 which cause anogenital warts.

The HPV vaccination requires an effective, affordable and equitable delivery strategies to reach the target population including the vulnerable (e.g. street children, migrants).Where school enrolment of girls is high, school based vaccination can be effective [17]. However, other delivery strategies need to be thought through in order to transform future HPV vaccine

delivery in resource limited setting [18]. Other primary prevention modalities include sex education for both boys and girls tailored to age and cultural context, condom promotion and male circumcision for boys.

2.2. Secondary Prevention: Screening and Treatment of Pre-cancerous Lesions

Cervical cancer screening involves systematic testing for cervical pre-cancer and cancer of women at risk, most of whom will be without symptoms. Thus, women targeted for screening typically feel perfectly healthy and see no reasons to visit health facilities. Early detection and treatment of pre-cancerous lesions followed by adequate treatment has been shown to prevent the majority of cervical cancers. Cervical cancer screening services may be provided either as organized or opportunistic (i.e. taking advantage of a woman's visit to the health facility for another purpose) services or a combination of both. However, organized screening is more cost-effective than opportunistic screening, and ensures that the greatest number of women at risk have access to the screening services.

There are three types of screening tests for cervical cancer available. These are:

1) Visual inspection with Acetic Acid (VIA)
2) Conventional (Pap) and liquid based cytology
3) HPV testing for high- risk HPV types

For optimal outcome of the screening services, women who screen positive need to have timely access to treatment. In most low-and-middle income countries (LMICs), a 'screen and treat' approach has been the most preferred approach. This approach involves use of a screening test that gives immediate results (like VIA, and more recently HPV testing using Gene Xpert) followed by same day treatment (e.g. using cryotherapy or thermal ablation) for those with lesions eligible for treatment, without any further tests unless cancer is suspected. Recently, WHO produced and released new guidelines for screening and treatment of cervical pre-cancerous lesions for cervical cancer prevention, and now recommends using HPV Deoxyribonucleic Acid (DNA) detection as the primary screening test rather than VIA or

cytology in screening and treatment approaches among both the general population of women and women living with HIV [19].

Impactful screening program prioritizes maximizing coverage within the at-risk target age group including women living with HIV and assuring complete follow-up of women with abnormal screening test results rather than maximizing the number of tests performed in a woman's lifetime. In high HIV prevalence countries, women who screen positive for cervical cancer should be offered HIV testing and counselling.

2.3. Tertiary Prevention: Treatment of Cervical Cancer and Palliative Care

While efforts to prevent cervical cancer are being scaled up globally, 604,000 women are diagnosed with cervical cancer annually [1]. These women require cancer treatment. Cervical cancer treatment largely involves a multi-modal approach involving surgery, chemoradiation and palliative care depending on the stage of the disease. Some women are diagnosed with advanced cervical cancer and need relief from pain and suffering (both physical and psychological). For optimal provision of cancer care including palliative care, a well coordinated referral system is required with centralized care preferable due to the infrastructural and human resource needs which are costly particularly for resource limited countries. Thus, most cancer care services are established in tertiary facilities where multidisciplinary care is also feasible. In many countries, optimal cancer care including for cervical cancer is not available or not accessible to most women who need it. The long duration of treatment also means that women have to travel to treatment centres, which is not feasible to many especially in resource limited countries even where cancer care is provided at no cost to the patient. Thus establishment of treatment referral networks, support for women diagnosed with cervical cancer and their caregivers are essential to ensure access and compliance to treatment.

2.4. Monitoring and Evaluation of Cervical Cancer Prevention and Control

To ensure that progress and targets of the cervical cancer prevention and control strategies are met, monitoring and evaluation is critical. The essential impact indicators for cervical cancer

prevention and control strategies are incidence and mortality of cervical cancer. Cancer registries provide a platform on which long term impact of primary prevention particularly HPV vaccination and cervical cancer screening and treatment programs on disease incidence and mortality rate are monitored. However, process indicators of the key pillars of the cervical cancer prevention and control are also essential in ensuring that the strategies are responsive to the emerging issues during their implementation.

3. THE NATIONAL CERVICAL CANCER CONTROL STRATEGIC PLAN

3.1. Development of the National Cervical Cancer Strategic Plan

Malawi National Cervical Cancer Program (CECAP) coordinates national response to control cervical cancer and over the past 5 years has been guided by the Malawi Cervical Cancer Control Strategy 2016 – 2020 [20]. Following the expiry period of the previous strategic plan, the Malawi Ministry of Health with support from partners initiated an exercise to review and revise the National Cervical Cancer Control Strategy 2016 - 2020 and draw lessons from the implementation of the Strategy. The goal was to develop a revised National Cervical Cancer Strategic Plan 2022 – 2026 that will provide direction and recommendations for practical evidence-based interventions, where available, that should lead to significant progress in reducing the incidence, morbidity, mortality of cervical cancer, and improve quality of life of cervical cancer patients in the country.

This Strategic Plan was developed through a consultative process with key stakeholders' input. The National Cervical Cancer Program put up a National Cervical Cancer Strategic Plan Revision Task Force, whose mandate was to oversee and provide direction to a Lead Consultant during the development of the strategic plan. The Strategic Plan is aligned with the Malawi National Cancer Control Strategic Plan 2019 – 2029, which provides overall strategies for all cancer control including cervical cancer.

An inception meeting was held where the conceptual framework for development of the strategic plan was presented and consensus on the approach, the terms of reference, key

deliverables and the timelines for completing the work were agreed. Preliminary findings from the desk review were also presented. The strategic plan development involved desk review, key informant interviews, purposely selected health facility visits and stakeholders consultative meeting.

A list of key informants was drawn in consultation with *The Task Force*. A zero draft strategic plan was developed and presented to *The Task Force*, comments were incorporated, followed by a presentation to the *Cervical Cancer Steering Committee* that draws members from different key stakeholders in response to cervical cancer control, ranging from policy makers, program implementers and service providers. Finally, the strategic plan was presented to stakeholders for validation.

3.2. The Policy Environment

3.2.1. Global and Regional Policies

In response to the inequalities in the burden of cervical cancer where 1 in 10 cervical cancer deaths occur in LMICs, in 2018, WHO called upon all countries to take action to help end the suffering caused by cervical cancer [16]. In 2020, WHO took further steps and published its global strategy to eliminate cervical cancer as a public health problem [21]. The strategy supports attainment of a number of Sustainable Development Goals (SDGs). The SDGs were adopted by all member states of the United Nations (UN) including Malawi in 2015 as a commitment to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. Goal number 3 specifically deals with health and reads 'ensure healthy lives and promote well-being for all at all ages'. Eliminating cervical cancer contributes to achieving targets under this Goal specifically reducing premature mortality from non-communicable diseases (NCDs) (Goal 3.4), ensuring universal access to sexual and reproductive health care services (Goal 3.7) and achieving universal health coverage including access to effective vaccines for all (Goal 3.8) [22].

Eliminating cervical cancer as a public health problem will also contribute to achieving other SDGs including Goal 1 'ending poverty in all its forms', Goal number 5 'achieving gender equality and empowering women and girls', and Goal number 10 which targets 'reducing inequality within and among countries'. These goals reinforce the need for UN member countries such as Malawi to take concrete steps to, among others, formulate policies and strategies that deal with cervical cancer as an NCD, as a reproductive health issue and in the broader context of the Agenda 2030 of 'leaving no one behind' and creating a better and sustainable future for all [22].

Tackling cervical cancer also supports the Pan-African vision of the 'Africa we want' initiated by the African Union in 2013. It is a set of aspirations that governments of Africa are determined to achieve by 2063. The goals of the agenda 2063 are consistent with the SDGs but take a longer term view. One of the seven aspirations of the agenda is "an Africa whose development is people- driven, relying on the potential of African people, especially its women and youth, and caring for children" [23]. This can be achieved by, among others, investing in women's health.

Comprehensive Reproductive Health (RH), as defined at the 1994 International Conference on Population and Development (ICPD) in Cairo, and subsequently endorsed at the 1995 Fourth World Conference on Women in Beijing states that comprehensive RH is "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity in all matters related to the reproductive system and its functions and processes." Further the program of action of the ICPD highlighted the crucial link between sexual and reproductive health and rights with almost every aspect of human development [24].

3.2.2. The National Policies

In January 2021, Malawi launched its Vision 2063 in alignment with the Sustainable Development Goals and the 2063 'Africa We Want' Agenda of the African Union. The Vision expresses Malawi's aspirations to transform the country into a wealthy and self-reliant industrialized 'upper middle-income country' by the year 2063. The Vision has 3 Pillars

anchored on 7 enablers. Health and nutrition are a component of enabler number 5 which deals with human capital development and specifically states “we envision a healthy population with improved life expectancy working towards the socio-economic transformation of Malawi with a goal to attain universal health coverage and strengthening reproductive and adolescent health” [25]. The vision is a long term plan which will be implemented through medium term development strategies.

The Malawi Growth and Development Strategy III recognises health as “the lynchpin for socio-economic development” and observes that “improving health outcomes is essential and a prerequisite for increased national productivity, accelerated economic growth and poverty reduction”[26]. It places health and population as one of the 5 key priority areas. Two of the 8 outcomes under health are relevant to cervical cancer as they deal with expanding comprehensive and reproductive health care programs and reducing incidence and prevalence of diseases by designing appropriate programs to deal with emerging NCDs such as cancer among others [26].

The National Health Policy formulated by the Ministry of Health is in place and serves as an overarching policy document, anchoring all health sector strategies and policies. For reproductive health, and in line with the Program of Action adopted at the 1994 International Conference on Population and Development, Malawi formulated policies on sexual and reproductive health, the latest being the 2017-2022 National Sexual and Reproductive Health and Rights Policy. This policy gives direction and guidance to implementation of a comprehensive and integrated RH programme, so as to achieve the highest possible level of quality integrated RH for all Malawians particularly women. Cervical cancer along with breast and prostate cancer are the only 3 cancers that are addressed in this policy [27].

Integration of the Essential Health Package (EHP) service delivery at all levels is emphasized in the National Health Policy. The EHP guides provision of free health care services for conditions with a high disease burden as a means to achieve universal health coverage. The National

Health Sector Strategic Plan (HSSP) II (2017-2022) strategically operationalizes the overall goal and specific objectives of the National Health Policy which is to improve the health status, and increase client satisfaction and financial risk protection towards attainment of universal health coverage and the 2030 SDGs agenda. The HSSP II highlights that NCDs are increasingly contributing to the burden of disease in Malawi. They are the second leading cause of deaths in adults after HIV and AIDS. The HSSP II specifically highlights the very high burden of cervical cancer among women in Malawi [28]. However, due to resource constraints, the HSSP II directed that "for the most part the only feasible interventions for addressing NCDs should be health promotion and education to address the socioeconomic determinants of NCDs" [28]. For cervical cancer, this position shifted in the National Cervical Cancer Control Strategy 2016 -2020 and recently the National Cancer Control Strategic Plan-2019-2029 which acknowledge the high disease burden of cervical cancer and formulate interventions beyond health promotion, education and screening. The interventions include introducing and scaling up of HPV vaccination for adolescent girls, scaling up of cervical cancer screening services including loop electrosurgical excision procedures (LEEP), and building capacity for cancer care [20,29]. The National Cervical Cancer Strategic Plan 2022 -2026 builds on these global, regional and national policies and strategic frameworks to formulate a blueprint for eliminating cervical cancer as a public health problem, as a sexual and reproductive health issue in the context of achieving universal coverage in line with Malawi's Vision 2063.

3.3. Situation Analysis

3.3.1. Health Care Service Delivery in Malawi

In Malawi, health care services are largely provided by Malawi government through the Ministry of Health, and through private not-for-profit health facilities that are church affiliated under the Christian Health Association of Malawi (CHAM). The services are largely free with a small user fee in CHAM facilities except for service level agreements with Ministry of Health that have made provision of maternal, neonatal and child health care services in CHAM facilities to be free of charge to recipients of care.

There are three levels of health care service delivery in Malawi:

1) **Primary level of care** comprises of health centres and community hospitals - these provide a range of promotional and preventive health services, and limited curative and rehabilitative services. The facilities also conduct outreach and village clinics particularly for preventive health services such as childhood immunization and contraceptive services. The staff at these facilities include community health workers such as health surveillance assistants, nurse/midwife technicians, medical assistants, clinical technicians and more recently medical officers.
2) **Secondary level of care** comprises of district and some mission hospitals. These act as the next referral level of care for primary level facilities. The facilities provide both in-patient and out-patient services. The staffing includes health care cadres as at primary health care level, as well as medical officers and a director of health and social services for district hospitals. The district hospitals are financed through the district councils and the director of health and social services serves as a member of the senior management of the district council.
3) **Tertiary level of care** comprises of central hospitals; Queen Elizabeth Central Hospital (QECH) and Zomba Central Hospital in the southern region, Kamuzu Central Hospital (KCH) in the Central Region and Mzuzu Central Hospital in the Northern Region. These serve as training institutions, and referral facilities for secondary level facilities and some community hospitals. The staffing, that include specialists in different disciplines, allows for multidisciplinary care for some illnesses. They also have a wide range of diagnostic and therapeutic services, including a pathology laboratory at KCH.

In addition to the above, there are also private hospitals and non-governmental organizations that are providing health care services at a fee, with some providing free selected services to patients. Examples include Banja La Mtsogolo (BLM), Save Our Souls Foundation (SOS) Children's Village International, and Family Planning Association of Malawi (FPAM). The services range from HIV/antiretroviral therapy, sexually transmitted infections management, post-

abortal care, family planning and now increasingly cervical cancer screening and preventive therapy.

3.3.2. Organizational Structure of the National Cervical Cancer Program

The National Cervical Cancer Program was established in 2004 and it is housed in the Ministy of Health Reproductive Health Directorate. The Program has over the years focussed on scaling up the screen-and-treat approach using VIA for screening and preventive therapy with cryotherapy and recently thermal ablation. Cervical cancer suspects at screening are referred to the public tertiary referral hospitals for further evaluation.

The Program has a National Coordinator who is supported by the Director of the Reproductive Health Directorate and a cervical cancer focal person in the Department of HIV and AIDS. Over the years, the coordinator has also been supported by a Technical Advisor and a Monitoring, Evaluation, and Data Manager seconded to the Program by partners. Currently, the Technical Advisor is seconded to the Program by The Palladium Group Limited through Health Policy Plus (HP+) Project, and the Monitoring, Evaluation, and Data Manager is seconded to the Program by International Training and Education Centre for Health (I-TECH). The Program provides oversight and coordination of the national response to cervical cancer control. The Program also provides guidance and direction at the district level through the district cervical cancer program coordinators, popularly referred to as *VIA coordinators* and relies on the Health Information System Officers for cervical cancer data management at district level.

3.3.3. HPV Vaccination Program

In 2013, Malawi conducted a pilot HPV vaccination program for adolescent girls in Rumphi and Zomba districts. The pilot project was implemented with support from Gavi- the Vaccine Alliance, World Health Organization, United Nations Population Fund (UNFPA) and United Nations Children's Fund (UNICEF). A school based delivery approach was adopted and girls in standard 4 were targeted.

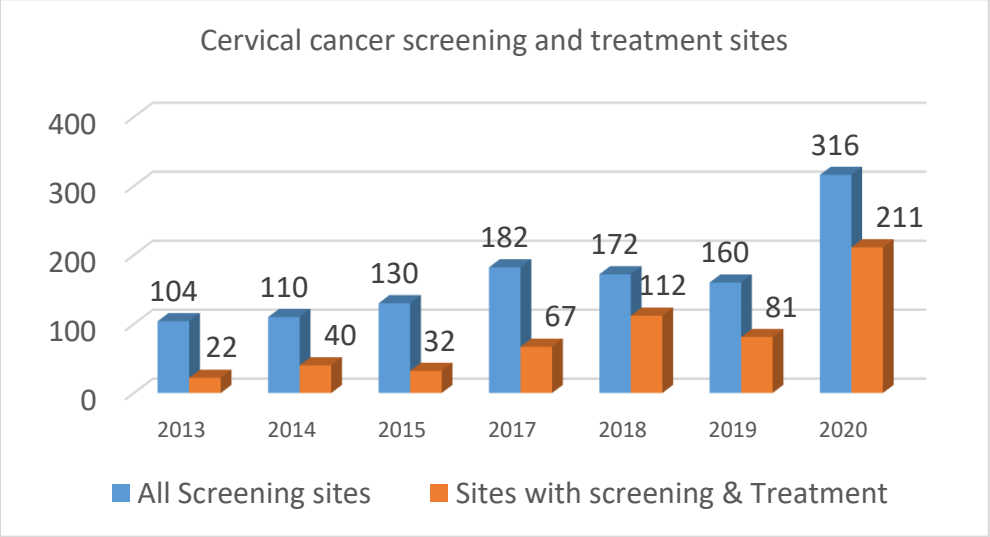
The choice of standard 4 was based on the Education Management Information System (EMIS) which revealed that 89% of girls in standard 4 were in the age range of 9-13years. There was therefore a greater probability of getting the target age group in standard 4 than any other class. The demonstration project also targeted out-of-school girls aged 10 years. Quadrivalent Gardasil was used for the project. The overall HPV vaccination coverage in the first three years was 82.7% in Zomba, and 91.3% in Rumphi districts [30]. The implementation of a school-class-based HPV vaccination strategy was feasible and produced high (>80%) coverage. The health facility-based coverage for out-of-school adolescent girls produced low coverage, with only half of the target population being fully vaccinated [30]. In 2018, Malawi launched the national HPV vaccination program which has now made the HPV vaccine being available through health facilities at any time for the target population combined with school based HPV vaccination campaigns scheduled every 3 months where resources permit and also based on the school calendar.

3.3.4. Cervical Cancer Screening Program in Malawi: Progress and Lessons Learnt

Since 2004, Malawi has been implementing a VIA-based screen-and-treat strategy with ablative preventive therapy using thermal ablation or cryotherapy. The program is guided by the Malawi Cervical Cancer Control Strategy [20] and National Service Delivery Guidelines for Cervical Cancer Prevention and Control [31].

By the end of 2020, there were a total of 316 cervical cancer screening sites, of which 211 could screen-and-treat (Figure 3). There has been a steady increase in sites with functioning ablative preventive therapy (i.e. cryotherapy and thermal ablation) over the past 5 years, particularly from 2017 when the country incorporated thermal ablation and bought thermocoagulation devices with support from Global Fund.

Figure 3: Selected Cervical Cancer Control Program Process Indicators.



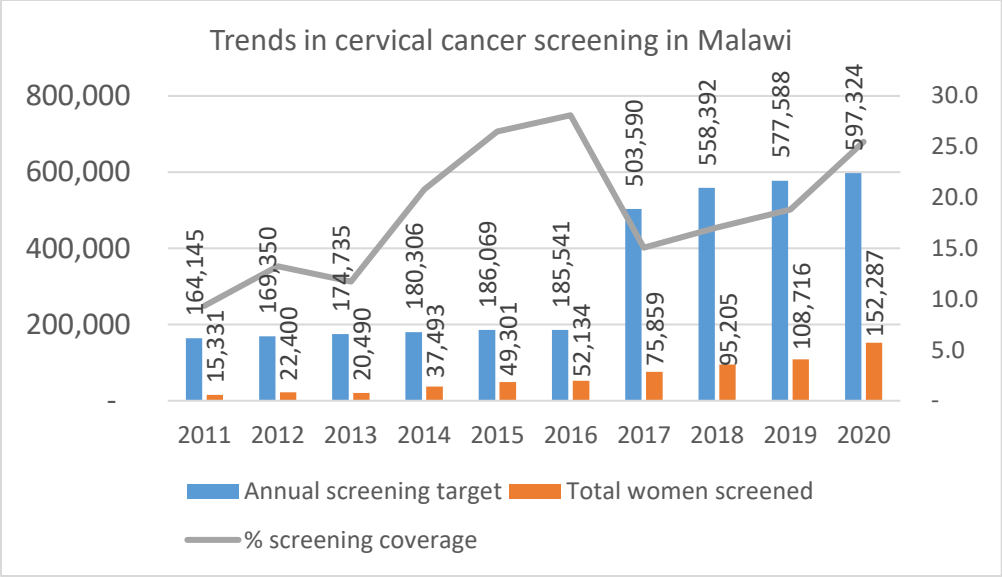
In 2020, 152,287 women were screened with VIA, representing overall population coverage of 25.5%; 6,092 (4.0%) were VIA positive and 2,891 (1.9%) were cancer suspect (Table 1). Screening coverage of the eligible population (women aged 25–49years, 13% of total population, program target 70 % to be screened in 3 years) increased from 15.1 % in 2017 to 25.5 % by the end of 2020 (Figure 4, Table 1). The drop in the screening coverage of eligible population between 2016 and 2017 is largely due to the change in target population screeened (from women aged 30 – 45 years to women aged 25 – 49 years), an increase to 13% from 6.74% of the population to be screened in 3 years and not in 5 years for the prior years to 2017 and the program target screening coverage revision to 70% from 80% to align with WHO's 90-70-90 target for cervical cancer elimination by 2030.

Table 1: Trends in the number of women screened for cervical cancer: 2011-2020

Year	Annual target	# of women screened with VIA		VIA Positive		VIA Positive & received ablative therapy		# of women suspected of cervical cancer	
		N	% coverage[1]	n	%	n	%	n	%
2011	164,145	15,331	9.3	894	5.8	388	43.4	798	5.2
2012	169,350	22,400	13.2	1,069	4.8	400	37.4	1,098	4.9
2013	174,735	20,490	11.7	1,447	7.1	528	36.5	1,294	6.3
2014	180,306	37,493	20.8	1,628	4.3	655	40.2	1,434	3.8
2015	186,069	49,301	26.5	2,311	4.7	1,001	43.3	1,665	3.4
2016	185,541	52,134	28.1	2,586	5.0	1,403	54.3	1,552	3.0
2017	503,590	75,859	15.1	3,197	4.2	2,275	71.2	1,740	2.3
2018	558,392	95,205	17.0	3,506	3.7	2,350	67.0	2,198	2.3
2019	577,588	108,716	18.8	2,689	2.5	2,067	76.9	1,652	1.5
2020	597,324	152,287	25.5	6,092	4.0	3,216	52.8	2,891	1.9
Total		629,216							

Ablative therapy: cryotherapy or thermal ablation
n = number of women in the group
VIA = visual inspection with acetic acid
[1]Annual coverage (%) = Number of women screened in a year/Annual target ×100
Annual target for years 2011 - 2016 = Total population × 0.0674 × 0.8/ 5 for women aged 30 – 45 years
Annual target for years 2017 - 2020 = Total population × 0.13 × 0.7/ 3 for women aged 25 – 49 years
Total population was based on Malawi National Statistics Office data and projections

Figure 4: Trends in cervical cancer screening for Malawi



However, although the screening coverage rate is increasing, it remains much lower than the targeted population coverage rate of 70% for the last 4 years. Of 6,092 women who were VIA positive, 3,216 (52.8%) received ablative treatment, a decrease from the previous 3 years. This needs investigation considering that the number of sites which could screen-and-treat increased during the same period.

3.3.4.1. New Developments in Cervical Cancer Screening in Malawi

The advent of Gene Xpert machine for early infant diagnosis (EID), HIV viral load monitoring and diagnosis of tuberculosis has allowed the same platform to be used for HPV testing for cervical cancer screening. In the recent past, HPV-based cervical cancer screening demonstration projects have been conducted by different partners in collaboration with Malawi Ministry of Health. The Nkhoma Cervical Cancer Screening Program tested the feasibility of implementing HPV testing with Xpert HPV and found that Xpert HPV testing is a feasible test for screening in LMICs [32], as reported in other countries including Cameroon [33].

Clinton Health Access Initiative (CHAI) implemented a pilot implementation of HPV testing integration on existing Gene Xperts in selected public health facilities in Malawi. Of 2,356 women who were approached for HPV-based screening, 2,341 (99%) were tested, and 966

(43%) of the 2,223 women with valid results were HPV positive. Of the 966 women with HPV positive results, 436 (45%) did not receive the HPV results and were not linked to care (unpublished). The team recommended that HPV-based screening program should include setting up systems for tracing HPV positive women to ensure linkage to care. Challenges with power supply including power back up for the Gene Xpert machine was also experienced during the pilot project at some sites.

University of North Carolina (UNC) Project Malawi through Partnerships for Enhanced Engagement in Research (PEER) cervical cancer screening and preventive therapy in collaboration with the Kamuzu University of Health Sciences (KUHeS) formerly University of Malawi College of Medicine, and other partners is implementing an HPV-based feasibility project in 16 public health facilities in Lilongwe and Zomba districts in Malawi. The PEER cervical cancer project is implementing a self-sampling based approach for HPV testing, and integrating cervical cancer screening with voluntary family planning, and using thermal ablation for treating HPV positive women eligible for ablative treatment [34]. The project is ongoing until 2022.

CHAI in collaboration with Malawi Ministry of Health and the Association of Obstetricians and Gynaecologists of Malawi (AOGM) is also implementing colposcopy and LEEP training for clinical officers and medical officers in district hospitals, in an effort to scale up LEEP services to district hospitals. Currently women with cervical lesions that cannot be treated with thermal ablation are referred to central hospitals. The LEEP training is a task shifting measure that is expected to build capacity and increase access to treatment for women who screen positive and cannot be treated by ablative therapy. Traditionally, LEEP services have largely been performed by gynecologists, a cadre that is small in number, in Malawi.

3.3.4.2. Low Technology, yet scalable Prevention Intervention Modality is Impactful

National cervical cancer screening program in Zambia utilizes VIA with cervicography. The cervicography has been useful for quality assurance and telemedicine. With the VIA/cervicography screening model, Zambia managed to scale up the screening program

countrywide, and its experience suggested that while accuracy of a screening test is an important attribute, it forms a small part of an equation for mitigating cervical cancer burden [35,36]. The Zambia experience also demonstrated that the success of a screening program is largely determined by how screening and treatment are integrated into routine healthcare system for maximum impact [35].

Malawi has also implemented the VIA based screening program which is now scaled up to all districts in Malawi. Through the program, Malawi has made strides to increase the number of women screened per year although the population screening coverage has remained lower than the target coverage aimed by the program. Thus the impact of the screening program on the incidence and mortality of cervical cancer is yet to be realized.

3.3.4.3. Horizontal Integration with Donor-funded HIV and AIDS Care and Treatment Programs has increased access to Cervical Cancer Screening.

Over the past decade, there has been an increased expansion of bilateral (e.g., The U.S. President's Emergency Plan for AIDS Relief (PEPFAR)) and multilateral (e.g., Global Fund) donor funding for HIV and AIDS programs. The funding has transformed health care delivery in resource limited settings, particularly in sub-Saharan Africa including both Malawi and Zambia's HIV and AIDS programs.

Zambia cervical cancer prevention program co-located within public health clinics offering HIV and AIDS care and treatment allowed for resource and infrastructure sharing, availability of wide range of women's health services for the at risk women living with HIV and opportunities for referral between clinic systems. These have led to increased access to cervical cancer prevention services to women in Zambia [35].

As in Zambia, the Global Fund and PEPFAR funding to Malawi HIV and AIDS program has been leveraged to facilitate increased access to cervical cancer screening and preventive therapy to women particularly those living with HIV through integration of reproductive health services,

particularly cervical cancer screening into HIV and AIDS care. Several site level PEPFAR partners including Lighthouse Trust, Partners in Hope and previously Dignitas International Project and Médecins Sans Frontières (MSF) have implemented integration of cervical cancer prevention services into HIV and AIDS care. Lighthouse Trust, Partners in Hope and MSF among other stakeholders have gone further to support diagnostic, particularly pathology services, of those found to be cancer suspect at screening. The UNC-led PEER project is also modelling the integration of HPV-based screening into family planning services [34].

3.3.4.4. Role of Information Technology in Cervical Cancer Control Program

National cervical cancer screening programs have utilized information technology to enhance the program's operations and enabling quality assurance. The Zambia cervical cancer program has utilized telemedicine consultation through the ''electronic cervical cancer control'' model as a mobile health application that has enhanced clinical care services and improved quality assurance of nurse-led VIA [35,36]. The point-of-care online data entry and a centralized web-based patient clinical and laboratory records management system enhanced program monitoring and outcomes evaluation in Zambia [35].

In Malawi, the MSF-led cervical cancer program in the Southern Region of Malawi has utilized a phone based application (app) for quality assurance for VIA. The program conducts weekly review of VIA images with resident gynecologists and foreign-based gynecologists with nurse VIA providers, and also timely clinic consultations through the phone app. Other programs are considering utilizing Mobile EVA System for quality assurance. Thus information technology has several roles in cervical cancer screening programs including quality assurance, monitoring and evaluation, but do require investment into technological devices including web-based data system. Malawi is considering expanding DHIS II for point of care data entry for cervical cancer control program.

3.3.5. Cervical Cancer Care in Malawi and Related Developments in the Region.

Cervical cancer treatment encompasses surgery, chemoradiation and palliative care dependent on the stage of the disease. Cervical cancer treatment requires histopathologic confirmation. Early detection of cervical cancer is key to curative surgical treatment. However, there are limited histopathologic diagnostic services for cervical cancer in Malawi. Currently, there are three private histopathologic laboratories and one public pathology laboratory in the country. These are the UNC/KCH pathology laboratory in Lilongwe, Dr. Kamiza pathology laboratory, Malmed pathology laboratory and Pathworks Laboratory at Blantyre Adventist Hospital in Blantyre. There are currently 4 practising pathologists for a country of approximately 18 million people. Thus the majority of women have no access to histopathologic diagnostic services when required. Furthermore the cervical biopsy procedures for cervical cancer suspects are largely unavailable in the public facilities except in tertiary public hospitals which are only four in the country. Diagnostic imaging and nuclear medicine imaging capacity including specialized personnel such as radiologists are also limited in the country. Diagnostic imaging is essential for cancer staging and treatment planning. Limited imaging is available at only tertiary public facilities. This entails that most women requiring cancer diagnostic and imaging services are referred to the tertiary public hospitals.

Access to safe, affordable and effective surgery specifically radical hysterectomy and/or pelvic lymphadenectomy and chemoradiation services is critical but yet limited in Malawi. The gynecologic surgical oncologic services for cervical cancer are available in only two of the four tertiary public hospitals, at KCH in Lilongwe and QECH in Blantyre. A National Cancer Centre (Figure 5), a centre of excellence for preventive, curative and palliative care has now been established at KCH. However, there are no radiotherapy services at the centre. The cancer centre has two resident clinical oncologists with two additional clinical oncologists based at QECH. There is also limited gynecologic oncologists in the country with visiting gynecologic oncologists through partners providing a platform for capacity building in gynecologic surgical oncology. Futhermore, chemotherapy is only available in the two public tertiary facilities.

Chemotherapy has been used for palliative care to eligible women with cervical cancer and also as neoadjuvant treatment to downstage tumors for consideration for surgery.

Currently efforts to build capacity are underway in different formats in the country. At QECH, MSF has developed a centre of excellence for cervical cancer care. The services offered range from screening and treatment of those who screen positive, and treatment of those diagnosed with cervical cancer except for radiotherapy services. The centre has two dedicated theatres for cervical cancer surgery, clinical team and staff for data management and patient tracking including on-site training of gynecologists in cervical cancer surgery with support from visiting gynecologic oncologists. Competency based surgical training facilitated the availability of surgical oncologic care services for cervical cancer at KCH in Malawi [37] and similar efforts increased access to cervical cancer in Zambia and Democratic Republic of Congo [38]. Innovative training models are also being tested in the region to build surgical oncologic care capacity in resource limited settings. Low-cost virtual reality surgical oncology simulation, which has the potential to reduce the time and cost to train surgeons to perform surgical oncology procedures has been shown to be feasible [39]. However, resource-contextualized training approaches using intensive, competency-based curricula aimed at efficient production of cadres of gynecologists capable of competently and safely performing specific surgical oncology procedures should be promoted in resource limited setting including Malawi [38].

Figure 5: The National Cancer Centre at KCH

Palliative care services also remain limited for patients with advanced cervical cancer in Malawi. The available palliative care services include use of chemotherapy in selected patients with advanced cervical cancer to step-wise use of analgesics including opioids tailored to severity grade of the symptoms. The services are largely facility based, and very limited community based palliative care services.

3.3.6. Challenges faced by the National Cervical Cancer Program

The National Cervical Cancer Program hfaces a number of challenges and these include:

1) **Organizational structure and staffing:** The program currently has one staff, a national coordinator, supported by a Technical Advisor and a Data Manager seconded to the program by partners. This contrasts with other diseases control programs in the Ministry of Health, for instance Malaria Control Program, Tuberculosis Control Program or Extended Program on Immunization. This limits the coordination of partners and implementation of key program activities, and also distracts the staff seconded to the program into filling the need for more staffing than focussing on providing technical support and capacity building to the would-be core team of the program. Thus, the core team of the program remains inadequate for a program that deals with a disease of such public health importance.
2) **Inadequate number of health facilities providing cervical cancer screening and treatment services**. Although there has been a steady increase in number of screening

sites, majority of these are available in district hospitals and urban health facilities yet approximately 85% of Malawians live in rural areas [40]. Thus, majority of women continue to face challenges in accessing the screening services. In addition, some sites still lack equipment to enable them provide treatment to women who screen positive. In 2018, approximately six districts had no infrastructure to treat women who screened positive.

3) **Lack of community awareness of the HPV vaccination and the cervical cancer screening program**. This continues to impact uptake of the prevention services. There are myths and misconceptions that the HPV vaccine aims at controlling population growth. With limited community engagement activities, uptake of the preventive services will continue to be a challenge.
4) **Inadequate funding**. Due to inadequate funding, most of the key program activities are not implemented. The healthcare providers for the cervical cancer screening are required to undergo a theoretical Ministry of Health training course in VIA, cryotherapy, and recently thermal ablation. This is followed by practical mentorship in the providers' respective facilities, and regular supportive supervision of newly certified providers as part of a quality-assurance exercise. However, during the recent years, newly trained providers did not receive mentorship by the national trainers due to lack of funding to support travels for the trainers. This resulted in the program failing to open new screening/treatment sites. The national cervical cancer program also failed to hold annual program review meetings that form an integral part of the monitoring and evaluation.
5) **Poorly coordinated referral systems** between health facilities continues to be a challenge. In 2018, of the 849 women referred as cancer suspects, 18% reported to have received treatment. A Tertiary Cervical Cancer Client Register was recently developed, and it has been piloted in tertiary public hospitals. The register will be used as a monitoring and evaluation tool to track referrals and strategize on how linkage to cancer diagnosis and care can be strengthened. The program data in the DHIS II is also not linked to the existing cancer registries in the country. The Tertiary Cervical Cancer

Client Register might be a good tool to start linking the program data to the cancer registries.

4. FRAMEWORK FOR THE STRATEGIC PLAN

The vision of the Malawi MOH is to achieve a state of health for all the people of Malawi that would enable them to lead a quality and productive life. The Ministry is guided by its mission to provide strategic leadership for the delivery of a comprehensive range of quality, equitable and efficient health services to all people in Malawi by creating an enabling environment for health promoting activities. The Cervical Cancer Strategic Plan's vision, mission and strategic goal align with the overall vision and mission of the MOH, and also the vision, mission and the goal of the National Cancer Control Strategy.

4.1. Vision

To achieve a state of health where all Malawian women are free from Cervical Cancer.

4.2. Mission

To reduce incidence and mortality from cervical cancer through coordinated national response and increased access to comprehensive cervical cancer prevention and control services in Malawi.

4.3. Strategic goal

The overall goal of the strategy is to reduce the burden of cervical cancer through increased access to cervical cancer prevention and control strategies, including palliative care services in Malawi by 2026.

4.4. Target Audience

This cervical cancer strategic plan is for use by all relevant government departments, district councils, non-governmental organizations, bilateral and multilateral partners whose work directly or indirectly impact on any aspect of cervical cancer prevention and control, ranging

from policy and guidelines formulations to delivery of control services. This also includes civil society organizations, cervical cancer survivors and their families.

4.5. Guiding Principles

The national response to cervical cancer burden willl be guided by the following principles:

1) **Respect to the fundamental ethical principles:** This will entail that cervical cancer prevention and control services are provided with respect to the ethical principles of autonomy, beneficence, non-maleficence and justice. Ensuring access of the cervical cancer prevention and control services to the marginalized and at-risk population regardless of ethnicity, religion, political affiliation, disability, socio-economic status, or geographical location (hard-to-reach areas) is also in line with the HSSP II, which provides strategic direction to achieving universal health coverage.
2) **National ownership, multi-sectoral and partnership strengthening:** This strategic plan will promote partnership and multi-sectoral collaboration, with MOH playing the leadership role in coordinating and providing guidance to ensure that partners' activities are aligned to the strategic plan, and that there is national ownership. This will avoid duplication of interventions, allow leverage and maximise available resources from key stakeholders.
3) **Community participation:** This will entail striving for participation through engagement of community leaders and civil society including male involvement in planning, demand creation and implementation of the cervical cancer prevention and control activities.
4) **Evidence based interventions and application of appropriate technology:** The strategies are based on evidence-based interventions, where available, and lessons learnt thus far. Furthermore, application of safe, appropriate, culturally acceptable, and cost-effective technologies for quality assurance and data transmission will be promoted.
5) **Decentralization and sustainability:** In line with the Local Government Act 1998, key interventions shall be delivered through health service delivery channels and financing in the local government structures. The Ministry of Health - Reproductive Health

Directorate will have an oversight, coordinating and guidance role to the district councils. District council ownership of the interventions and services is critical to sustainability of the activities.

6) **Integration:** In an effort to scale up cervical cancer prevention and control services and optimize health outcomes from any contact with women in health facilities, integration of key interventions at various levels of the health system in a coherent and effective manner that is responsive to the needs of women will be promoted.

5. STRATEGIC PILLARS OF THE NATIONAL CERVICAL CANCER STRATEGIC PLAN

This strategic plan builds on the National Cancer Control Strategic Plan [29] which has interventions for all cancers including cervical cancer. This cervical cancer strategic plan however provides specific interventions cutting across the continuum of cervical cancer control and will focus on the following key strategic pillars: i) Governance, Advocacy and Resource Mobilization; ii) Public Awareness and Demand Creation; iii) Primary Prevention; iv) Screening and Treatment of pre-cancerous lesions; v) Early Detection and Cervical Cancer Treatment; vi) Palliative Care and Survivorship, and; vii) Research, Monitoring and Evaluation.

5.1. Governance, Advocacy and Resource Mobilization

Strategic goal: To establish a strong governance structure for the nNtional Cervical Cancer Program and ensure adequate funding for the cervical cancer prevention and control activities.

Strategic objective 5.1.1. To strengthen the governance structure and management of the National Cervical Cancer Program.

Interventions

1) Advocate for functional review of the established posts at RHD and NCDs department to ensure operationalization of the proposed organogram for cancer control Program.
2) Establish a National Cervical Cancer Program Technical Working Group (TWG). With the high burden of cervical cancer and the competing priorities of the maternal, neonatal and child health under the Safe Motherhood TWG, there is a threat that the same TWG cannot ably tackle and serve as a TWG for the National Cervical Cancer Program. The huge burden of cervical cancer and the emerging evidence in cervical cancer control

interventions, particularly for women living with HIV, require a TWG that is dedicated to monitor and synthesize new evidence and developments in cervical cancer control, provide direction on interventions that can be adopted by the national program and identify gaps that require further research relevant to Malawi. The TWG would also facilitate timely development of cervical cancer service delivery guidelines that are responsive to new evidence in cervical cancer control.

3) Strengthen linkage and coordination of the cervical cancer control program activities with the non-communicable diseases (NCD) unit in the Ministry of Health, which houses the National Cancer Coordinator.
4) Strengthen stakeholders' collaboration and coordination to avoid duplication of efforts and support for specific cervical cancer control interventions at the expense of other equally important interventions. For example, there has been increased support for cervical cancer screening, at both national and district council level, while there has been relatively less support for strengthening the referral pathways and ensuring that women referred from screening sites receive adequate care at the tertiary hospitals including support for scaling up LEEP services. Through the Cervical Cancer Steering Committee, stakeholders share updates on current activities and planned activities, and the committee provides a forum through which the Cervical Cancer Control Program managers with guidance from the Cervical Cancer TWG can advise partners on areas that need more support.

Strategic Objective 5.1.2. To mobilize funding for cervical cancer control activities including the establishment of radiotherapy infrastructure and services.

Interventions

1) Advocate for government commitment including district councils for adequate funding for the cervical cancer control program in line with the Abuja Declaration on funding to the health sector. A strengthened cervical cancer control program governance structure including an established cervical cancer TWG, working alongside the National Cancer Advisory Committee will be well positioned to advocate for dedicated funding to the program including advocating

for speeding up of establishing radiotherapy infrastructure and services at the National Cancer Centre at KCH.

2) Advocate for support of cervical cancer control services including through establishment of service level agreements with CHAM hospitals to increase access to the services to the target population.
3) Support civil society organizations to participate in advocacy activities. The civil society organizations can support community-led monitoring of cervical cancer screening services and advocate for targeted approaches to increase access of cervical cancer control activities to at risk and hard-to- reach populations.
4) Advocate for establishment of social grants for cancer patients who cannot afford out of pocket expenses to facilitate access to the long duration of cancer treatment available at only tertiary hospitals. The social grants can be established with engagement of the Ministry of Gender, Community Development and Social Welfare.
5) Develop a costed implementation plan for this cervical cancer control strategy.
6) Disseminate this cervical cancer strategic plan and the costed implementation plan to key stakeholders.

5.2. Public Awareness and Demand Creation for Cervical Cancer Prevention and Control Services.

Health promotion particularly raising public awareness regarding the signs and symptoms of cervical cancer, and understanding of cancer are an entry point into health seeking behaviour for cervical cancer prevention and control services. Improved understanding of cancer can result in improved awareness that cervical cancer can be prevented and cured, if detected early. Systematic health promotion can also result in less need to be reactive in addressing myths and misconception surrounding cancer.

Strategic goal: To improve capacity for public awareness and demand creation for cervical cancer prevention and control activities.

Strategic Objective 5.2.1. To increase public awareness of cervical cancer prevention and control activities.

Strategic objective 5.2.2. To address myths and misconceptions about cervical cancer, its prevention and control activities.

Strategic objective 5.2.3. To increase demand for cervical cancer prevention and control services.

Interventions

1) Build capacity for public awareness and demand creation through training of health workers, civil society organization affiliates and peers including youth.
2) Develop information, education and communication materials for cervical cancer prevention and control activities to ensure standardization of messaging for cervical cancer prevention and control.
3) Strengthen engagement of civil society organizations, community leaders and representatives of youth and vulnerable population e.g. female sex workers in health promotional activities for cervical cancer prevention and control.
4) Develop a cervical cancer champion program in partnership with cancer survivors and clients who have attended cervical cancer screening and/or received preventive therapy for cervical pre-cancer. The voices of cancer survivors and women who have undergone screening and/or preventive therapy can be of great influence in educating the public about cancer having experienced what it feels like to undergo screening, receive cervical cancer diagnosis and treatment, and adjust to normal life after treatment.
5) Conduct social mobilization including public cervical cancer awareness events and community sensitization meetings. These provide a platform for various stakeholders including civil society organizations to connect with members of the public to raise cervical cancer awareness. The events need to be made available across various age groups and settings, including schools and universities.
6) Promote role modelling in cervical cancer prevention and control messaging. This involves engagement of popular personalities such as national netball team players, and musicians as cervical cancer ambassadors.
7) Branding of cervical cancer prevention messaging on most commonly used materials by targeted groups e.g. pens in hotels, wall murals in classrooms, community buildings and

use of social media platforms for instance Facebook, twitter and Instagram. Civil society organizations and other stakeholders could do these on their social media platforms.

8) Advocate for male involvement in social mobilization including public cervical cancer awareness events and community sensitization meetings including promotion of HPV vaccination for adolescent girls and voluntary male circumcision.
9) Promote life skills education in primary and secondary schools through engagement of the Ministry of Education and civil society organizations.
10) Conduct orientation of media personnel, teachers and health workers including community health workers in effective messaging of cervical cancer prevention and control activities. This would promote responsible reporting on effective control interventions as well as dissemination of information in print and electronic media including panel discussions on radio and television.

5.3. Primary Prevention of Cervical Cancer

Primary prevention of cervical cancer aims at preventing HPV infection and/or minimising exposure to other risk factors incriminated in cervical cancer development.

Strategic goal: To reduce cervical cancer incidence through primary prevention with use of HPV vaccine for adolescent girls as a priority and reduction of exposure to HIV and tobacco.

Strategic objective 5.3.1: To reduce exposure to HPV infection.

Interventions

1) Promote uptake of HPV vaccination for adolescent girls (9-14 years old)
2) Promote integration of HPV vaccination into existing health service delivery platforms
3) Strengthen the supply chain management of HPV vaccine to always ensure continuous availability of the vaccine in health facilities.
4) Advocate for targeted approaches for HPV vaccination for the vulnerable population including street children, those in refugee camps, those out of school, and those residing in hard-to-reach geographical areas.
5) Conduct social mobilization for HPV vaccination including public awareness events and community sensitization meetings alongside other cervical cancer prevention and

control promotional activities, with purposely targeted approaches for male involvement. Male involvement is essential as most families have males as primary decision makers in Malawi.

6) Engage the Ministry of Education for inclusion HPV infection alongside other sexually transmitted infections prevention in the life skills curricula for primary schools.

Strategic objective 5.3.2: To reduce exposure to HIV.

Interventions

1) Promote health reproductive and sexual behaviour tailored to age and cultural background of the target population.
2) Promote male circumcision and condom use for those engaged in sexual activities.
3) Promote HIV test-and-treat strategies and pre-exposure prophylaxis for at risk women for instance those in discordant HIV relationship which indirectly will reduce risk of HIV transmission and acquisition.

Strategic objective 5.3.3: To reduce use of tobacco, tobacco products and its by-products, all known risk factors for cervical cancer.

Interventions

1) Promote public awareness activities on impact of harmful use of tobacco on health, social, economic, and environmental effects.
2) Advocate for implementation and enforcement of smoke free environments in indoor places, workplaces, and public places.
3) Advocate for regulation of tobacco packaging to highlight warnings of harmful effects of tobacco use.
4) Advocate for the periodic screening and monitoring of women exposed to occupational hazards including tobacco use.

5.4. Screening and Treatment of Cervical Pre-cancerous Lesions

Strategic goal: To reduce the incidence of cervical cancer through a well coordinated National Cervical Cancer Program.

Strategic objective 5.4.1. To increase access to cervical cancer screening and timely treatment for cervical pre-cancer with targeted approaches to women at greatest risk for cervical cancer.

Interventions

1) To conduct needs assessment exercise for equipment and human resources capacity for the laboratory services in Malawi.
2) Build human resource capacity for cervical cancer screening and preventive therapy through training of service providers including nurses/midwives, medical assistants, clinical officers, medical officer, laboratory staff, community health workers.
3) Promote training of clinical officers and medical officers in colposcopy and excisional treatment procedures, specifically LEEP, for cervical pre-cancer.
4) Advocate for introduction of pre-service training module and proficiency in cervical cancer screening and preventive therapy in nursing, laboratory and medical training including for clinical officers.
5) Increasing cervical cancer screening and treatment sites for both urban and rural areas. Where applicable, hub-and-spoke model for cervical cancer screening services should be adopted. This will entail developing a cervical cancer screening and treatment sites as district or mission hospitals, to serve as a hub and conduct outreach cervical cancer screening clinics to surrounding health centres and health posts (spokes) on regular basis on specific days of the week, particularly for health centres that might have low target population for screening.
6) Promote integration of cervical cancer screening and treatment services as well as breast cancer screening in other sexual and reproductive health care service points including HIV care clinics that serve the women at greatest risk of cervical and breast cancers. Where infrastructure permits, integration of the services should be done in the same clinic space.
7) Strengthen the supply chain management of cervical cancer screening and treatment commodities.

Strategic objective 5.4.2. To strengthen quality assurance systems for cervical cancer screening and treatment services for cervical pre-cancer.

Interventions

1) Promote regular mentorship and supportive supervision programs for service providers for cervical cancer screening and treatment services to ensure proficiency and provide a quality assurance platform for providers.
2) Promote use of low-cost technology including visual images for quality assurance of VIA-based cervical cancer screening.
3) Ensure quality data are collected in all clinic sites in an integrated cervical cancer screening program.
4) Strengthen referral linkages and feedback system between referring facilities and receiving facilities (i.e., referral facility) to minimize loss to follow up of women who need referral to next level of care. Developing a client tracking system at both the referring facility and the receiving facility, including putting up a provision for advance notice to the facility where a woman is being referred to should be promoted and subjected to intensive monitoring and evaluation system.

Strategic objective 5.4.3. To introduce and scale up use of high performance cervical cancer screening methods, specifically HPV DNA testing, as a primary screening method for cervical cancer.

Interventions

1) Conduct HPV DNA pilot and feasibility projects, while working with existing service providers to ensure maintenance of required skills, for HPV-based cervical cancer screening.
2) Disseminate findings and experiences from HPV DNA pilot and feasibility projects with HPV DNA testing including the experience with the screening algorithms (e.g. HPV based screen-and-treat vs HPV based screen-triage-treat) adopted in their projects.
3) Promote robust tracking system for women who screen positive with HPV DNA testing where results of the tests are not available on the same day.

4) Promote stakeholders' engagement and scale up of HPV testing as a primary screening method for cervical cancer.

5.5. Early Detection and Treatment of Cervical Cancer

Diagnosis for cervical cancer provides an entry point for cancer care. Early detection requires infrastructure for collection of cervical biopsy samples for histopathologic diagnosis, cancer diagnostic services encompassing pathology, laboratory medicine, medical imaging, and applicable human resources including cytotechnologists and pathologists. Cancer treatment encompasses three modalities of care: surgery, chemoradiation and palliative care. However, while it is essential to maintain evidence-based best practices for cervical cancer treatment, contextualizing cervical cancer care to our setting will be necessary. For optimal care, multidisciplinary approach allow for coordinated and holistic cancer management.

Strategic goal: To reduce morbidity and mortality from cervical cancer, and improve the quality of life of patients undergoing cervical cancer treatment.

Strategic objective 5.5.1. To build capacity for comprehensive and coordinated cervical cancer diagnosis, treatment and follow up care.

Interventions

1) Strengthen referral and referral feedback systems to ensure early diagnosis and timely access to cervical cancer treatment.
2) Strengthen infrastructure and build capacity for cervical biopsy sample collection, tissue processing and preparation for histopathologic examination in district and CHAM hospitals.
3) Develop capacity for tissue processing and preparation in district and CHAM hospitals through training of district laboratory scientists/technicians in tissue processing and preparation for histopathologic examination.
4) Establish a well-coordinated sample transportation system from sample collection points to the pathology laboratories including coordinated transmission of histology results.

5) Establish cervical cancer diagnostic services by setting up pathology laboratories at Queen Elizabeth Central Hospital, Zomba Central Hospital, and Mzuzu Central Hospital to ensure timeous sample turn-around time.
6) Strengthen diagnostic imaging and nuclear medicine imaging capacity aligned to International Atomic Energy Agency (IAEA) guidelines on nuclear medicine.
7) Advocate for acceleration of setting up infrastructure for radiotherapy services at the National Cancer Centre at KCH.
8) Advocate for establishment of training programs in training institutions for cancer specialties including but not limited to pathology, gynaecologic oncology, oncology nursing, oncology pharmacy, palliative care.
9) Promote establishment of competence-based gynaecologic oncology surgical training facilitated by visiting gynaecologic oncologists.
10) Promote apprenticeship of health professionals in regional cancer centres for in-service training in cancer care.
11) Promote integration of physiotherapy services into all facilities providing cervical cancer care.
12) Advocate for the establishment of accommodation facilities for both patients and caregivers for cervical cancer patients receiving outpatient cancer treatment at the central hospitals as outpatients.
13) Establish strategies for retention of health professionals and maintenance of infrastructure or facilities for cervical cancer treatment.
14) Regulate the provision of cervical cancer care to hospitals where they have optimal resources and capacity for cancer care.

Strategic objective 5.5.2. To improve capacity and standards for optimal treatment of cervical cancer**.**

Interventions

1) Promote establishment of multidisciplinary tumour boards in tertiary facilities and any other facilities providing cervical cancer management.

2) Prioritize bookings of referral of women for cancer diagnosis at all times including during unforeseeable pandemics e.g. COVID-19 pandemic to ensure timely access to optimal treatment.
3) Develop and disseminate national cervical cancer care guidelines that align with evidence-based best practices that are adaptable to the country setting for cervical cancer care.
4) Advocate for increased supportive care including for nutritional support, blood and blood products.
5) Advocate for procurement of commodities for cervical cancer treatment.

5.6. Palliative Care and Survivorship

Palliative care is a specialized medical discipline that focuses on improving the quality of life of patients with terminal or life-threatening illness and their families, through the prevention and relief from suffering by means of early identification, impeccable assessment and treatment of pain and other physical, psychosocial, and spiritual problems.

Palliative care is the active total care of the body, mind, and spirit of the patient, and involves giving support to the family from the time of diagnosis and throughout the whole continuum of care. Therefore, palliative care is applicable to any cancer patient regardless of age, type of cancer and stage of diagnosis.

The type of support given to cervical cancer patients may include pain relief, smell prevention, incontinence care, nutritional support, psychosocial support, end of life care, financial support, and accommodation. The strategic goals, objectives and interventions for the palliative care and survivorship of this Cervical Cancer Strategic Plan will be implemented as outlined in the National Cancer Control Strategic Plan and are therefore not repeated on this section.

5.7. Research, Monitoring and Evaluation

Cervical cancer care needs to be guided by evidence based approaches. Research across the life course of the disease encompassing basic sciences, interventional and operational research including social behavioral determinants of health seeking behaviour for cervical cancer prevention and control services remain critical to cervical cancer control.

Monitoring and evaluation is also a critical component of the strategic plan. It ensures that there is regular review of the progress made on the planned interventions and allows for modification of interventions based on lessons learnt during implementation and emerging evidence in cancer control. The national cervical cancer program data is available in the DHIS II. Malawi currently has two population based cancer registries. The population based Malawi National Cancer Registry based at QECH in Blantyre became fully operational in 1993. A new population based cancer registry has also been established in Lilongwe. There are also hospital based cancer registries at Kamuzu Central Hospital and Mzuzu Central Hospital. However, there is poor linkage among these registries and with the national cervical cancer program data.

Strategic goal: To build capacity for cervical cancer research, monitoring and evaluation.

Strategic objective 5.7.1: To strengthen research capacity and promote cervical cancer research.

Interventions

1) Promote training in cervical cancer research from basic sciences to operational research including through government support of training grants in cervical cancer research.
2) Strengthen collaboration with research and training institutions to promote apprenticeship and support for formal training in cervical cancer research.
3) Advocate for inclusion of cervical cancer research as one of the priority areas in the national research agenda.
4) Promote dissemination of cervical cancer research through annual cancer symposia and annual training institutions research dissemination conferences. The cancer symposium

and conferences provide a platform for junior investigators to share their work and get inspiration from expert cancer researchers.

5) Strengthen collaboration with the Ministry of Health Research Unit to facilitate cervical cancer research.

Strategic objective 5.7.2. To strengthen capacity for monitoring and evaluation.

Interventions

1) Advocate for increased support for monitoring and evaluation including staffing for data entry and transmission into DHIS II.
2) Promote training of service providers, data officers, monitoring and evaluation officers and policy makers in data management and usage.
3) Review and disseminate the monitoring and evaluation framework for the national cervical cancer program to key stakeholders.

Strategic objective 5.7.3: To strengthen the capacity of the cancer registries and linkage of the national cervical cancer program data to the cancer registries.

1) Strengthen governance structures for the cancer registration and surveillance.
2) Promote training of staff at the cancer registries in cancer registration and surveillance
3) Develop a monitoring and evaluation plan for the cancer registries.
4) Promote linkage of cancer registry data with the DHIS, which includes the national cervical cancer program data.

6. IMPLEMENTATION FRAMEWORK FOR THE STRATEGIC PLAN

Table 2 outlines the implementation framework for the 2022-2026 Nationa Cervical Cancer Strategic Plan.

Table 2: Implementation plan of the 2022-2026 cervical cancer strategic plan

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
OVERALL STRATEGIC GOAL								
To reduce the burden of cervical cancer through increased access to cervical cancer prevention and control strategies, including palliative care services in Malawi by 2026.	Cervical cancer Age Standardized incidence rate	WHO IARC; Malawi Cancer registries					60/100,000	MOH
	Cervical cancer Age Standardized mortality rate						40/100,000	
I. GOVERNANCE, ADVOCACY AND RESOURCE MOBILIZATION								
Strategic goal: To establish a strong governance structure for the national cervical cancer program (CECAP) and ensure adequate funding for the cervical cancer prevention and control activities.								
Strategic objective 1: To strengthen the governance structure and management of the national cervical cancer program.								
1. Advocate for functional review of the established posts in the MOH RHD; to include a core management team of a program manager, deputy program manager, data manager, quality assurance and quality control officer, and a monitoring and evaluation officer	Functional review conducted.	MOH functional review report	2 officers	2 officers	1			MOH RHD, Department of Human and Resource Development (DHRD), stakeholders (Non-governmental organizations [NGOs], professional organizations, Civil Society Organizations [CSOs], etc)
2. Establish a national	CECAP TWG	CECAP annual	√					MOH – RHD

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
CECAP technical working group (TWG)	established and functional	report						
3. Strengthen linkage and coordination of the CECAP activities with the NCD unit in the MOH	CECAP National Coordinator confirmed as a member of the Cancer Control Advisory Committee	CECAP Annual reports and review meeting	√	√	√	√	√	MOH – RHD, NCD
4. Strengthen stakeholders' collaboration and coordination to avoid duplication of efforts and support for specific cervical cancer control interventions at the expense of other equally important interventions.	-	CECAP Annual report and review meetings	√	√	√	√	√	MOH RHD, NCD, stakeholders (NGOs, professional organizations,CSOs, etc)
		Minutes of CECAP steering Committee meeting	√	√	√	√	√	MOH RHD, NCD, stakeholders (NGOs, professional organizations, CSOs, etc)
Strategic objective 2: To mobilize funding for cervical cancer control activities including the establishment of radiotherapy infrastructure and services.								
1. Advocate for government commitment including district councils for adequate funding for the cervical cancer control program in	Cervical cancer included on government funding budget line items for MOH	Malawi government annual budget documents	√	√	√	√	√	CSO, Professional organizations, bilateral and multilateral organizations

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
line with the Abuja Declaration on funding to health sector.								
2. Advocate for support of cervical cancer control services including through establishment of service level agreements with CHAM hospitals to increase access to the services to the target population.	Number of facilities providing cervical cancer control services	CECAP Annual Reports		100	150	150	150	MOH
3. Support civil society organizations to participate in advocacy activities.	Number of CSOs actively engaged in advocacy in cervical cancer control actvities	CECAP Annual report and review meetings	15	20	25	30	40	Bilateral and multilateral organizations and professional organizations/associations
4. Advocate for establishment of social grants for cancer patients who cannot afford out of pocket expenses to facilitate access to the long duration of cancer treatment available at only tertiary hospitals.	Established and operational social grants for cancer patients to accesss treatment	Ministry of Gender, Community Development and Social welfare	√	√	√	√	√	MOH RHD, NCD, Ministry of Gender, Community Development and Social welfare, CSOs, Professional organizations

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
5. Develop a costed implementation plan for this cervical cancer control strategy.	A costed implementation plan for the cervical cancer control strategy	CECAP Annual report	**1**	1	1	1	1	MOH RHD
6. Disseminate the 2022-2026 cervical cancer strategic plan and the costed implementation plan to key stakeholders.	Number of strategic plan dissemination meetings conducted (including launch of the strategic plan)	CECAP Annual report, MOH RHD report	√	√				MOH RHD
II. PUBLIC AWARENESS AND DEMAND CREATION FOR CERVICAL CANCER PREVENTION AND CONTROL SERVICES								
Strategic goal: To improve capacity for public awareness and demand creation for cervical cancer prevention and control activities								
Strategic objective 1: To increase public awareness of cervical cancer prevention and control activities **Strategic objective 2:** To address myths and misconceptions about cervical cancer, its prevention and control activities. **Strategic objective 3:** To increase demand for cervical cancer prevention and control services								
1. Build capacity for public awareness and demand creation through training of health workers, civil society organization affiliates and peers including youth.	Number of people trained per category e.g. CSOs affiliates, peers, youth etc	CECAP Annual Reports	100	300	500	600	700	MOH RHD, MOH Health Education Unit (HEU), NCD, Key stakeholders
2. Develop information, education and communication (IEC) materials for cervical cancer prevention and control	Published IEC materials	CECAP Annual reports, and review meeting	√					MOH RHD, HEU, DHA, CSOs, Other key stakeholders
		HEU Annual reports	√	√				MOH HEU

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
activities.		Print and electronic media	√	√				MOH RHD, HEU, DHA, CSOs, stakeholders (NGOs, professional organizations, CSOs, media etc)
3. Strengthen engagement of civil society organizations, community leaders and representatives of youth and vulnerable population e.g. female sex workers in health promotional activities for cervical cancer prevention and control.	Number of community representatives engaged in cervical cancer public awareness activities (including traditional leaders, church leaders etc)	CECAP Annual reports, and review meeting	10	20	30	50	60	MOH RHD, HEU, DHA, CSOs, other key stakeholders
4. Develop a cervical cancer champion program in partnership with cancer survivors and clients who have attended cervical cancer screening	Number of active cervical cancer champion programs in the country	Annual reports of NGOs, professional organizations, CSOs, etc)	5	10	20	25	40	NGOs, professional organizations, CSOs, media etc
	Number of cervical cancer patients enrolled in the	Annual reports of NGOs, professional	100	150	200	250	400	

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
and/or received preventive therapy for cervical pre-cancer.	champions programs	organizations, CSOs, etc)						
5. Conduct social mobilization including public cervical cancer awareness events and community sensitization meetings.	Number of public cervical cancer awareness events conducted	Print and electronic media (newspapers, radio, television)	5	10	15	20	25	MOH (RHD, HEU, NCD), CSO, Other key stakeholders (NGOs, professional organizations, CSOs, media etc)
6. Promote role modelling in cervical cancer prevention and control messaging.	Number of role models participating in cervical cancer prevention activities	Print and electronic media (newspapers, radio, television)	5	10	15	20	25	MOH (RHD, HEU, NCD), CSO, Other key stakeholders
7. Branding of cervical cancer prevention messaging on most commonly used materials by targeted groups.	Types of branded materials	Print and electronic media, social media platforms	√	√	√	√	√	MOH (RHD, HEU, NCD), CSO, Other key stakeholders
8. Advocate for male involvement in social mobilization including public cervical cancer awareness events	Number of males attending public cervical cancer awareness events	Print and electronic media (newspapers, radio, television)	500	800	1500	2000	3000	MOH (RHD, HEU, NCD), CSO, Other key stakeholders

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
and community sensitization meetings.								
9. Promote life skills education in primary and secondary schools through engagement of the Ministry of Education and civil society organizations.	Topics on cervical cancer prevention included in the curricula for primary and secondary schools	Primary and secondary school curricula	√	√	√	√	√	MOH, Ministry of Education, CSOs
10. Conduct orientation of media personnel, teachers and health workers including community health workers in effective messaging of cervical cancer prevention and control activities.	Number of orientation meeting conducted	MOU HEU, RHD, NCD, Other stakeholders' reports	4	4				MOH (RHD, HEU, NCD), CSO, Other key stakeholders
	Number of people oriented in effective messaging of cervical cancer prevention and control		50	100	150	200	300	MOH (RHD, HEU, NCD), CSO, Other key stakeholders
III. PRIMARY PREVENTION OF CERVICAL CANCER								
Strategic goal: To reduce cervical cancer incidence through primary prevention with use of HPV vaccine for adolescent girls as a priority and reduction of exposure to HIV and tobacco								
Strategic objective 1: To reduce exposure to HPV infection								
1. Promote uptake of HPV vaccination for adolescent girls (9-14 years old)	Percentage of eligible adolescent girls girls who received the HPV vaccine	MOH EPI	50	60	75	85	95	MOH EPI, RHD, NCD, Other key stakeholders (NGOs, professional organizations,

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
								CSOs, WHO, UNICEF, media etc)
2. Promote integration of HPV vaccination into existing health service delivery platforms	Percentage of health facilities offering HPV vaccine	MOH EPI	50	60	70	80	90	MOH EPI, DHA, NAC, PACHA (Pediatric and Child Health Organization)
3. Strengthen the supply chain management of HPV vaccine to ensure continuous availability of the vaccine in health facilities at all times	Percentage of health facilities without stock out of HPV vaccine among those offering HPV vaccine	MOH EPI	70	75	80	85	90	MOH EPI, Central Medical Stores Trust (CMST)
4. Advocate for targeted approaches for HPV vaccination for the vulnerable population including street children, those in refugee camps, those out of school, and those residing in hard-to-reach geographical areas	Number of adolescents vaccinated through outreach clinics, village clinics or mobile clinics	MOH EPI	30,000	50,000	80,000	150,000	200,000	MOH EPI
	Number of health facilities offering HPV vaccine in out of facility settings	MOH EPI	400	550	700	800	950	MOH EPI
5. Conduct social mobilization for HPV vaccination including public awareness	Number of public cervical cancer awareness events conducted	Print and electronic media (newspapers, radio, television)	3	5	7	9	12	MOH (RHD, HEU, NCD), CSO, Other key stakeholders

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
events and community sensitization meetings alongside other cervical cancer prevention and control promotional activities, with purposely-targeted approaches for male involvement								(NGOs, professional organizations, CSOs, media etc)
6. Engage Ministry of Education for inclusion HPV infection alongside other sexually transmitted infections prevention in the life skills curricula for primary schools	Topics on cervical cancer prevention including HPV infection and others STI included in the curricula for primary and secondary schools	Ministry of Education, Science and Technology, school curriculum	√	√	√	√	√	MOH, Ministry of Education, Science and Technology, school curriculum
Strategic objective 2: To reduce exposure to HIV								
1. Promote health reproductive and sexual behavior tailored to age and cultural background of the target population	Prevalence of HIV among youth and young adults	MDHS	√	√	√	√	√	MOH EPI, Other key stakeholders (NGOs, professional organizations, CSOs, media etc
2. Promote male circumcision and condom use for	Number of men circumcised	MOH DHA	√	√	√	√	√	MOH EPI, NCD, DHA, Other key stakeholders

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
those engaged in sexual activities	Condom use at last sexual intercourse	MDHS	√	√	√	√	√	(NGOs, professional organizations, CSOs, media etc
	Number of people reached with condom use education	DHIS2	√	√	√	√	√	
3. Promote HIV test-and-treat strategies and pre-exposure prophylaxis(PrEP) for at risk women	Number of newly diagnosed people with HIV starting ART	MOH DHA	√	√	√	√	√	MOH DHA
	Number of people provided using PrEP	MOH DHA	√	√	√	√	√	
Strategic objective 3: To reduce use of tobacco, tobacco products and its by-products, all known risk factors for cervical cancer.								
1. Advocate for the periodic cervical cancer screening and monitoring of women exposed to occupational hazards including tobacco use.	Percentage of women undergoing period cervical cancer screening among those exposed women to occupational hazards	MOH RHD; Occupational/company clinics	10	20	30	40	50	Ministry of Labour, CSOs
IV. SCREENING AND TREATMENT OF CERVICAL PRE-CANCEROUS LESIONS								
Strategic goal: To reduce the incidence of cervical cancer through a well coordinated national cervical cancer program.								
Strategic objective 1: To increase access to cervical cancer screening and timely treatment for cervical pre-cancer with targeted approaches to women at greatest risk for cervical cancer.								
1. Build human resource capacity for cancer screening and preventive therapy	Number of providers trained in providing cervical cancer	MOH CECAP Annual Reports	800	1000	1200	1500	2000	MOH RHD

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
through training of service providers including nurses/midwives, medical assistants, clinical officers, medical officers, laboratory staff, community health workers	services, by cadre							
2. Promote training of nurses, clinical officers and medical officers in colposcopy and excisional treatment procedures, specifically LEEP, for cervical pre-cancer	Number of providers trained in colposcopy and LEEP per cadre	MOH CECAP Annual Reports	40	50	50	60	70	MOH RHD
3. Advocate for introduction of pre-service training module and proficiency in cervical cancer screening and preventive therapy in nursing, laboratory and medical training including for clinical officers.	Number of health professional training institutions providing training modules in cervical cancer screening and preventive therapy	Curricula of health professionals training institutions (colleges, universities, public or private)	5	7	9	10	12	MOH RHD

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
4. Increasing cervical cancer screening and treatment sites for both urban and rural areas.	Percentage increase in number of cervical cancer screening and treatment sites	MOH CECAP Annual Reports	20	40	60	70	80	MOH RHD
	Increase treatment rate for precancerous lesions	MOH CECAP Annual Reports	74	77	79	82	85	MOH RHD
	Increase screening coverage	MOH CECAP Annual Reports	36	43	51	61	72	MOH RHD
5. Promote integration of cervical cancer screening and treatment services in HIV care clinics	Percentage of HIV/ART clinics providing cervical cancer screening and treatment services	MOH DHA	60	70	75	80	90	MOH DHA, RHD
6. Strengthen the supply chain management of cervical cancer screening and treatment commodities.	Percentage of cervical cancer screening and treatment sites without stockout of commodities used in screening and treatment services	MOH CECAP	60	70	75	80	90	MOH RHD, DHA, CMST
Strategic objective 2: To strengthen quality assurance systems for cervical cancer screening and treatment services for cervical pre-cancer								
1. Promote regular mentorship and supportive supervision programs for service providers for cervical	Number of mentorship and supportive supervisions conducted per year	MOH CECAP Annual Reports	4	4	4	4	4	MOH RHD

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
cancer screening and treatment services to ensure proficiency and provide a quality assurance platform for providers								
2. Promote use of low cost technology including visual images for quality assurance of VIA-based cervical cancer screening	Number of screening/treatment clinics using visual devices for quality assurance	MOH CECAP Annual Reports	6	10	20	40	60	MOH RHD
3. Ensure quality data are collected in all clinic sites in an integrated cervical cancer screening program	Percentage of cervical cancer screening and treatment sites whose submitted routine services data has less than 5% of inconsistencies	MOH CECAP	70	75	80	90	95	MOH RHD
	Percentage of referred women who provided feedback after receiving care	MOH CECAP Registers and Tertiary Cervical Cancer Client Register	40	60	70	80	90	
Strategic objective 3: To introduce and scale up use of high performance cervical cancer screening methods, specifically HPV DNA testing, as a primary screening method for cervical cancer								
1. Conduct HPV DNA pilot and feasibility projects, while	Percentage of facilities providing HPV based cervical	MOH CECAP Annual Reports	10	20	30	40	50	MOH RHD

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
working with existing service providers to ensure maintenance of required skills, for HPV-based cervical cancer screening	cancer screening							
2. Promote robust tracking system for women who screen positive with HPV DNA testing where results of the tests are not available on the same day	Percentage of women who are linked to care upon testing HPV positive	MOH CECAP Annual Reports	30	40	50	60	70	MOH RHD
V. EARLY DETECTION AND TREATMENT OF CERVICAL CANCER								
Strategic goal: To reduce morbidity and mortality from cervical cancer, and improve the quality of life of patients undergoing cervical cancer treatment								
Strategic objective 1: To build capacity for comprehensive and coordinated cervical cancer diagnosis, treatment and follow up care.								
1. Strengthen referral and referral feedback systems to ensure early diagnosis and timely access to cervical cancer treatment	Percentage of women who receive diagnostic services among those referred for cervical cancer diagnosis	MOH CECAP Registers and Tertiary Cervical Cancer Client Register, Pathology lab database	30	40	60	80	90	MOH RHD, NCD
	Percentage of women who receive cervical cancer treatment services among those diagnosed with cervical cancer	MOH CECAP Registers and Tertiary Cervical Cancer Client Register, Cancer Registry	40	50	60	80	90	MOH RH, NCD

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
2. Strengthen infrastructure and build capacity for cervical biopsy sample collection, tissue processing and preparation for histopathologic examination in district and CHAM hospitals	Percentage of health facilities with operational infrastructure for cervical biopsy sample collection, tissue processing and preparation for histopathologic examination among facilities providing cervical cancer control services	MOH RHD, Directorate of Clinical and Rehabilitative Health and Diagnostics	40	50	60	80	90	MOH Directorate of Clinical and rehabilitative health and Diagnostics
3. Develop capacity for tissue processing and preparation in district and CHAM hospitals through training of district laboratory scientists/technicians in tissue processing and preparation for histopathologic examination	Number of lab scientists/technicians trained in tissue processing and preparation for histopathologic examination	MOH Diagnostics	30	35	40	50	60	Directorate of Clinical and Rehabilitative Health and Diagnostics
4. Establish cervical cancer diagnostic services by setting up pathology laboratories in all central hospitals in the country	Number of operational pathology labs in public health facilities	MOH Diagnostics	10	15	20	25	30	Directorate of Clinical and Rehabilitative Services and Diagnostics

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
5. Promote establishment of competence-based gynaecologic oncology surgical training facilitated by visiting gynaecologic oncologists	Number of hospitals offering competence-based gynaecologic oncology surgical training	MOH Directorate of Curative and Rehabilitative Health	0	1	2	3	4	MOH Directorate of Curative and Rehabilitative Health
	Number of gynaecologists with competence in gynaecologic surgical oncology from gynecologic oncology surgical trainings	MOH Directorate of Curative and Rehabilitative Health		5	8	10	15	MOH Directorate of Curative and Rehabilitative Health
6. Promote apprenticeship of health professionals in regional cancer centres for in-service training in cancer care	Number of health professionals who completed apprenticeships at regional cancer centers	MOH Directorate of Curative and Rehabilitative Health, and Nursing	5	10	15	10	25	MOH Directorate of Curative and RehabilitativeHealth, and Nursing
7. Advocate for the establishment of accommodation facilities for both cervical cancer patients and caregivers receiving outpatient cancer treatment at the central hospitals	Number of central hospitals with designated accomodation facilities for cancer patients and their caregivers receiving outpatient cancer treatment	MOH, Surveys		1	2	3	4	Other key stakeholders (NGOs, professional organizations, CSOs, etc)
Strategic objective 2. To improve capacity and standards for optimal treatment of cervical cancer								

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
1. Promote establishment of multidisciplinary tumour boards in tertiary facilities and any other facilities providing cervical cancer management	Percentage of health facilities with tumour boards among those providing cancer treatment	MOH Directorate of Curative and Rehabilitative Health	50	60	70	80	90	MOH Directorate of Curative and Rehabilitative Health
2. Prioritize bookings of referral of women for cancer diagnosis at all times including during unforeseeable pandemics e.g. COVID-19 pandemic to ensure timely access to optimal treatment.	Average time (in weeks) taken from referral to cancer diagnosis	MOH Directorate of Curative and Rehabilitative Health, Surveys	√	√	√	√	√	MOH Directorate of Curative and Rehabilitative Health
3. Develop and disseminate national cervical cancer care guidelines that align with evidence-based best practices that are adaptable to the country setting for cervical cancer care	National cervical cancer care guidelines developed, disseminated and in use	MOH Directorate of Curative and Rehabilitative Health	√	√	√	√	√	MOH Directorate of Curative and Rehabilitative Health
4. Advocate for increased supportive care including for nutritional support, blood and blood	Availability of functioning supportive care programs for cervical cancer	MOH Directorate of Curative and Rehabilitative Health	√	√	√	√	√	MOH Directorate of Curative and Rehabilitative Health, Malawi

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
products	patients							Blood Transfusion Services (MBTS)
	Percentage of cervical cancer patients receiving supportive care among all cervical cancer patients eligible for supportive care	MOH Directorate of Curative and Rehabilitative Health	40	60	70	80	90	MOH Directorate of Curative and Rehabilitative Health
5. Advocate for procurement of commodities for cervical cancer treatment.	Percentage of facilities without stock out of cervical cancer treatment commodities among facilities providing cervical cancer treatment	MOH, CMST	20	50	60	70	90	MOH Directorate of Curative and Rehabilitative Health, CMST
VI. RESEARCH, MONITORING AND EVALUATION								
Strategic goal: To build capacity for cervical cancer research and monitoring and evaluation.								
Strategic objective 1: To strengthen research capacity and promote cervical cancer research								
1. Promote training in cancer research from basic sciences to operational research including through government support of training grants in cancer research	Number of training programs in cancer research	MOH, Ministry of Education, Science and Technology (Training institutions)	2	4	6	8	10	MOH, Ministry of Education, Science and Technology
	Number of	Survey report	5	8	15	20	30	MOH RHD, MOH

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
	operational research studies conducted on cervical cancer	CECAP Program report						NCD, MOH Research Unit
2. Advocate for inclusion of cervical cancer research as one of the priority areas in the national research agenda	Cervical cancer research included in the National Research Agenda	MOH Research Unit	√	√	√	√	√	MOH NCD, MOH Research Unit
3. Promote dissemination of cancer research through annual cancer symposia and annual training institutions research dissemination conferences	Number of research studies on cervical cancer disseminated through symposia or research dissemination conferences	MOH, Ministry of Education, Science and Technology (Training institutions)	2	4	6	10	15	MOH, Ministry of Education, Science and Technology, MOH Research Unit
	Number of cancer research symposia or research dissemination conferences conducted	MOH, Ministry of Education, Science and Technology (Training institutions)	1	1	1	1	1	MOH RHD, MOH NCD, MOH Research Unit
Strategic objective 2: To strengthen capacity for monitoring and evaluation								
1. Advocate for increased support for monitoring and evaluation including staffing for data entry and	Cervical cancer facility reporting rate	Central Monitoring and Evaluation Division (CMED) in MOH	80	85	90	95	100	MOH CMED
	Number of	MOH RHD, CMED	4	4	4	4	4	MOH RHD,

INTERVENTIONS	INDICATORS	DATA SOURCE	2022 Targets	2023 Targets	2024 Targets	2025 Targets	2026 Targets	LEAD INSTITUTION(S)
transmission into District Health Information System (DHIS) II	quarterly national data quality assessment (DQA) exercises conducted							CMED
2. Promote training of service providers, data officers, monitoring and evaluation officers and policy makers in data management and usage	Number of staff trained in monitoring, evaluation and data management per cadre	MOH CMED	100	300	500	1000	1500	MOH CMED
Strategic objective 3: To strengthen the capacity of the cancer registries and linkage of the national cervical cancer program data to the cancer registries								
1. Promote training of staff at the cancer registries in cancer registration and surveillance	Number of staff trained in cancer registration and surveillance	MOH NCD	5	10	15	20	30	MOH NCD, CMED
2. Develop a national monitoring and evaluation plan for the cancer registries	Operational national monitoring and evaluation plan for cancer registries	MOH NCD, RHD	√	√	√	√	√	MOH NCD, CMED
3. Promote linkage of cancer registry data with the District Health Information System (DHIS), which includes the national cervical cancer program data	Linkage system between the cancer registry database and the CECAP database developed, in use and maintained	Cancer registries, CECAP	√	√	√	√	√	MOH NCD, CMED, RHD

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8. ANNEXES

8.1. Annex 1: CECAP National Strategic Plan Revision Task Force

#	Name	Organization
1	Dr. James Kachingwe	Health Policy Plus Project
2	Mrs. Twambilire Phiri	Ministry of Health RHD
3	Mrs. Harriet Chanza	World Health Organization, Malawi
4	Mr. Amos Mwakwaya	Partners in Hope
5	Dr. Sangare Hawa Mamary	Community of Saint' Egidio – DREAM Program
6	Mr. Temwani Jenda	International Training and Education Center for Health
7	Mr. Hasting Mwanza	JONEHA
8	Mrs. Frehiwot Birhanu	Clinton Health Access Initiative (CHAI)
9	Mr. Edwin Mangulenje	Elizabeth Glaser Pediatric AIDS Foundation (EGPAF)
10	Mr. Harrison Tembo	Ministry of Health Department of HIV and AIDS
11	Mr. Timothy Tchereni	Clinton Health Access Initiative
12	Ms. Bertha Sato	National AIDS Commission
13	Mrs. Jane Chiwoko	Lighthouse Trust
14	Linda Dziweni Nsanto	Aids Healthcare Foundation Malawi

Annex 2: The Cervical Cancer National Strategic Plan Cost

8.2.1: Summarized Costs by Pillar (Detailed Costed Plan available on request)

Objectives	Activity Cost (MWK)	Activity Cost (USD)	Comment
5.1: To establish a strong governance structure for the national cervical cancer control program and ensure adequate funding for the cervical cancer prevention and control activities	**1,061,341,207**	**1,299,071**	
5.1.1: To strengthen the governance structure and management of the National Cervical Cancer Program	653,429,217	799,791	
5.1.2: To mobilize funding for cervical cancer control activities including the establishment of radiotherapy infrastructure and services	407,911,990	499,280	
5.2: To improve capacity for public awareness and demand creation for cervical cancer prevention and control activities	**13,643,852,749**	**16,699,942**	
5.2.1: To increase public awareness of cervical cancer prevention and control activities	12,605,709,037	15,429,264	
5.2.2: To address myths and misconceptions about cervical cancer, its prevention and control activities	727,740,248	890,747	
5.2.3: To increase demand for cervical cancer prevention and control services	310,403,464	379,931	
5.3: To reduce cervical cancer incidence through primary prevention with use of HPV vaccine for adolescent girls as a priority and reduction of exposure to HIV and tobacco	**4,106,100,040**	**5,025,826**	
5.3.1: To reduce exposure to HPV infection	4,106,100,040	5,025,826	
5.3.2: To reduce exposure to HIV	-	-	Costed in the National Cancer Control Strategic Plan

5.3.3: To reduce use of tobacco, tobacco products and its by-products, all known risk factors for cervical cancer	-	-	Costed in the National Cancer Control Strategic Plan
5.4: To reduce the incidence of cervical cancer through a well-coordinated national cervical cancer control program	**36,865,730,529**	**45,123,293**	
5.4.1: To increase access to cervical cancer screening and timely treatment for cervical pre-cancer with targeted approaches to women at greatest risk for cervical cancer	35,417,113,135	43,350,200	
5.4.2: To strengthen quality assurance systems for cervical cancer screening and treatment services for cervical pre-cancer	760,177,088	930,449	
5.4.3: To introduce and scale up use of high performance cervical cancer screening methods, specifically HPV DNA testing, as a primary screening method for cervical cancer	688,440,306	842,644	
5.5: To reduce morbidity and mortality from cervical cancer, and improve the quality of life of patients undergoing cervical cancer treatment	**999,224,800**	**1,223,041**	
5.5.1: To build capacity for comprehensive and coordinated cervical cancer diagnosis, treatment and follow up care	615,529,002	753,401	
5.5.2: To improve capacity and standards for optimal treatment of cervical cancer	383,695,798	469,640	
5.6: Palliative Care and Survivorship	**-**	**-**	**Costed in the National Cancer Control Strategic Plan**
5.7: To build capacity for cervical cancer research and monitoring and evaluation	**4,169,483,848**	**5,103,407**	
5.7.1: To strengthen research capacity and promote cervical cancer research	2,072,349,450	2,536,535	
5.7.2: To strengthen capacity for monitoring and evaluation	1,990,754,822	2,436,664	
5.7.3: To strengthen the capacity of the cancer registries and linkage of the national cervical cancer program data to the cancer registries	106,379,576	130,208	
Grand Total for the NSP	**60,845,733,174**	**74,474,582**	

8.2.2: Costs by Category

Activities	Activity Cost (MWK)	Activity Cost (USD)
Medical equipment	30,376,176,837	37,180,143
Meetings	10,585,205,866	12,956,188
Printing & media	5,877,909,200	7,194,503
Training	7,347,739,338	8,993,561
Public/community mobilization/awareness	2,161,108,668	2,645,176
Supervision & Mentorship	1,304,234,810	1,596,371
Research and M&E	1,250,212,022	1,530,247
Infrastructure - furniture, IT, & others	861,265,840	1,054,181
Public/community mobilization/awareness	862,222,008	1,055,351
Consultancy/Professional services	94,081,968	115,155
Vehicle Maintenance	115,916,125	141,880
Health Worker Salary	9,660,492	11,824
Grand Total for the NSP	**60,845,733,174**	**74,474,582**