



**FEDERAL MINISTRY OF HEALTH
ETHIOPIA**

DISEASE PREVENTION AND CONTROL DIRECTORATE

**NATIONAL CANCER CONTROL PLAN
2016-2020**

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ACRONYMS

BCC	Behavior Change and Communication
CR	Cancer Registry
CSO	Civil-Society Organization
DHS	Demographic and Health Survey
EFMHACA	Ethiopian Food, Medicine and Health Care Administration and Control Authority
EML	Essential Medicines List
ESA	Ethiopian Standard Agency
FMoH	Ethiopian Federal Ministry of Health
GAVI	Global Alliance for Vaccine and Immunization
HBV	Hepatitis B virus
HEW	Health Extension Workers
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
HW	Health Workers
IEC	Information, Education, Communication
LEEP	Loop Electrosurgical Excision Procedure
MoA	Ethiopian Federal Ministry of Agriculture
MoE	Ethiopian Federal Ministry of Education
MoLSA	Ethiopian Federal Ministry of Labor and Social Affairs
MoUDHCo	Ethiopian Federal Ministry of Urban Development, Housing and Construction
MWECS	Mathiwos Wondu -YeEthiopia Cancer Society
MWCYA	Ethiopian Federal Ministry of Women, Children and Youth Affairs
NCCP	National Cancer Control Plan
NCD	Non-Communicable Diseases
PHCU	Primary Health Care Unit
PI	Pathfinder International
PFSA	Ethiopian Pharmaceutical Fund and Supply Agency
PHC	Primary Health Care
PRRR	Pink Ribbon Red Ribbon
RHB	Regional Health Bureau
SC	Sport Commission
VIA	Visual Inspection with Acetic Acid
WHO	World Health Organization

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The Non-Communicable Case Team within the Disease Prevention and Control Directorate of the Federal Ministry of Health of Ethiopia coordinated the writing of this document.

FOREWORD

Cancer is one of the major non-communicable diseases (NCDs), which include cardiovascular diseases, diabetes and chronic respiratory diseases. Together they cause over 60% of total global mortality every year. It is estimated that cancer kills over 7.9 million people globally every year constituting close to 13% of total deaths worldwide. While communicable diseases still remain the leading killers in many developing countries, the incidence and mortality from non-communicable diseases is rising rapidly. This has resulted in a 'double burden' of diseases, which is imposing strain on existing health system.

In Ethiopia, cancer accounts for about 5.8% of total national mortality (Globocan 2012). Although population-based data do not exist in the country except for Addis Ababa, it is estimated that the annual incidence of cancer is around 60,960 cases and the annual mortality is over 44,000. In Ethiopia, patients often present with advanced stages of cancer. Over 80% of deaths from NCDs are caused by four main diseases- cardiovascular disorders, cancer, diabetes mellitus and chronic obstructive pulmonary disease. These four major NCDs share similar risk factors. Modification of risk factors has been shown to reduce morbidity and mortality in people at greater risk.

This first Ethiopian National Cancer Control Plan is aligned with the priorities of the National Health Sector Transformation Plan (HSTP) 2015/16 - 2019/20 of the Federal Democratic Republic of Ethiopia, and recommends a comprehensive cancer control strategy and interventions with estimates of the cost required to deliver the plan over five years. The plan outlines interventions to reduce the burden of cancer through changes in lifestyle, primary prevention, screening and early diagnosis, appropriate follow-up, treatment and provision of palliative care.

Recognizing the need for multi-sectoral involvement in the fight against cancer, this plan was developed through wide consultations with all relevant stakeholders, including associations of cancer patients. Therefore, the Federal Ministry of Health (FMOH) believes that this document is an outcome of a shared vision and commitment to beat cancer in Ethiopia.

In conclusion, this plan is intended to be the basis of national response to the burden of cancer in line with the *Political Declaration of the United Nations High-Level Meeting on the Control of NCDs* and the *Global Action Plan for the Control of NCDs 2013-2020*.

I wish to thank the Ethiopian National Cancer Committee for its dedication and inspiration to all of us in advancing the goal of building a healthy nation. I hope that all partners, stakeholders and health care workers will adopt and continue to support us in implementing cancer control interventions as outlined in this plan.

Honorable Dr. Keseteberhan Admasu
The Minister, Federal Ministry of Health of Ethiopia

EXECUTIVE SUMMARY

Cancer imposes an enormous burden on society both in more- and less-economically developed countries alike. The occurrence of cancer is increasing because of the growth and aging of the population, as well as an increasing prevalence of established risk factors, such as smoking, overweight, physical inactivity, and changing reproductive patterns associated with urbanization and economic development. Based on the GLOBOCAN estimates, about 14.1 million new cancer cases and 8.2 million deaths occurred in 2012 worldwide. Lung and breast cancer are the most frequently diagnosed cancers and the leading causes of cancer death in men and women, respectively, both overall and in less-developed countries.

In Ethiopia, cancer accounts for about 5.8% of total national mortality. Although population-based data does not exist in the country except for Addis Ababa, it is estimated that the annual incidence of cancer is around 60,960 cases and the annual mortality over 44,000. The most prevalent cancers in Ethiopia among the entire adult population are breast cancer (30.2%), cancer of the cervix (13.4%) and colorectal cancer (5.7%). About two-thirds of annual cancer deaths occur among women (AACR 2014).

The National Cancer Control Plan is a response by the FMOH and stakeholders to prioritize cancer Control in Ethiopia. It recognizes that the disease cannot be eradicated, but that its effects can be significantly reduced if effective measures are put in place to control risk factors, detect cases early and offer good care to those with the disease. The aims of this strategy are to reduce the number of people who develop and die of cancer. It also aims to ensure a better quality of life for those living with the disease. The strategic plan covers the years 2015/16 to 2019/20, and explains the scientific basis for cancer control and prevention; outlines a vision and mission; and suggests objectives, as well as interventions, to prevent and control cancer in Ethiopia. The strategy draws from experiences gained in various countries that have similar programmes, and also includes technical advice provided by relevant partners.

Vision, Mission and goal:

This strategy document envisions the first step for an effective and efficient National Cancer Control Plan to achieve the long-term goal of reducing cancer morbidity and mortality in Ethiopia. Its mission is to build a health care system that is equipped, staffed, trained, and empowered to provide a full range of cancer prevention, screening, diagnostic, treatment, and care options to cancer patients in Ethiopia.

Objectives:

The objectives of this strategy are to cover the entire continuum of cancer control. It aims to promote cancer prevention and early detection, and to improve diagnosis and treatment, including palliative care. The strategy also aims to promote cancer surveillance, registration and research. To achieve this, the strategy aims to build and promote partnership and collaboration in cancer control, and to promote innovation in approaches to preventing and treating the disease. It also aims to integrate cancer control activities within the National Health Sector Transformation Plan.

Key interventions:

This strategy identifies the following key thematic areas and suggests interventions in order to prevent and control cancer in Ethiopia. The list is not exhaustive and new strategies can be expanded as new challenges arise and innovations are developed:

i) Primary prevention of cancer:

About 40% of cancers are preventable through interventions such as tobacco control, promotion of healthy diets and physical activity, protection against exposure to environmental carcinogens and vaccination against specific infections. Primary prevention is thus considered the most cost-effective way of combating cancer.

ii) Early detection of cancer:

This is a approach that promotes vigilance for signs and symptoms that may be indicative of early disease. Early detection and treatment of cancer is known to greatly reduce the burden of cancers and improve outcomes. The strategy focuses not only on enhancing early detection and the treatment of pre-cancerous lesions or early-stage disease, but also streamlining referral of diagnosed cancer patients for better treatment.

iii) Diagnosis and treatment of cancer:

The strategy focuses on improved and timely diagnostic services, improved accessibility of cancer treatment services and enhancing human capacity in all fields of cancer management. The goals are to cure or prolong the life of cancer patients and ensure the best possible quality of life for cancer survivors.

iv) Palliative care:

The strategy focuses on enhancing palliative-care services at all levels of care, especially community- and home-based care as part of comprehensive cancer care.

v) Cancer surveillance and research:

As a fundamental element of any cancer-control strategy, surveillance provides the foundation for advocacy and policy development. The strategy focuses on enhancing cancer-surveillance systems at all levels of the health system, especially cancer

registration. It suggests ways to improve research capacity, and the dissemination and use of research findings.

vi) *Coordination of cancer Control activities:*

Coordination of all activities to prevent and control cancer ensures the efficient use of resources. This helps to direct efforts of all key stakeholders towards a common goal, ensures the smooth implementation of programs, and avoids overlaps and redundancies. The FMoH will play a key coordination and networking role at the national level. The plan is costed using the One-Health tool of the FMoH, and costs are aligned with other relevant existing strategies and policies. The document refers to already existing strategies and plans, to avoid any duplications and waste of resources.

vii) *Monitoring and evaluation:*

The strategy proposes continuous measurement of the progress and impact of cancer control activities to ensure the planned interventions are achieved within the set timelines. The plan will have a midterm review to evaluate progresses.

The National Cancer Control Plan envisions a scenario in which all activities will be carried out to ensure equitable access to services, and owned by all implementing agencies and communities.

PART I: BACKGROUND**1. INTRODUCTION:**

Cancer is a general term used to refer to a condition in which the body's cells begin to grow and reproduce in an uncontrollable way. These cells can then invade and destroy healthy tissue, including organs. Cancer sometimes begins in one part of the body before spreading to other parts. Cancer refers to over 100 different diseases characterized by uncontrolled growth and spread of abnormal cells. Cancer arises from one single cell following abnormal changes in the cell's genetic material. These genetic changes affect the mechanisms that regulate normal cell growth and cell death leading to uncontrolled cell growth. The abnormal changes are caused by interactions between genetic and environmental factors. Environmental factors include physical carcinogens (e.g. ionizing radiation), chemical carcinogens (e.g., asbestos, components of tobacco smoke and aflatoxins) and biological carcinogens (e.g., certain viruses, bacteria and parasites). Cancerous cells have a tendency to proliferate uncontrollably, invading neighboring tissues and eventually spreading to other parts of the body.

Cancer can affect almost any part of the body. Carcinoma is the cancer that begins in the skin or tissues that line or cover organs. Sarcoma is a cancer that begins in bone, cartilage, fat, muscle blood vessels or other connective tissue. Leukemia is cancer that starts in blood-forming tissues such as bone marrow. Lymphoma and multiple myeloma are cancers that begin in cells of the immune system.

Owing to its nature, cancer is difficult to treat, and cannot be eradicated at population level. However, it is possible to significantly reduce the effects of cancer on society if effective measures are put in place to control risk factors associated with cancer, promote early detection and offer good care to those affected. According to Globocan 2012 estimates, about 40% of cancers are preventable.

The risk factors for cancer are profoundly associated with socio-economic status; they are higher for populations with low-socio-economic-status populations,, where cancer survival is lower than in wealthier social settings. The risk factors for cancer can be broadly categorized into four types, namely behavioral risk factors, biological risk factors, environmental risk factors and genetic risk factors. Behavioral risk factors include tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity. Biological factors include overweight, obesity, age, sex of the individual and genetic/hereditary make up. Environmental risks include exposure to environmental carcinogens such as chemicals, radiation and infectious agents (including certain viruses).

1.1. GLOBAL BURDEN OF CANCER:

Cancer imposes an enormous burden on society in low- and high-income countries. The occurrence of cancer is increasing because of the growth and aging of the population, as well as an increasing prevalence of established risk factors such as smoking, overweight, physical inactivity, and changing reproductive patterns associated with urbanization and economic development. Based on the GLOBOCAN estimates, about 14.1 million new cancer cases and 8.2 million deaths occurred in 2012 worldwide. Lung and breast cancer are the most frequently diagnosed cancers and the leading causes of cancer death in men and women, respectively, both overall and in less-developed countries. Over the years, the cancer burden has shifted to less developed countries, which currently account for about 57% of cases and 65% of cancer deaths worldwide. The burden of cancer will continue to shift to less-developed countries due to growth and aging of the population, lifestyle changes and increasing prevalence of known risk factors.

The overall burden of cancer in the world is projected to continue to rise, particularly in developing countries. It is projected that an estimated 21 million people will be diagnosed, and 13 million will die of cancer in the year 2030. Although incidence rates for all cancers combined are twice as high in more developed compared to less-developed countries, mortality rates are only 8% to 15% higher in more-developed countries. This disparity primarily reflects differences in cancer profiles and/or the availability of and accessibility to diagnostics and treatment. For example, liver cancer, a highly fatal cancer, is much more common in less-developed countries, thus contributing disproportionately to the overall cancer mortality rate in these countries. Similarly, cancers are more often detected at a later stage in less-developed countries, which contribute to the disparity in mortality rates relative to the incidence.

Breast and cervical cancers are the leading cancers among women in developing countries, with estimated annual new cases of 882,900 and 444,500 respectively. More than 324,300 and 230,400 women die from these cancers every year, respectively.

Breast cancer is the most-frequently diagnosed cancer and the leading cause of cancer death among females worldwide, with an estimated 1.7 million cases and 521,900 deaths in 2012. Breast cancer alone accounts for 25% of all cancer cases and 15% of all cancer deaths among females. More-developed countries account for about one-half of all breast cancer cases and 38% of deaths.

An estimated 1.8 million new lung cancer cases occurred in 2012, accounting for about 13% of total cancer diagnoses. Lung cancer was the most frequently diagnosed cancer

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and the leading cause of cancer death among males in 2012. Among females, lung cancer was the leading cause of cancer death in more-developed countries, and the second-leading cause of cancer death in less-developed countries.

There were an estimated 527,600 new cervical cancer cases, and 265,700 deaths, worldwide in 2012. It is the second most commonly diagnosed cancer and third leading cause of cancer death among females in less-developed countries. Incidence rates are highest in sub-Saharan Africa. Nearly 90% of cervical cancer deaths occurred in developing parts of the world: 60,100 deaths in Africa, 28,600 in Latin America and the Caribbean, and 144,400 in Asia.

In developed countries, cancer is the second-most-common cause of death after cardiovascular conditions, and epidemiological evidence indicates the emergence of a similar trend in developing countries. The principal factors contributing to this projected increase in cancer are the increasing proportion of elderly people in the world (in whom cancer occurs more frequently than in the young), an overall decrease in deaths from communicable diseases, the decline in some countries in mortality from cardiovascular diseases, and the rising incidence of certain forms of cancer, notably lung cancer resulting from tobacco use. Approximately 20 million people are alive with cancer at present, and by 2020 this number is projected to increase to more than 30 million.

The impact of cancer is far greater than the number of cases would suggest. Regardless of prognosis, the initial diagnosis of cancer is perceived as a life-threatening event, with over one-third of patients experiencing clinical anxiety and depression. Cancer is also distressing for the family, profoundly affecting both the family's daily functioning and economic situation. The economic shock includes both the loss of income and the expenses associated with health care costs.

In many developing countries the rapid rise in cancers and other non-communicable diseases has resulted from increased exposure to risk factors, which include tobacco use, harmful use of alcohol and exposure to environmental carcinogens. Other risk factors for some cancers include infectious diseases, such as HIV/AIDS (Kaposi's sarcoma and lymphomas), human papilloma virus (HPV-- associated with cervical, anal, vulva, vagina, penile and oral cancers), and Hepatitis B and C (liver cancer); bacterial infections, such as *Helicobacter pylori* (the stomach cancer) and parasitic infestations, such as schistosomiasis (the bladder cancer).

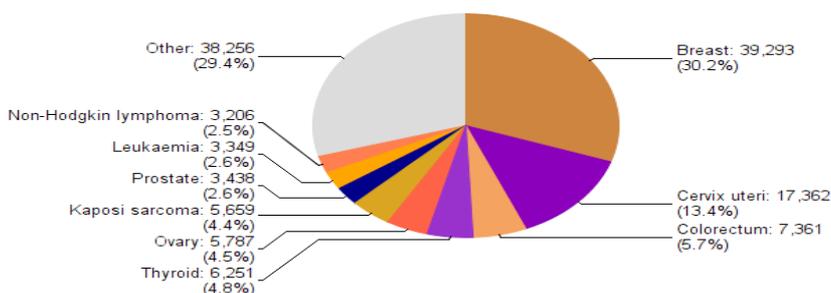
1.2. THE SITUATION OF CANCER IN ETHIOPIA:

In Ethiopia, cancer accounts for about 5.8% of total national mortality. Although population-based data do not exist in the country except for Addis Ababa, it is estimated that the annual incidence of cancer is around 60,960 cases and the annual mortality is over 44,000. For people under the age of 75 years, the risk of being diagnosed with cancer is 11.3% and the risk of dying from the disease is 9.4%.

The most prevalent cancers in Ethiopia among the adult population are breast cancer (30.2%), cancer of the cervix (13.4%) and colorectal cancer (5.7%). About two-thirds of reported annual cancer deaths occur among women.

FIGURE 1: AN ESTIMATED 5-YEAR PREVALENCE OF CANCER IN ETHIOPIA, GLOBOCAN 2012

Ethiopia: Both sexes
 Estimated 5-year prevalent cancer cases, adult population (total: 129,962)



GLOBOCAN 2012 (IARC) - 5.6.2015

Based on 2013 data from the Addis Ababa Cancer Registry, breast cancer accounted for 31.4%, cervical cancer for 14.3% and ovarian cancer for 6.3% of all cancer cases.

Despite the fact that non-communicable diseases (NCDs), such as cardiovascular diseases, cancers, diabetes and chronic respiratory diseases, are on the increase in Ethiopia, the health systems in the country have traditionally concentrated on the Control of communicable diseases. As a result, health and development plans have not adequately invested in the Control of NCDs. The silent epidemic of NCDs now imposes a 'double burden of disease' to the country, that unless addressed, will overwhelm it in the near future.

According to the only oncology centre in the country (the Tikur Anbessa (Black Lion) Specialized Hospital), about 80% of reported cases of cancer are diagnosed at

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advanced stages, when very little can be done to treat the disease. This is largely due to the low awareness of cancer signs and symptoms, inadequate screening and early detection and treatment services, inadequate diagnostic facilities and poorly structured referral. The country has very few cancer specialists (only 4 qualified oncologist for the entire population). This makes it difficult for a great majority of the population to access cancer treatment services, which results in long waiting times and cause many potentially curable tumors to progress to incurable stages.

The reason for this despondent situation is that the cancer-treatment infrastructure in Ethiopia is inadequate and some cancer-management options are not readily available, within the health care system, cancer is treated through medical, surgical or radiation therapy, but some patients seek cancer treatment abroad. Effective cancer treatment requires surgical, radiation and therapy be available in the same setting to avoid distant referral and delays in treatment administration. Currently, the Ethiopian Essential Medicines List does not include chemotherapy for cancer. Even the essential medicines for pain-management are rare to find in most public hospitals.

However, there are opportunities for a program to prevent and control cancer to develop and expand in Ethiopia. The country has adopted a comprehensive National Action Plan on the Prevention and Control of Chronic Non-Communicable Diseases, including cancer. Expansion of cancer treatment services is underway. The country plans a nation-wide scale up of the screening and treatment for cervical pre-cancer into over 800 health facilities (one health facility per district). The First Lady of Ethiopia guides and leads the cancer-control programme with the Minister of Health, serving as co-chairs of the National Cancer Committee (NCC)

Cancer research in Ethiopia is not commensurate with the magnitude of the problem. This is due to inadequate funding and training facilities in cancer research. There is also no comprehensive cancer surveillance system, and population-based cancer registry limited to the Addis Ababa region at present.

1.3 STAKEHOLDERS ANALYSIS:

TABLE 1: STAKEHOLDER ANALYSIS OF CANCER CONTROL IN ETHIOPIA

Stakeholder	Role of stakeholder	Current status	Interest	Influence	Position	Impact
Office of the First Lady	<ul style="list-style-type: none"> • Advocacy and resource-mobilization • Ensure political commitment 	<ul style="list-style-type: none"> • Active involvement in the National Cancer Coordination through co-chairing the NCC 	H	H	Supportive	VH
FMoH-Ethiopia	<ul style="list-style-type: none"> • National coordination and leadership 	<ul style="list-style-type: none"> • Established NCD Case Team • Led the development of NCCP • Cancer control set as a priority, and reflected in the HSTP • Resource-mobilization, prioritization 	H	H	Process owner	VH
Regional Health Bureaus (RHBs)	Regional coordination & leadership	<ul style="list-style-type: none"> • Endorsing national policies/strategies • Regional NCD focal point established • Regional resource-mobilization, prioritization 	H	H	Regional process owner	VH
Other government line ministries	<ul style="list-style-type: none"> • Control tobacco use and alcohol consumption • Increase taxation on tobacco and alcohol, and use the revenue to support activities against NCDs and cancer control programmes • Information in curricula on healthy life styles (Ministry of Education) • Build sport facilities and promote community 	<ul style="list-style-type: none"> • Lack of coordination of mechanism • Not actively involved 	L	M	Supportive	H

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	<p>play- ground space to encourage physical activity, sports, (MUPHCo)</p> <ul style="list-style-type: none"> • Promotion of sports/physical activity. – (Sports Commission) • Security of agricultural products, foods and fishery products (Ministry of Agriculture?) <p>Control and regulation of imported foods</p> <ul style="list-style-type: none"> • Ministry of Women, children and youth affairs, particularly for women's cancers- breast, ovarian, cervical etc. Also may be interested in gender issues and access for women for care for all cancers 					
Civil Society Organizations (CSOs)	<p>Advocacy on:</p> <ul style="list-style-type: none"> • Cancer information dissemination • Stigma-reduction • Resource-mobilization • Community participation • Equal access and opportunity to cancer health care services • Delivery of quality cancer services. 	<ul style="list-style-type: none"> • Very few, and most localized in the capital • General lack funding for cancer 	M	M	Supportive	H
Cancer patients, survivors and their associations	<ul style="list-style-type: none"> • Have the right to get treatment, psychosocial support and palliative care • Break the silence, and get involved in community education • Formulate support groups for patients with cancer 	<ul style="list-style-type: none"> • Lack of cancer information. • Late presentation for care and treatment • Very few get cancer care services • Weak patient involvement • Patients are silent and stigmatized 	H	H	Very supportive	VH
Religious leaders	<ul style="list-style-type: none"> • Dissemination of cancer information • Psycho-social support • Referral of patients to facilities 	<ul style="list-style-type: none"> • No awareness on cancer 	H	H	Supportive	H
International	<ul style="list-style-type: none"> • Financial and technical support 	<ul style="list-style-type: none"> • Technical and financial support 	H	H	Supportive	H

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organizations and funders						
Community	<ul style="list-style-type: none"> Dissemination and enforcement of cancer awareness, and provision of information and referral to facilities 	<ul style="list-style-type: none"> Weak awareness on cancer 	H	H	Supportive	H
Health care providers	Directly Involved in cancer prevention, care and control, according to their level of expertise	<ul style="list-style-type: none"> Inadequate knowledge and skill on prevention, care and control of cancer 	H	H	Very Supportive	VH
Private Health Institutions	Directly involved in cancer prevention, care and control, according to their level of expertise	<ul style="list-style-type: none"> No coordination Lack of public-private partnership on cancer control Many are not ready to handle cancer cases Lack of trained staff 	H	H	Supportive	High
Faith-based health sector	Directly involved in cancer prevention, care and control, according to their level of expertise	<ul style="list-style-type: none"> Most do not prioritize cancer Many are not ready to handle cancer cases 	High	Low	Supportive	High
Traditional healers and herbalists	<ul style="list-style-type: none"> Have good access to cancer patients Dissemination of cancer information and early referral of chronic patients Recognition of early-warning symptoms <p>Work with Health Extension Workers (HEWs) and Health Development Agents.</p>	<ul style="list-style-type: none"> No adequate information on the Control of cancer Financial conflict-of-interest Patient delay at this level 	L	L	Less supportive	M
Medicines& medical-equipment suppliers	<ul style="list-style-type: none"> Make good-quality medicines and medical equipment available at a fair and affordable price 	<ul style="list-style-type: none"> Weak public-private coordination in importing cancer medicines and supplies. Suppliers not interested in bulk importation. Ethiopian Essential Medicines List needs revision regularly. 	H	H	Supportive	High

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1.4 SWOT ANALYSIS OF THE NATIONAL CANCER CONTROL ACTIVITIES:

TABLE 2: SWOT ANALYSIS OF NATIONAL CANCER CONTROL ACTIVITIES IN ETHIOPIA

I. Primary Prevention of Cancer			
Strength	Weakness	Opportunities	Threats
<ul style="list-style-type: none"> • Availability of policy on disease Control • Availability of National Action Plan on NCDs • Cervical cancer Control guidelines available and HPV demonstration in progress • Hepatitis B vaccination incorporated in childhood immunization • Expansion of primary health care (PHC) services all over the country • Availability of community conversation structure • Availability of local social structures like “EDIR”¹ 	<ul style="list-style-type: none"> • Lack of communication strategy on cancer • Lack of awareness of risk factors • Lack of coordinated prevention activities and ownership • Lack of IEC/BCC materials on cancer • Adult risk group HBV immunization not implemented 	<ul style="list-style-type: none"> • Health Extension Program is an asset to reach the rural community • GAVI supports childhood immunization(the current demonstration project will support single cohorts in two districts for two years, but once the country applies for a national program they could receive GAVI support for 5 years—so 5 cohorts of girls nationwide. • Availability of FM radio services in local languages. 	<ul style="list-style-type: none"> • Workload on HEWs and Health Development Army. • Cancer myths promoted by traditional healers and cancer prevention counteracts beliefs by local communities • Resistance from tobacco, alcohol, and, packed-food-processing industries. • Long-term funding commitment from donors is not assured

¹Is a traditional community organization whose members assist each other during the mourning process. Members make monthly financial contributions forming the Edir's fund.

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II. Early Detection and Screening			
<ul style="list-style-type: none"> • Availability of low-cost approaches like VIA for cervical cancer • Government commitment to scale up national screening services for cervical cancer 	<ul style="list-style-type: none"> • Low awareness about cancer screening and prevention • Inadequate and unskilled staff • Lack of pathology lab and expertise • Service inadequate and centralized • Lack of partners working on this area of work 	<ul style="list-style-type: none"> • Availability of telecom infrastructure all over the country to practice telemedicine and e-health applications • Possibility of using new technologies, such as HPV DNA testing, and outreach approaches to reach more women more efficiently • Partners available to financially and technically support cancer initiatives (e.g. the PRRR support) 	<ul style="list-style-type: none"> • Expensive but cost-effective intervention • Lack of budget • Sustainability not assured • Competing health priorities
3. Cancer Diagnosis & Treatment			
<ul style="list-style-type: none"> • Availability of the three-tiered health care delivery system • Expansion of health care services all over the country • Availability of Cancer plan and strategy • Pharmaceuticals and medical supplies control and regulation authority available • Medicines procurement and logistic system available 	<ul style="list-style-type: none"> • Lack of expertise on cancer diagnosis and treatment • Lack of diagnostic and treatment facilities • The service is limited in tertiary hospitals and centralized • Inadequate diagnostic and treatment equipment (Radiotherapy, MRI, CT scan, mammogram, bone scan, etc.) • No functional public-private partnership • Cancer medicine and supplies are not available, if available not affordable • No networking of institutions in capacity-building and sharing resources 	<ul style="list-style-type: none"> • Availability of mid-level professionals all over the country for possible task-shifting • Can be integrated in health care delivery system • Availability of telecom infrastructure widely gives opportunity for capacity building through e-learning. • Partners willing to participate in training of health workers • International interest to support cancer initiatives (e.g. IAEA) • Possibility of "twinning" relationships with internationally known cancer-treatment centers 	<ul style="list-style-type: none"> • Interventions are expensive. • Sustainability not assured • Radiotherapy equipment status relative to population need is grossly inadequate
4. Cancer palliative care			
<ul style="list-style-type: none"> • Included in National Cancer Control and Prevention Strategic Plan. 	<ul style="list-style-type: none"> • Minimal palliative care knowledge and practice by health workers. • No palliative-care structure in health care 	<ul style="list-style-type: none"> • Community conversation structure, local social structures like "EDIR"," • WHO guidelines on palliative care available 	<ul style="list-style-type: none"> • Lack of budget & funding • Sustainability not assured

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<ul style="list-style-type: none"> • Availability of the three-tiered health care delivery system. 	<p>system.</p>	<ul style="list-style-type: none"> • Associations and local NGOs working on palliative care available. 	
5. Cancer Surveillance and Research			
<ul style="list-style-type: none"> • Health information technicians widely available in the country • Research institutions and universities available • Demographic and Health Survey (DHS) conducted regularly 	<ul style="list-style-type: none"> • No nationally representative cancer data • National cancer registry unavailable. • Information officers not trained in cancer-specific data. • Lack of accurate mortality surveillance 	<ul style="list-style-type: none"> • Hospital-based cancer registry initiatives available. • Partners willing to participate in implementing cancer registry strengthening and research work. • Population-based cancer registry in Addis Ababa provides a foundation for extending to a national registry through the development of several satellite centers 	<ul style="list-style-type: none"> • HMIS policy not accommodating cancer registry as an independent registry. • Current PBCR in Addis Ababa dependent on outside donors

1.5 THE NATIONAL CANCER CONTROL STRATEGY:

This plan is based on the World Health Organization's global cancer control strategy. It aims to build on the existing health system in Ethiopia to strengthen cancer control capacities in both the public and private sectors through control of risk factors associated with cancer, investment in cancer care workforce, equipment and research. This is the first cancer control plan document to be developed in the country. It describes aspects of cancer prevention, screening, diagnosis, treatment and care for the population as well as the investment needed to deliver these services.

The plan particularly reinforces the need for action to prevent cancer, especially related to smoking and other modifiable risk factors. Enhanced health promotion, education and advocacy will enable the government and other partners to improve public understanding of cancer. It will empower the public in general, to adopt healthier lifestyles and healthcare professionals in particular to recognize the symptoms of cancer and identify people at risk of or living with cancer.

It seeks to:

- Introduce and expand coverage of HBV and HPV vaccination for those cancers that are vaccine-preventable;
- Improve early detection of cancer by introducing or expanding the available screening programmes and putting in place mechanisms and services that are proven to save lives;
- Shorten the time taken to diagnose and treat cancer by streamlining the diagnosis and referral systems, the process of care and investing in more cancer treatment equipment as well as cancer specialists and other staff;
- Improve access to cancer medicines in line with the WHO Model Essential Medicines List and other aspects of care for cancer patients;
- Harmonize and coordinate cancer care, national cancer registration, sharing of resources and information among health facilities;
- Ensure patients and their families have better support and access to quality treatment including palliative care;
- Introduce innovations in technology and approach that will make the prevention and treatment of cancer more effective and efficient; and
- Enable the country to improve services through education and research in the field of cancer control ensuring a culture of evidence-based and resource appropriate practice.

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1.6 LINKAGE WITH OTHER EXISTING STRATEGIES

The Cancer Control Plan has broad-based crosscutting interventions. A number of proposed interventions are also addressed in other relevant strategies and plans within the FMOH. The following matrix outlines the other key relevant strategies and plans and their link with the plan for Control of cancer.

TABLE 3: LINKAGE OF NCCP WITH OTHER STRATEGIES OF FMOH

SN	Existing Strategies and plans	Interface with the National Cancer Control Plan
1	Health Sector Transformation Plan of Ethiopia 2015/16-2019/20	<ul style="list-style-type: none"> The plan recognizes cancer as one of the key priority areas for intervention The National Cancer Control Plan (NCCP) aligns with HSTP
2	National Strategic Action Plan (NSAP) for Control of non-communicable diseases in Ethiopia 2014-2016	<ul style="list-style-type: none"> Addresses cancer as a major NCD Defines strategic actions addressing the risk factors for cancer and other NCDs The cancer control plan seeks to promote implementation of the national action plan on NCDs
3	Guideline for Cervical Cancer Prevention and Control	<ul style="list-style-type: none"> Provides clear guidance on screening and treatment of cervical cancer in Ethiopia The NCCP capitalizes on the details of interventions as defined in the national cervical cancer guideline
4	National Nutrition Strategy	<ul style="list-style-type: none"> Makes reference to a life-style related risks to cancer including unhealthy diet and physical inactivity The NCCP capitalizes on the details of interventions as defined in the national nutrition strategy
5	Strategy on Viral Hepatitis (being developed)	<ul style="list-style-type: none"> The NCCP considers infectious diseases causally associated with cancer and makes reference to interventions outlined in the national strategy on viral hepatitis
6	National Reproductive Health Strategy	<ul style="list-style-type: none"> Reproductive organ cancers are among the major cancers affecting women
7	HIV Strategy	<ul style="list-style-type: none"> HIV increases the risk of cancers amongst HIV survivors - as survival rates improve so does the need for plans to manage a potential rise in cancer burden.
8	National Mental Health Strategy 2012/13-2015/16	<ul style="list-style-type: none"> Harmful consumption of alcohol addressed as one of the key risk factors for cancer
9	Tobacco Control Directive	<ul style="list-style-type: none"> Recognizes tobacco as one the key risk factors for cancer Outline key interventions to control tobacco use The NCCP seeks to promote implementation of the directives on tobacco control
10	National Palliative Care Guideline	<ul style="list-style-type: none"> The national palliative care guideline defines ways of standardizing palliative care for major life threatening chronic disease including cancer The NCCP developed interventions as defined in the national palliative care guideline
11	Strategic Plan for the National Blood Transfusion Services	<ul style="list-style-type: none"> Provide access, and proper use of adequate and safe blood and blood products The NCCP recognizes biological risk factors including hepatitis B infection as a cause of cancer and promote availability of safe blood and blood products

1.7 JUSTIFICATION FOR THE NATIONAL CANCER CONTROL PLAN:

The rapid increase in non-communicable diseases is attributed to social and demographic factors, which include economic development, globalization of markets and urbanization. These factors lead to increased exposure to modifiable life-style risk factors for cancer. Most developing countries such as Ethiopia are undergoing rapid urbanization, economic development and increased globalization of markets for unhealthy foods and consumer products all of which contribute to risk factor prevalence in the population.

To mitigate the health impact of these socio-economic transformations and safeguard the gains made in economic development, the country must prioritize the Control of chronic non-communicable diseases. Development of a national cancer control plan is recommended wherever the burden of the disease is significant. Unfortunately, Ethiopia still has a developing health system that is not fully capable of tackling all of the key areas that form the 'continuum of cancer control'. In addition, the country is classified as a low-income country, with a heavy burden of communicable diseases. There is, therefore, an urgent need to make the most efficient use of available limited resources for maximum impact through the identification and implementation of cost-effective strategies and innovations in cancer Control.

The NCCP comprises an integrated set of interventions covering all aspects of cancer Control including cancer management. It operates with an appropriate allocation of available resources among the various interventions with an equitable coverage of the population. This is done through systematic and equitable implementation of evidence-based interventions for prevention, early detection, treatment, and palliation. Proper planning will ensure efficient use of resources for cancer Control.

PARTII: THE NATIONAL CANCER CONTROL PLAN FOR ETHIOPIA

2. STRATEGIC FRAMEWORK:

2.1 VISION

Ethiopia will have a system of cancer prevention and control that will reduce cancer incidence, morbidity and mortality through the adoption of a multi-sectoral approach, implementation of concrete and sustainable actions, according to the priorities, taking the greatest advantage of available resources.

2.2 MISSION

An Ethiopian public health care system that is equipped, staffed, trained, and empowered to provide a full range of cancer prevention, screening, diagnostic, treatment, and care options to cancer patients

2.3 GOAL

To reduce cancer incidence and mortality in Ethiopia by 15%by 2020

2.4 GENERAL OBJECTIVES

- I. To promote cancer prevention and early detection.
- II. To improve diagnosis and treatment including palliative care
- III. To promote cancer surveillance, registration and research
- IV. To foster partnership, collaboration and innovation in cancer control.
- V. To integrate Cancer Control activities into the National Health Sector Transformation Plan
- VI. To promote community involvement and participation in cancer prevention, control and care

2.5 GUIDING PRINCIPLES OF THE CANCER CONTROL PLAN:

The Ethiopian National Cancer Control Plan is guided by the following key principles:

- **Ownership, leadership and fairness** in the implementation of the national plan
- **Equity and accessibility** of services.
- **Partnership, team building and coordination**, with the involvement of partners at various levels in the development, planning and implementation of interventions. The coordination will be based on clear definition and understanding of roles, responsibilities and mandates.
- **Innovation, creativity and accountability**, with the involvement of all stakeholders including cancer patients, civil society, partners and community at all stages of decision-making, planning, implementation and evaluation.
- **Systematic and integrated approach** to implementation of priority interventions as part of a national cancer action plan.
- **Sustainability**-identify and avail adequate resources required for long-term implementation within the national health systems.
- **Evidence-based approach** focusing on best practice.

2.6 SERVICE DELIVERY LEVEL AND STRATEGIES

2.6.1 HEALTH SERVICE DELIVERY ORGANIZATION

Health Systems consists of all organizations, product, people and actions whose primary intent is to promote, restore or maintain health. The health care delivery system in Ethiopia is structured in three-tier. The primary level health care delivery system includes Health Posts (per 3,000 – 5,000 population), Health Centers (15,000 – 25,000 Population) and primary hospitals (60,000 – 100,000 population); secondary level health care delivery system includes general hospital which serves about 1-1.5 million people and Tertiary level health care delivery system includes tertiary hospital which serves 3.5 to 5 million people.

The Ethiopian health care delivery system is augmented by the rapid growth of the private-for-profit and NGOs sector that are playing significant role in expanding the health service coverage and utilization. To strengthen the engagement of the private sector in health service delivery and foster partnership between the public and private sectors the FMOH launched the Public Private Partnership (PPP) strategy. Forums of private sectors are established focusing on quality improvement and regulatory schemes. The PPP strategy will be an opportunity to promote and strengthen local manufacturing of essential medicines and commodities for cancer care in the country. This will ensure sustained availability

of those commodities and significantly reduce the lead-time between their production and use. The private sector and NGOs also play key role in ensuring access to health services and products through engaging in community engagement and social marketing.

Types of cancer control interventions vary depending on the level of cancer control continuum. This document describes in detail what kind of strategic interventions are given at various levels of care.

2.6.1.1 PRIMARY LEVEL HEALTH CARE

The PHCU provides basic promotive, preventive and curative health care services to its catchment population through participation of communities in the planning and implementation of the health care services².

With rapid expansion of the physical infrastructure and equipping the primary level health care (health posts, health centers and primary hospitals) throughout the country and training and deployment at health care workers the primary level health care structure and function was revitalized and health posts were made to administratively and technically link with the health centers. The mandate of the woreda health offices remained to be management and coordination of the operation of all PHCUs within their woredas including planning, financing, monitoring and evaluation of health programs and services deliveries. To guide the revitalization of the PHCU in 2012 a guideline on 'Primary Health Care Unit Linkage and Referral'³ was prepared by FMOH and distributed to regions.

Expansion of the coverage of primary level care across the country has improved access to basic information and referral for cancer patients, particularly for cervical and breast cancers with a highly effective screening and early detection potential.

2.6.1.2 COMMUNITY EMPOWERMENT, ENGAGEMENT AND PARTICIPATION

The Federal Ministry of Health along with health development partners has been implementing different models of engaging community members in the plan and implementation of health programs. Following the launch of the Health Extension Program (HEP) in 2005 the engagement of community members in the health

²FMOH: Health Sector Development Plan IV 2010/11 – 2014/15, October 2010

³Primary Health Care Unit Linkage and Referral, 2012

service program planning and implementation became more systematic and organized⁴. However, the types, roles and levels of engagement of the community health workers were not consistent throughout the country. Cognizant of these challenges and with the aim of standardizing the community health workers' types, roles and level of engagement and to ensure scale up of key positive family and community health practices in 2011 the government of Ethiopia launched the Health Development Army (HAD).

Health Development Army: is a network of women that are led by women who have adopted better health behavior through completing the 16 packages of HEP. Leaders of the network of women influence women under their leadership to practice a healthy life style. Five of such 1-to-5 networks of women form a health development team. The leaders of the networks are selected by the members of the network with the key criteria including being a model family in the community through completing implementation of the 16 packages of HEP and getting trust and respect by the members in mobilizing the community. The formation of the health development teams and the 1-to-5 networks is facilitated by HEWs and the Kebele administration⁵.

So far a total of 2.3 million women were organized into 442,773 health development teams voluntarily mobilized to lead 1-to-5 networks of women throughout the country, the plan is to mobilize up to 3 million one-to-five networks of women to work alongside the HEWs in supporting families to adopt a healthy behavior⁶.

2.6.1.3 SECONDARY AND TERTIARY LEVEL HEALTH CARE

According to the recent Service Provision Assessment (SPA) in 2014 in Ethiopia there were total of 163, 73 and 35 primary, general and referral hospitals, respectively, of which 40, 71 and 30 respectively are fully functional.

⁴ Health Extension Program in Ethiopia: Profile. Health and Education Center, FMOH, June 2007

⁵ Federal Democratic Republic of Ethiopia Ministry of Health: EFY 2005 (2012/13) HSDP IV Annual Performance Report Version I

⁶ HSDP IV Annual Performance Report (2013/14)

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TABLE 4: NUMBER, TYPES AND FUNCTIONAL STATUS OF HEALTH FACILITIES AND HEALTH POSTS IN ETHIOPIA, SPA 2014

Health facility type	Fully Functiona l	Partially Functiona l	Not Func tiona l	Total based on SPA
Health Post	15,526			15,526
Health Center	3,269	46	227	3,542
Primary Hospital	40	4	119	163
General Hospital	71	1	1	73
Referral Hospital	30	1	4	35

According to the 2013/2014 HSDP IV annual performance report the total number of health posts reached 16,048 making functional health posts to population ratio at 1:5,264 and to date the total number of health centers constructed reached 3,245, reaching a functional health center to population ratio of 1: 26,858.⁷

2.6.2 THE CANCER CONTROL CONTINUUM

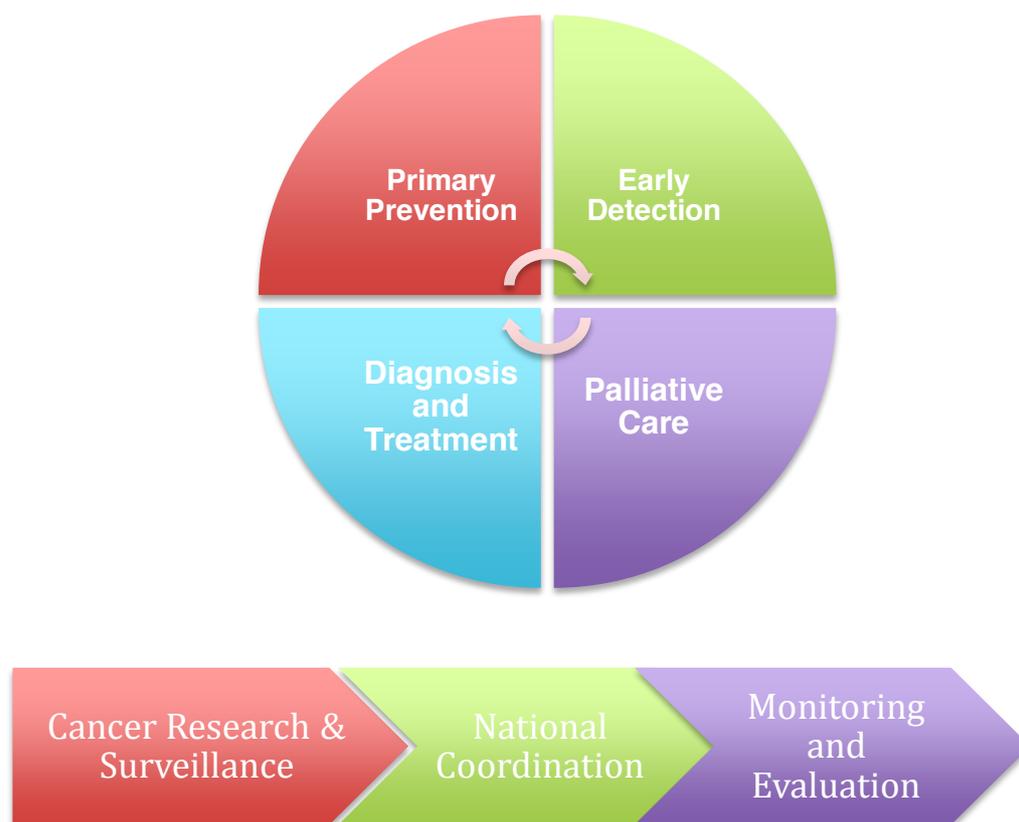
Owing to its nature, cancer is difficult to treat, and often takes a long time to progress in to a full stage disease. Some cancers like cervical and breast can benefit from early screening and detection and treating the disease before it grows into an advanced stage. However, due to lack of information, inadequate availability of diagnostic and screening facilities and lack of skilled health care providers, most of the cancer patients present with an advanced disease and often difficult and too late to treat and require a long time care.

Cancer control requires a coordinated range of interventions from preventing the disease before it occurs, through availing early screening and detection facilities, providing diagnostic and treatment services and providing palliative and pain management for terminally ill patients. This spectrum of interventions constitutes a continuum of cancer care. Continuous research and surveillance of cancer control

⁷FMOH: 2005 EFY ARM performance report

programme and systematic monitoring of progress are key to the coordination of the national cancer control programme. The following figure depicts the model of continuum of cancer care.

FIGURE 2: THE CONTINUUM OF CANCER CONTROL



2.7 INTERVENTION STRATEGIES BY SERVICE DELIVERY LEVEL

2.7.1 PRIMARY PREVENTION OF CANCER

Primary prevention interventions are cost-effective approaches to reduce exposure to the modifiable risk factors at individual and community levels. Prevention of cancer especially when integrated with other programmes, such as the Expanded Programme on Immunization, reproductive health, HIV/AIDs, occupational and environmental health, offers the greatest public health potential and most cost-effective long-term method of cancer control. Approximately 40% of cancers are preventable through interventions such as tobacco control, promotion of healthy diets, physical activity, vaccination and protection against exposure to environmental carcinogens. In Ethiopia, the innovative Health Extension Workers

programme and the Health Development Army have huge potential, and could be instrumental for the successful implementation of cancer preventive activities in the country.

STRATEGY 1: PROMOTE PUBLIC AWARENESS ON CANCER PREVENTION AND CARE

Information is very crucial throughout the continuum of cancer care. The health system of Ethiopia offers broad community-based services through a well-established structure of information delivery network using the HEWs and the Health Development Army (HDA). Tested and culturally acceptable messages will be developed and channeled through these existing systems.

OBJECTIVE 1: TO REACH 50% OF THE POPULATION WITH CANCER PREVENTION AWARENESS INFORMATION BY 2020

OBJECTIVE 2: TO INTEGRATE CANCER PREVENTION ACTIVITIES AT PRIMARY HEALTH CARE LEVEL BY 2020

KEY INTERVENTIONS:

- Train health workers, HEWs, media and HDA on cancer prevention and advocacy
- Use opportunities like commemoration days to disseminate cancer prevention information to the community
- Create networking with other relevant sectors to intensify cancer awareness
- Develop and test cancer awareness messages and channel them through HEW and HDA programmes

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TABLE 5: PRIMARY PREVENTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 1-PUBLIC AWARENESS

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Train health workers, HEWs, media and HDA on cancer prevention and advocacy, referrals 	<ul style="list-style-type: none"> Jobaids for HEWs Media briefing packs on cancer control IEC/BCC materials (posters, audio) 	<ul style="list-style-type: none"> 20% of health workers receive training every year (100% in five years) 7,600 HEWs receive training on cancer every year (target to reach 38,000 HEWs) 50% of HDA will get training on cancer control by 2020
	<ul style="list-style-type: none"> Develop and test cancer awareness messages and channel them through HEW and HDA programmes 	<ul style="list-style-type: none"> Cancer awareness messages Culturally acceptable and socially sound IEC/BCC materials 	
Health Center	<ul style="list-style-type: none"> Train health workers (Nurses, health officers, doctors,) on basic cancer awareness creation skill, referrals 	<ul style="list-style-type: none"> Culturally acceptable and socially sound IEC/BCC materials 	<ul style="list-style-type: none"> 20% of health workers trained every year (100% in five years)
General Hospital	<ul style="list-style-type: none"> Provide health education to patients on prevention and control of cancer 	<ul style="list-style-type: none"> Culturally acceptable and socially sound IEC/BCC materials 	<ul style="list-style-type: none"> 20% of health workers trained every year (100% in five years)
Tertiary Hospital	<ul style="list-style-type: none"> Provide health education to patients on prevention and control of cancer 	<ul style="list-style-type: none"> Culturally acceptable and socially sound IEC/BCC materials 	<ul style="list-style-type: none"> 20% of health workers trained every year (100% in five years)
Regional/National level	<ul style="list-style-type: none"> Design, develop and disseminate information package on prevention and control of cancer 	<ul style="list-style-type: none"> IEC materials Compilation and processing of facts and figures on cancer Printings 	<ul style="list-style-type: none"> Prepare and conduct trainings

STRATEGY 2: TOBACCO CONTROL

Tobacco smoking causes many types of cancer, including cancers of the lung, esophagus, larynx (voice box), mouth, throat, kidney, bladder, pancreas, stomach and cervix. About 70% of the lung cancer burden can be attributed to smoking alone. Second-hand smoke (SHS), also known as environmental tobacco smoke, has been proven to cause lung cancer in non-smoking adults. Smokeless tobacco (also called oral tobacco, chewing tobacco or snuff) causes oral, esophageal and pancreatic cancer.

OBJECTIVE: TO REDUCE THE PREVALENCE OF TOBACCO SMOKING BY 30% IN 2020

KEY INTERVENTIONS:

- Promote implementation of a comprehensive tobacco control bill/law by parliament
- Incorporate tobacco health risks in school health program
- Require by law and enforce 100% smoke-free environments in workplaces and public places
- Ban all advertising, promotion and sponsorship of tobacco products
- Put health warnings boldly on all tobacco packaging
- Establish a national pilot cessation program in health-care facilities
- Build media awareness of both the addictive nature of tobacco use and treatment options

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TABLE 6: PRIMARY PREVENTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 2-TOBACCO CONTROL

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Educate the public about the risk of smoking and cancer by HEWs Disseminate the concept of healthy and smoke-free life style through the HDA programme 	<ul style="list-style-type: none"> Brochures, leaflets and posters (Media spots (TV, Radio) every year 	<ul style="list-style-type: none"> Train health workers on Interpersonal Communication skills and key approaches and communication skills as per FMOH standard training guidelines
Health Center	<ul style="list-style-type: none"> Educate the public about the risk of smoking and cancer 	<ul style="list-style-type: none"> Brochures, leaflets and posters (<ul style="list-style-type: none"> Train health workers on Interpersonal Communication skills and key approaches and communication skills as per FMOH standard training guidelines
General Hospital	<ul style="list-style-type: none"> Integrate public awareness raising into routine health education in hospitals Establish a national pilot cessation program in health-care facilities 	<ul style="list-style-type: none"> Brochures, leaflets and posters Designated rooms for cessation 	<ul style="list-style-type: none"> Train health workers on cessation
Tertiary Hospital	<ul style="list-style-type: none"> Integrate public awareness raising into routine health education in hospitals Establish a national pilot cessation program in health-care facilities 	<ul style="list-style-type: none"> Brochures, leaflets and posters Designated rooms for cessation 	<ul style="list-style-type: none"> Train health workers on tobacco cessation
Regional/National level	<ul style="list-style-type: none"> Promote implementation of a comprehensive tobacco control bill/law by parliament Incorporate tobacco health risks in school health program Require by law and enforce 100% smoke-free environments in workplaces and public places Ban all advertising, promotion and sponsorship of tobacco products Build media awareness 	<ul style="list-style-type: none"> Tobacco control proclamation 	<ul style="list-style-type: none"> Train health workers on Interpersonal Communication skills and key approaches and communication skills as per FMOH standard training guidelines

STRATEGY 3: PROMOTION OF HEALTHY DIET AND PHYSICAL ACTIVITY

Dietary modification is another important approach to cancer control. There is a link between overweight and obesity to many types of cancer such as esophagus, colorectum, breast, endometrium and kidney. Diets high in fruits and vegetables may have a protective effect against many cancers. Healthy eating habits that prevent the development of diet-associated cancers will also lower the risk of cardiovascular disease.

Regular physical activity and the maintenance of a healthy body weight, along with a healthy diet, will considerably reduce cancer risk. National policies and programmes should be implemented to raise awareness and reduce exposure to cancer risk factors, and to ensure that people are provided with the information and support they need to adopt healthy lifestyles.

OBJECTIVE 1: A15 % RELATIVE INCREASE IN MEAN POPULATION INTAKE OF FRUITS AND VEGETABLES AT LEAST TWICE PER WEEK BY 2020.

OBJECTIVE 2: A10% RELATIVE REDUCTION IN PREVALENCE OF INSUFFICIENT PHYSICAL ACTIVITY BY 2020.

OBJECTIVE 3: TO REDUCE OVERWEIGHT AND OBESITY BY 5% BY 2020

KEY INTERVENTIONS:

- Promote public awareness on risks of overweight, obesity unhealthy diet and physical inactivity.
- Control the import of processed foods having high fat, sugar and salt.
- Promote physical activity in workplaces
- Promote healthy diet and physical activities around schools
- Develop and implement national guidelines on physical activity.
- Promote the availability of play grounds per vicinity

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TABLE 7: PRIMARY PREVENTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 3- HEALTHY DIET AND PHYSICAL ACTIVITY

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Promote public awareness on risks of overweight, obesity unhealthy diet and physical inactivity. 	<ul style="list-style-type: none"> IEC/BCC materials (leaflets, brochures, posters, recorded audio-video tapes) 	<ul style="list-style-type: none"> 38,000 HEWs trained on communication skills with specific information on promotion of healthy diet and physical activity At least 50% of HDA trained on the risk of unhealthy diet and physical inactivity
Health Center	<ul style="list-style-type: none"> Promote public awareness on risks of overweight, obesity unhealthy diet and physical inactivity. 	<ul style="list-style-type: none"> IEC/BCC materials (leaflets, brochures, posters, recorded audio-video tapes) 	<ul style="list-style-type: none"> All HWs trained on communication skills with specific information on promotion of healthy diet and physical activity
General Hospital	<ul style="list-style-type: none"> Promote public awareness on risks of overweight, obesity unhealthy diet and physical inactivity. 	<ul style="list-style-type: none"> IEC/BCC materials (leaflets, brochures, posters, recorded audio-video tapes) 	<ul style="list-style-type: none">
Tertiary Hospital	<ul style="list-style-type: none"> Promote public awareness on risks of overweight, obesity unhealthy diet and physical inactivity. 	<ul style="list-style-type: none"> IEC/BCC materials (leaflets, brochures, posters, recorded audio-video tapes) 	<ul style="list-style-type: none">
Regional/National level	<ul style="list-style-type: none"> Control the import of processed foods having high fat, sugar and salt. Promote healthy diet and physical activities around schools Develop and implement national guidelines on physical activity. Promote physical activity in workplaces Promote the availability of play grounds per vicinity 	<ul style="list-style-type: none"> Media spots (TV, radio)- (a 30 second twice yearly promotion every year for 5 years) A consultant cost to develop a guideline on physical activity 	<ul style="list-style-type: none">

STRATEGY4: CONTROL OF HARMFUL USE OF ALCOHOL

Alcohol use is a risk factor for many cancer types including cancer of the oral cavity, pharynx, larynx, esophagus, liver, colorectum and breast. Risk of cancer increases with the amount of alcohol consumed.

OBJECTIVE: TO REDUCE THE PREVALENCE OF HARMFUL USE OF ALCOHOL BY 5% BY 2020

KEY INTERVENTIONS:

- Adopt the NCD Global Strategy on harmful use of alcohol
- Raise public awareness, especially among young people, about alcohol-related health risks, including cancer
- Incorporate information on the risks of alcohol consumption into the school health programme
- Work and link interventions with other relevant sectors to reduce alcohol-related problems.
- Promote the implementation of legislation on production and consumption of alcohol.
- Ban alcohol trade in the vicinity of school.

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TABLE 8: PRIMARY PREVENTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 4- CONTROL OF HARMFUL USE OF ALCOHOL

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Raise public awareness, especially among young people, about alcohol-related health risks, including cancer Conduct regular information sharing to the community using pre-organized messages 	<ul style="list-style-type: none"> Avail Jobaids Avail IEC/BCC materials 	<ul style="list-style-type: none"> Train HEWs and HDAs
Health Center	<ul style="list-style-type: none"> Raise public awareness, especially among young people, about alcohol-related health risks, including cancer Conduct regular information sharing to the community using pre-organized messages 	<ul style="list-style-type: none"> Jobaids IEC/BCC materials 	<ul style="list-style-type: none"> Train nurses and health officers
General Hospital	<ul style="list-style-type: none"> Integrate information on harmful use of alcohol into routine health education 	<ul style="list-style-type: none"> Jobaids IEC/BCC materials 	<ul style="list-style-type: none"> Train nurses and health officers
Tertiary Hospital	<ul style="list-style-type: none"> Integrate information on harmful use of alcohol into routine health education Provide treatment of substance abuses including alcoholics 	<ul style="list-style-type: none"> Jobaids IEC/BCC materials 	<ul style="list-style-type: none"> Train nurses and health officers Training on treatment of alcoholics
Regional/National level	<ul style="list-style-type: none"> Adopt the NCD Global Strategy on harmful use of alcohol Incorporate information on the risks of alcohol consumption into the school health programme Work and link interventions with other relevant sectors to reduce alcohol-related problems. Promote implementation of legislation on production and consumption of alcohol. Ban alcohol trade around schools 	<ul style="list-style-type: none"> Develop awareness creation materials Media spots (TV, radio)- (a 30 second twice yearly promotion every year for 5 years) Organize awareness creation workshop with schools on the health risk of alcohol and effect of alcohol trade around school (1 workshop per year) 	<ul style="list-style-type: none"> A team of experts trained on early prevention of cancer focusing on major risk factors

STRATEGY 5: CONTROL OF BIOLOGICAL AGENTS CAUSING CANCER

There are infections that either directly cause cancers or increase the risk of cancer. These infections include Hepatitis B or C (liver cancer), human papilloma virus - HPV (cervical cancer), human immunodeficiency virus –HIV (Kaposi sarcoma, lymphomas), helicobacter pylori (cancer of stomach). It is estimated that 20% of all cancers in developing countries and 6% in developed countries are caused by viral and bacterial infections. Prevention through vaccination, early detection and treatment of these infections will reduce the risk of these cancers.

OBJECTIVE 1: ACHIEVE 80% COVERAGE OF EACH YEAR'S TARGET COHORT OF GIRLS AGED 9 TO 13 WITH VACCINATION AGAINST HPV BY 2020.

OBJECTIVE 2: TO REDUCE THE BURDEN OF CANCER-CAUSING INFECTIONS

KEY INTERVENTIONS:

- Strengthen health promotion on infectious disease-related cancers
- Develop effective targeted screening and control of pathological agents such as HPV, HIV and hepatitis B, especially in high-prevalence populations.
- Provide vaccination against viral infections associated with cancers particularly HPV and Hepatitis B
- Treat infectious diseases causally-associated with cancers (HPV, Hepatitis B, HIV)
- Promote healthy sexual behavior
- Develop or strengthen prevention strategies on specific infectious diseases that contribute to cancer

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TABLE 9: PRIMARY PREVENTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 5- CONTROL OF BIOLOGICAL AGENTS CAUSING CANCER

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Promote healthy sexual behavior Raise public awareness on infectious diseases that contribute to cancer 	<ul style="list-style-type: none"> Jobaids for HEWs IEC/BCC materials 	<ul style="list-style-type: none"> Train Hews, HDAs
Health Center	<ul style="list-style-type: none"> Strengthen health promotion on infectious disease-related cancers Treat infectious diseases causally-associated with cancers (HPV, Hepatitis B, HIV) Develop targeted screening and control of pathological agents such as HPV, HIV and hepatitis B Provide vaccination against viral infections associated with cancers particularly HPV and Hepatitis B 	<ul style="list-style-type: none"> Adequate supply of medicine to treat common infectious agents associated with cancer Adequate vaccines (HB, HPV) 	<ul style="list-style-type: none"> Train nurses, Health Officers, Doctors
General Hospital	<ul style="list-style-type: none"> Treat infectious diseases causally-associated with cancers (HPV, Hepatitis B, HIV) Develop targeted screening and control of pathological agents such as HPV, HIV and hepatitis B Provide vaccination against viral infections associated with cancers particularly HPV and Hepatitis B 	<ul style="list-style-type: none"> Adequate supply of medicine to treat common infectious agents associated with cancer Vaccines (HB, HPV) 	<ul style="list-style-type: none"> Trained doctors and nurses
Tertiary Hospital	<ul style="list-style-type: none"> Treat infectious diseases causally-associated with cancers (HPV, Hepatitis B, HIV) Develop targeted screening and control of pathological agents such as HPV, HIV and hepatitis B Provide vaccination against viral infections associated with cancers particularly HPV and Hepatitis B 	<ul style="list-style-type: none"> Adequate supply of medicine to treat common infectious agents associated with cancer Vaccines (HB, HPV) 	<ul style="list-style-type: none"> Trained doctors and nurses
Regional/National level	<ul style="list-style-type: none"> Develop or strengthen prevention strategies on specific infectious diseases that contribute to cancer 	<ul style="list-style-type: none"> HPV, HB vaccination strategy 	<ul style="list-style-type: none"> Trained experts

STRATEGY 6: CONTROL OF ENVIRONMENTAL AND OCCUPATIONAL HAZARDS

Environmental pollution of air, water and soil with carcinogenic chemicals accounts for 1-4% of all cancers. Exposure to carcinogenic chemicals in the environment can occur through drinking water or pollution of indoor ambient air. Exposure to carcinogens also occurs via the contamination of food and water by chemicals such as aflatoxins, dioxins and asbestos. Indoor air pollution from coal (charcoal) fires doubles the risk of lung cancer. Occupational carcinogens are causally related to cancer of the lung, bladder, larynx, skin, esophagus and leukemia. Ionizing radiation can cause almost any type of cancer particularly leukemia, lung, thyroid and breast cancer.

OBJECTIVE: TO REDUCE EXPOSURE TO ENVIRONMENTAL HAZARDS CAUSALLY ASSOCIATED TO CANCER

KEY INTERVENTIONS:

- Enforcement and strengthen the legal framework to protect workers and general population from environmental carcinogens.
- Regulate the disposal of toxic wastes such as industrial, nuclear and electronic wastes.
- Promote protection of work place exposure to hazards.
- Promote stopping the use of all forms of asbestos.
- Develop regulatory standards on the use of known carcinogens in the work place.
- Enforce the national radiation protection guidelines.

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TABLE 10: PRIMARY PREVENTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 6- REDUCE EXPOSURE TO ENVIRONMENTAL HAZARDS

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Educate the public about potential link between environmental hazards and cancer 	<ul style="list-style-type: none"> IEC materials Audio-video materials 	<ul style="list-style-type: none"> Train HEWS, HDAs
Health Center	<ul style="list-style-type: none"> Educate the public about potential link between environmental hazards and cancer 	<ul style="list-style-type: none"> IEC materials Audio-video materials 	<ul style="list-style-type: none"> Train nurses, health officers, doctors
General Hospital	<ul style="list-style-type: none"> Educate the public about potential link between environmental hazards and cancer 	<ul style="list-style-type: none"> IEC materials Audio-video materials 	<ul style="list-style-type: none"> Train nurses, health officers, doctors
Tertiary Hospital	<ul style="list-style-type: none"> Provide diagnostic facilities for detection of environmental carcinogens 	<ul style="list-style-type: none"> Diagnostic laboratory 	<ul style="list-style-type: none"> Trained lab technicians
Regional/National level	<ul style="list-style-type: none"> Enforcement and strengthen the legal framework to protect workers and general population from environmental carcinogens. Regulate the disposal of toxic wastes such as industrial, nuclear and electronic wastes. Promote protection of work place exposure to hazards. Promote stopping the use of all forms of asbestos. Develop regulatory standards on the use of known carcinogens in the work place. Strengthen inter-sectoral collaboration Enforce the national radiation protection guidelines 	<ul style="list-style-type: none"> Diagnostic laboratory Guidelines 	<ul style="list-style-type: none"> Multi-sectoral team of experts

2.7.2 EARLY DETECTION OF CANCER

Early detection comprises early diagnosis of cancer in symptomatic populations and screening in asymptomatic high-risk and vulnerable populations. It is an approach that promotes vigilance for early signs and symptoms of disease. Early detection and treatment of cancer is known to reduce greatly the burden of cancers such as cancer of the cervix. Because of the burden and high mortality of breast and cervical cancers, accounting for a total of 34% of the total cancer incidence and combined mortality of 58%, the two cancer types are considered priority cancers for intervention in Ethiopia. Moreover, these two cancers are the ones with proven strategies for early diagnosis and screening.

STRATEGY 1: PROMOTE BREAST SELF-AWARENESS

Early diagnosis remains an important early-detection strategy; particularly in low- and middle-income countries where the disease is diagnosed in late stages and resources are very limited. There is some evidence that this strategy can produce "down-staging" (increase in proportion of breast cancers detected at an early stage) of the disease to stages that are more amenable to curative treatment. The practice of breast self-awareness (BSA) has been seen to empower women, taking responsibility for their own health. Therefore, BSA is recommended for raising awareness among women at risk rather than as a screening method.

OBJECTIVE: TO IMPROVE EARLY DETECTION OF BREAST CANCER

KEY INTERVENTIONS:

- Develop IEC/BCC materials for breast self-awareness
- Create public awareness using targeted IEC/BCC materials
- Develop a job-aid for HEWs on breast self awareness
- Integrate health education on breast self-awareness in all health facilities
- Develop guideline for breast self-awareness

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TABLE 11: EARLY DETECTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 1- PROMOTE BREAST SELF-AWARENESS

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> • Create public awareness using targeted IEC/BCC materials • Provide integrated sensitization while doing other health community health activities 	<ul style="list-style-type: none"> • IEC/BCC materials 	<ul style="list-style-type: none"> • Train HEWs and HDAs
Health Center	<ul style="list-style-type: none"> • Integrate health education on breast self-awareness in the health facilities • Integrate routine breast examination with other maternal and family health services 	<ul style="list-style-type: none"> • BSE guideline 	<ul style="list-style-type: none"> • Train health workers on clinical breast examination and how to train women to do breast self-examination
General Hospital	<ul style="list-style-type: none"> • Integrate health education on breast self-awareness in the health facilities • Provide individual breast self-awareness training 	<ul style="list-style-type: none"> • IEC/BCC materials 	<ul style="list-style-type: none"> • Train health workers on clinical breast examination and how to train women to do breast self-examination
Tertiary Hospital	<ul style="list-style-type: none"> • Integrate health education on breast self-awareness in the health facilities • Provide individual breast self-awareness training 	<ul style="list-style-type: none"> • IEC/BCC materials 	<ul style="list-style-type: none"> • Expert team to produce high quality video clips to teach the public on breast self-examination
Regional/National level	<ul style="list-style-type: none"> • Develop IEC/BCC materials for breast self-awareness • Develop a job-aid for HEWs on breast self-awareness • Develop guideline for breast self-awareness 	<ul style="list-style-type: none"> • Materials to teach the public • Guidelines on breast self-awareness 	<ul style="list-style-type: none"> • Communication experts • Technical and programme experts

STRATEGY 2: CLINICAL BREAST EXAMINATION FOR ALL WOMEN ABOVE AGE 18 COMING TO HEALTH INSTITUTIONS FOR OTHER COMPLAINTS

OBJECTIVE: TO IMPROVE EARLY DETECTION OF BREAST CANCER BY HEALTH PROFESSIONALS

KEY INTERVENTIONS:

- Training all level of health workers on clinical breast examination
- Develop manual for clinical breast examinations for health workers
- Train health care professionals (nurses, HOs, doctors) on early symptoms and signs of breast cancer
- Conduct community awareness on the availability and importance of breast examination services
- Improve the pathology and imaging services at health facilities
- Assure regional facilities to obtain reliable cytology/histology service of breast tumours

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TABLE 12: EARLY DETECTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 2- CLINICAL BREAST EXAMINATION

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Conduct community awareness on the availability and importance of breast examination services Facilitate referral of women who need further investigation 	<ul style="list-style-type: none"> IEC/BCC materials 	<ul style="list-style-type: none"> Train HEWs, HDAs
Health Center	<ul style="list-style-type: none"> Conduct community awareness on the availability and importance of breast examination services Facilitate referral of women who need further investigation 	<ul style="list-style-type: none"> IEC/BCC materials 	<ul style="list-style-type: none"> Train nurses, health officers and doctors
General Hospital	<ul style="list-style-type: none"> Training all level of health workers on clinical breast examination Train health care professionals (nurses, HOs, doctors) on early symptoms and signs of breast cancer Improve the pathology and imaging services at health facilities 	<ul style="list-style-type: none"> Diagnostic and screening services (US, mammography) 	<ul style="list-style-type: none"> Train team of health workers (nurses, HOs, doctors)
Tertiary Hospital	<ul style="list-style-type: none"> Training all level of health workers on clinical breast examination Develop manual for clinical breast examinations for health workers Train health care professionals (nurses, HOs, doctors) on early symptoms and signs of breast cancer Improve the pathology and imaging services at health facilities 	<ul style="list-style-type: none"> Diagnostic and screening services (US, mammography) 	<ul style="list-style-type: none"> Train team of health workers (nurses, HOs, doctors) Develop and share guidelines on CBE
Regional/National level	<ul style="list-style-type: none"> Assure facilities to get reliable cytology/histology service of breast tumours Ensure availability of diagnostic and screening services (US, mammography) at least at general and tertiary hospitals 	<ul style="list-style-type: none"> Guideline of CBE 	<ul style="list-style-type: none"> Trained technical and programme experts

STRATEGY 3: POPULATION-BASED CERVICAL CANCER SCREENING USING VIA (VISUAL SCREENING USING ACETIC ACID) FOR ALL WOMEN AGED 30-49 EVERY 5 YEARS

Cervical cancer is one of the cancers for which early detection and screening are most effective.

OBJECTIVE: 1. TO ACHIEVE 80-PERCENT COVERAGE OF VIA TO DETECT PRE-CANCEROUS CERVICAL LESIONS AMONG NON-SYMPTOMATIC WOMEN AGED 30-49

KEY INTERVENTIONS:

- Conduct community awareness on the availability and importance of VIA and cryotherapy
- Avail VIA and cryotherapy services at all health facilities from health center level
- Build human-resource capacity to conduct VIA and cryotherapy
- Equip health facilities with VIA and cryotherapy machines, accessories and supplies
- Develop referral system for LEEP and more-advanced treatment
- Introduce and adopt innovative approaches to rapidly screen large numbers of women, such as HPV DNA testing, in pilot demonstration programs
- Prepare for a demonstration of HPV DNA technology integrated with VIA screening and cryotherapy in a single-visit approach

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TABLE 13: EARLY DETECTION OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 3- CERVICAL CANCER SCREENING USING VIA

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> • Create public awareness using targeted IEC/BCC materials in local languages • Train HEWs on the symptoms of cervical cancer, and to refer suspicious cases for rapid follow up. 	<ul style="list-style-type: none"> • IEC/BCC materials 	<ul style="list-style-type: none"> • Train HEWs, HDAs
Health Center	<ul style="list-style-type: none"> • Create public awareness using targeted IEC/BCC materials in local languages • Conduct cervical cancer screening using VIA and provide cryotherapy for those who are positive • Facilitate referral of women who need further investigation • Integrate health education on cervical cancer in the health facilities 	<ul style="list-style-type: none"> • IEC/BCC materials • Cryotherapy machines with CO₂ gas supply (detail list annexed) 	<ul style="list-style-type: none"> • 10 days training to nurses, HOs, and doctors using a standard training package prepared by the FMOH
General Hospital	<ul style="list-style-type: none"> • Train health care professionals (nurses, HOs, doctors) on early symptoms and signs of cervical cancer • Training of nurses, health officers and doctors on cervical cancer screening and treatment by Cryotherapy 	<ul style="list-style-type: none"> • Cryotherapy machines with CO₂ gas supplies (detail list annexed) 	<ul style="list-style-type: none"> • 10 days training to nurses, HOs, and doctors using a standard training package prepared by the FMOH
Tertiary Hospital	<ul style="list-style-type: none"> • Train health care professionals (nurses, HOs, doctors) on early symptoms and signs of cervical cancer • Training of nurses, health officers and doctors on cervical cancer VIA screening and treatment by Cryotherapy • Provide treatment (LEEEP, Surgery, chemo and radiation) for advanced cervical cancer 	<ul style="list-style-type: none"> • Cryotherapy machines with CO₂ gas supplies (detail list annexed) • LEEP surgery 	<ul style="list-style-type: none"> • 10 days training to nurses, HOs, and doctors using a standard training package prepared by the FMOH
Regional/National level	<ul style="list-style-type: none"> • Develop a job-aid for HEWs on cervical cancer awareness and early detection • Provide guideline Review a guidelines 	<ul style="list-style-type: none"> • Guidelines • Jobaids 	<ul style="list-style-type: none"> • Technical and programme experts

2.7.3 DIAGNOSIS AND TREATMENT OF CANCER

The purpose of diagnosis and treatment is to cure or considerably prolong the life of cancer patients and ensure the best possible quality of life for cancer survivors. The most effective and efficient treatment is linked to early detection programmes and follows evidence-based quality of care using a multidisciplinary approach.

The target population for diagnosis and treatment according to the WHO's estimate for Ethiopia is 60,000 new cancer patients. There are 5 regional oncology centers under construction in five teaching hospitals located in different regions: Jimma, Hawassa, Haromaya, Mekelle and Gondar. There is ongoing specialty training on Oncology (Adult, Pediatrics, and gynecology) and hematology at School of Medicine, Addis Ababa University. Training of health professionals like Oncology Nurses and Radiotherapists will start next year. This will improve access to early diagnosis and treatment of cancer.

A. PRIMARY CARE LEVEL

STRATEGY 1: EARLY DIAGNOSIS

OBJECTIVE: TO INCREASE AWARENESS TO 50% AMONG THE GENERAL POPULATION AND HEALTH CARE PROVIDERS OF EARLY SIGNS AND SYMPTOMS AND OPPORTUNITIES FOR EARLY DETECTION OF THE TOP TWO CANCERS

KEY INTERVENTIONS:

- Early identification and referral of patients suspected of breast and cervical cancer
- Training of health professionals on clinical breast examination, VIA and cryotherapy
- Conduct awareness campaigns

STRATEGY 2: COMMUNITY SUPPORT FOR CANCER PATIENTS

OBJECTIVE: TO IMPROVE COMMUNITY-BASED CANCER CARE SERVICES

KEY INTERVENTIONS:

- Provide education and community support materials for patients with cancer

- Integrate basic cancer care activities within existing community health workers' scope of work

B. SECONDARY CARE LEVEL

STRATEGY 1: IMPROVE AND INCREASE ACCESS TO DIAGNOSTIC AND TREATMENT FACILITIES

OBJECTIVES: TO ACHIEVE ADEQUATE DIAGNOSIS AND TREATMENT FOR 20% OF PATIENTS, IDENTIFIED BY THE EARLY-DETECTION STRATEGY

KEY INTERVENTIONS:

- Develop action plan for phased introduction of cancer care
- Develop a standard set of equipment required for supplying health facilities with diagnostic equipment
- Train medical doctors and nurses on the chemotherapy protocols identified as standard.
- Develop a staffing plan for optimal use of the radiotherapy unit and develop an education and in/service training plan to implement radiotherapy treatment.

STRATEGY 2: PROVIDE SURGICAL TREATMENT

OBJECTIVES: TO INCREASE ACCESS TO SURGICAL CARE BY ELIGIBLE PATIENTS BY 50% BY 2020

KEY INTERVENTIONS:

- Instigate an assessment of current work force capacity and the gap needed to fill the projected number of cancer cases by 2020.
- Develop a health workforce plan for cancer that addresses education as well as in-service capacity building opportunities, harnessing international, regional and national virtual as well as in-person training platforms
- Task the professional societies to adapt international guidelines for diagnosis and treatment of cancer for Ethiopia
- Train different levels of health professionals for cancer diagnosis and treatment
- Supply personal protective equipment for health professionals who prepare or administer chemotherapy, and train them in its use.

C. TERTIARY CARE LEVEL

STRATEGY 1: CAPACITY-BUILDING

OBJECTIVE: TO OBTAIN 50% OF THE REQUIRED HEALTH WORKFORCE TO EFFECTIVELY DIAGNOSE AND TREAT CANCER IN ETHIOPIA BY 2020

KEY INTERVENTIONS:

- Develop guidelines for diagnosis and treatment of cancer
- Train different levels of health professionals for cancer diagnosis and treatment
- Supply personal protective equipment for nurses that prepare or administer chemotherapy, and train them in its use.

STRATEGY 2: IMPROVE ACCESS TO ADVANCED DIAGNOSTIC AND TREATMENT SERVICES

OBJECTIVE: TO AVAIL ACCESS TO CANCER DIAGNOSIS AND TREATMENT TO 30% OF NEW CANCER PATIENTS BY 2020

KEY INTERVENTIONS:

- Provide pathology services including immunohistochemistry, flow cytometry, and PCR
- Expand computerized tomography, magnetic resonance imaging, endoscopy and bone scan services
- Open xxx new sites for the administration of chemotherapy and hormonal therapy
- Expand radiotherapy services to 5 regional teaching hospitals
- Provide complex oncology surgery for cancer patients
- Improve availability of blood and blood products
- Improve rehabilitation services

STRATEGY 3: IMPROVE AVAILABILITY OF REQUIRED MEDICINES AND MEDICAL EQUIPMENT

OBJECTIVES: TO ACHIEVE UNINTERRUPTED AND STANDARD CANCER DIAGNOSIS AND TREATMENT SERVICES BY 2020

KEY INTERVENTIONS:

- Define a list of national essential cancer medicines for Ethiopia and secure

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procurement commitment for annual projected numbers of cases

- Ensure availability of cancer treatment equipment, medicine and supplies
- Strengthen inventory of required equipment, medicine and supplies with scientific quantifications and forecast

TABLE 14: DIAGNOSIS AND TREATMENT OF CANCER BY SERVICE DELIVERY LEVEL

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> • Provide education and community support materials for patients with cancer • Integrate basic cancer care activities within existing community health workers' scope of work • Early identification and referral of patients suspected of breast and cervical cancer • Conduct awareness campaigns 	<ul style="list-style-type: none"> • IEC/BCC materials • Jobaids 	<ul style="list-style-type: none"> • Train 38,000 HEWs • Train at least 50% of HDAs
Health Center	<ul style="list-style-type: none"> • Provide education and community support materials for patients with cancer • Integrate basic cancer care activities within existing community health workers' scope of work • Early identification and referral of patients suspected of breast and cervical cancer • Conduct awareness campaigns 	<ul style="list-style-type: none"> • IEC/BCC materials • Jobaids 	<ul style="list-style-type: none"> • Train 38,000 HEWs • Train at least 50% of HDAs
General Hospital	<ul style="list-style-type: none"> • Training of health professionals on clinical breast examination, VIA and cryotherapy • Train different levels of health professionals for cancer diagnosis and treatment • Supply personal protective equipment for health professionals who prepare or administer chemotherapy, and train them in its use. • Provide cancer care for patients diagnosed and on treatment 	<ul style="list-style-type: none"> • Training guideline • Cancer medicine as per the standard list of drugs • Personal protective equipment 	<ul style="list-style-type: none"> • Trained oncologist, radiotherapist, medical physicist, pathologist, clinical oncology nurses
Tertiary Hospital	<ul style="list-style-type: none"> • Develop guidelines for diagnosis and treatment of cancer • Develop a staffing plan for optimal use of the radiotherapy unit and develop an education and in/service training plan to implement radiotherapy treatment. 	<ul style="list-style-type: none"> • Training guideline • Cancer medicine as per the standard list of 	<ul style="list-style-type: none"> • Trained oncologist, radiotherapist, medical physicist, pathologist,

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	<ul style="list-style-type: none"> • Train medical doctors and nurses on cancer diagnosis and treatment • Supply personal protective equipment for nurses that prepare or administer chemotherapy, and train them in its use. • Provide pathology services including immunohistochemistry, flow cytometry, and PCR • Expand computerized tomography, magnetic resonance imaging, endoscopy and bone scan services • Provide complex oncology surgery for cancer patients • Improve availability of blood and blood products • Improve rehabilitation services • Define a list of national essential cancer medicines for Ethiopia and secure procurement commitment for annual projected numbers of cases • Ensure availability of cancer treatment equipment, medicine and supplies • Strengthen inventory of required equipment, medicine and supplies with scientific quantifications and forecast 	<p>drugs</p> <ul style="list-style-type: none"> • Personal protective equipment • Radiotherapy machines (5) (LINAC, Brachytherapy, CT simulator, treatment planning) 	<p>clinical oncology nurses</p>
Regional/National level	<ul style="list-style-type: none"> • Develop a standard set of equipment required for supplying health facilities with diagnostic equipment • Develop action plan for phased introduction of cancer care in Ethiopia • Instigate an assessment of current work force capacity and the gap needed to fill the projected number of cancer cases by 2020. • Develop a health workforce plan for cancer that addresses education as well as in-service capacity building opportunities, harnessing international, regional and national virtual as well as in-person training platforms • Task the professional societies to adapt international guidelines for diagnosis and treatment of cancer for Ethiopia • Open 27 new sites for the administration of chemotherapy and hormonal therapy • Expand radiotherapy services to 5 regional teaching hospitals 	<ul style="list-style-type: none"> • Human resource plan for cancer care • Radiotherapy machines • Adequate supply of chemotherapy 	<ul style="list-style-type: none"> • Trained technical and programme staff

2.7.4 PALLIATIVE CARE AND PAIN MANAGEMENT

Palliative care improves the quality of life of patients and families who face life-threatening illness, by providing pain- and symptom-management, spiritual and psychosocial support from diagnosis to the end of life and bereavement. Effective palliative care services should be integrated into the existing healthcare system at all levels of care, including home-based care. These should be adapted to the specific cultural, social and economic setting. Palliative care should be strategically linked to cancer prevention, early detection and treatment services.

STRATEGY 1: CAPACITY-BUILDING FOR HEALTH FACILITIES AND COMMUNITY

OBJECTIVE: TO BUILD BOTH INSTITUTIONAL AND COMMUNITY CAPACITY ON PALLIATIVE CARE

KEY INTERVENTIONS:

- Conduct an assessment of current palliative care services, including community-based services via religious organisations and civil society organisations
- Define a basic package of palliative care services
- Develop implementation plan to fill gap in a phased manner
- Conduct awareness campaigns on palliative care that target policy-makers, the public, media, health care personnel and regulators
- Provide skills training in palliative care to HEWs for the identification, assessment and treatment of distressing symptoms in cancer patients
- Build capacity of the health care providers and care givers on palliative care

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**TABLE 15: PALLIATIVE CARE AND PAIN MANAGEMENT OF CANCER BY SERVICE DELIVERY LEVEL:
STRATEGY 1- CAPACITY BUILDING FOR HEALTH FACILITIES AND COMMUNITY**

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Conduct awareness campaigns on palliative care that target policy-makers, the public, media, health care personnel and regulators Provide skills training in palliative care to HEWs for the identification, assessment and treatment of distressing symptoms in cancer patients 	<ul style="list-style-type: none"> Jobaids, IEC/BCC materials 	<ul style="list-style-type: none"> Train HEWs, HDAs
Health Center	<ul style="list-style-type: none"> Build capacity of the health care providers and care givers on palliative care. 	<ul style="list-style-type: none"> Palliative care guideline and training materials 	<ul style="list-style-type: none"> Train nurses, HO, doctors on palliative care
General Hospital	<ul style="list-style-type: none"> Build capacity of the health care providers and care givers on palliative care. 	<ul style="list-style-type: none"> Palliative care guideline and training materials 	<ul style="list-style-type: none"> Train nurses, HO, doctors on palliative care
Tertiary Hospital	<ul style="list-style-type: none"> Build capacity of the health care providers and care givers on palliative care. 	<ul style="list-style-type: none"> Palliative care guideline and training materials 	<ul style="list-style-type: none"> Train nurses, HO, doctors on palliative care
Regional/National level	<ul style="list-style-type: none"> Conduct an assessment of current palliative care services, including community-based services via religious organisations and civil society organisations Define a basic package of palliative care services Develop implementation plan to fill gap in a phased manner 	<ul style="list-style-type: none"> National palliative care guideline 	<ul style="list-style-type: none"> Trained technical and programme experts

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STRATEGY 2: INTEGRATE PALLIATIVE-CARE SERVICES AT ALL LEVELS OF HEALTH-DELIVERY OUTLETS

OBJECTIVE: TO ENSURE AT LEAST 50% OF HEALTH FACILITIES PROVIDE PALLIATIVE CARE SERVICES BY 2020

KEY INTERVENTIONS:

- Develop an essential palliative-care medicines list, with special provision of controlled medicines such as opioids for pain relief and integrate it into the national Ethiopian Essential Medicines List.
- Integrate palliative care services into the national health services.
- Work with the drug regulatory agency to ensure access and availability of pain relief medications to essential medication and supplies
- Support health professionals to incorporate palliative care skills into their daily and routine services
- Strengthen referral and networking between facilities and community-based care
- Promote patient & family-centered care through training and education

TABLE 16: PALLIATIVE CARE AND PAIN MANAGEMENT OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 2- INTEGRATED PALLIATIVE CARE SERVICES

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> • Strengthen referral and networking between facilities and community-based care • Promote patient & family-centered care through training and education 	<ul style="list-style-type: none"> • Referral guide 	<ul style="list-style-type: none"> • Train HEWs and HDAs
Health Center	<ul style="list-style-type: none"> • Support health professionals to incorporate palliative care skills into their daily and routine services 	<ul style="list-style-type: none"> • PC guideline • Essential PC medicine 	<ul style="list-style-type: none"> • Train all categories of health workers
General Hospital	<ul style="list-style-type: none"> • Support health professionals to incorporate palliative care skills into their daily and routine services 	<ul style="list-style-type: none"> • PC guideline • Essential PC medicine 	<ul style="list-style-type: none"> • Train all categories of health workers

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Tertiary Hospital	<ul style="list-style-type: none"> Support health professionals to incorporate palliative care skills into their daily and routine services 	<ul style="list-style-type: none"> PC guideline Essential PC medicine 	Train all categories of health workers
Regional/National level	<ul style="list-style-type: none"> Develop an essential palliative-care medicines list, Integrate palliative care Ensure access and availability of pain relief medications to essential medication and supplies 	<ul style="list-style-type: none"> PC guideline Essential PC medicine 	

STRATEGY 3: STRENGTHEN HOME-BASED CARE AND VOLUNTEERISM

OBJECTIVE: TO CREATE A STRONG PATIENT- AND FAMILY-CENTERED APPROACH THAT ENCOURAGES EARLY REPORTING AND PROMPT MANAGEMENT OF CANCER PATIENTS LIVING IN THE COMMUNITY

KEY INTERVENTIONS:

- Mobilize communities through awareness-raising, training and recognition
- Strengthen community- and home-based palliative care services including establishment of nutritional support services for cancer patients.
- Establish social support services for cancer patients and provide palliative care services for groups with special needs, children and the elderly.
- Maintain frequent and early contact with patients through HEWs and volunteer community workers

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TABLE 17: PALLIATIVE CARE AND PAIN MANAGEMENT OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 3- STRENGTHEN HOME-BASED CARE

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Mobilize communities through awareness-raising, training and recognition Maintain frequent and early contact with patients through HEWs and volunteer community workers 	<ul style="list-style-type: none"> IEC/BCC materials 	<ul style="list-style-type: none"> Train HEWs and HDAs on palliative care
Health Center	<ul style="list-style-type: none"> Mobilize communities through awareness-raising, training and recognition Maintain frequent and early contact with patients through HEWs and volunteer community workers 	<ul style="list-style-type: none"> IEC/BCC materials Essential palliative care medicine 	<ul style="list-style-type: none"> Train all categories of health workers
General Hospital	<ul style="list-style-type: none"> Provide regular supervision to home based palliative care services Provide expert technical support 	<ul style="list-style-type: none"> Essential palliative care medicine 	<ul style="list-style-type: none"> Train all categories of HWs
Tertiary Hospital	<ul style="list-style-type: none"> Provide regular supervision to home based services Provide expert technical support 	<ul style="list-style-type: none"> Essential palliative care medicine 	<ul style="list-style-type: none"> Train all categories of HWs
Regional/National level	<ul style="list-style-type: none"> Strengthen community- and home-based palliative care services including establishment of nutritional support services for cancer patients. Establish social support services 	<ul style="list-style-type: none"> National PC guideline 	<ul style="list-style-type: none"> Trained technical experts

STRATEGY 4: INCORPORATE PALLIATIVE CARE AS PART OF HEALTH SCIENCES STUDIES CURRICULUM

OBJECTIVE: DEVELOP CURRICULA AND TRAINING MATERIALS FOR PALLIATIVE CARE.

KEY INTERVENTIONS:

- Raise awareness on the relevance of palliative care in the continuum of cancer care
- Recognize palliative care specialization in the health workforce
- Design and implement curricula on palliative care for physicians, health officers, nurses and pharmacists and other relevant members of the multidisciplinary team

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TABLE 18: PALLIATIVE CARE AND PAIN MANAGEMENT OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 4- INTEGRATE PALLIATIVE CARE IN CURRICULUM

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Incorporate palliative care into HEWs package 	<ul style="list-style-type: none"> PC guideline jobaids 	<ul style="list-style-type: none"> Orientation and training to HEWs and the HDAs
Health Center	<ul style="list-style-type: none"> Implement PC in the routine health service delivery 	<ul style="list-style-type: none"> PC guideline jobaids 	<ul style="list-style-type: none"> Orientation and training to HWs
General Hospital	<ul style="list-style-type: none"> Design and implement curricula on palliative care for physicians, health officers, nurses and pharmacists and 	<ul style="list-style-type: none"> PC guideline jobaids 	<ul style="list-style-type: none"> Orientation and training to HWs
Tertiary Hospital	<ul style="list-style-type: none"> Design and implement curricula on palliative care for physicians, health officers, nurses and pharmacists and 	<ul style="list-style-type: none"> PC guideline jobaids 	<ul style="list-style-type: none"> Orientation and training to HEWs and the HDAs
Regional/National level	<ul style="list-style-type: none"> Raise awareness on the relevance of palliative care in the continuum of cancer care Recognize palliative care specialization in the health workforce 	<ul style="list-style-type: none"> Curriculum 	<ul style="list-style-type: none"> Train PC experts widely

STRATEGY 5: NETWORKING, PARTNERSHIP AND COLLABORATION AMONG PUBLIC HEALTH CARE SYSTEM, NON-STATE ACTORS AND THE COMMUNITY

OBJECTIVE: DEVELOP NETWORKS, PARTNERSHIPS AND COLLABORATION WITH LOCAL AND INTERNATIONAL PARTNERS.

KEY INTERVENTIONS:

- Map all stakeholders working on palliative care and prepare directory
- Facilitate national partnership on palliative care for cancer
- Develop and implement national palliative-care guideline and harmonize national efforts

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TABLE 19: PALLIATIVE CARE AND PAIN MANAGEMENT OF CANCER BY SERVICE DELIVERY LEVEL: STRATEGY 5- NETWORKING AND PARTNERSHIP

Service delivery level	Interventions/Activities	Specific Inputs	
		Medicines and Supplies	HWs Capacity
Community/HP	<ul style="list-style-type: none"> Strengthen community level partnership through engagement using existing structures like the HDA network 	<ul style="list-style-type: none"> Palliative care guideline 	<ul style="list-style-type: none"> Trained and informed HEWs, HDAs
Health Center	<ul style="list-style-type: none"> Map all stakeholders working on palliative care and engage them 	<ul style="list-style-type: none"> Palliative care guideline Directory of all stakeholders working on PC 	<ul style="list-style-type: none"> Train HWs
General Hospital	<ul style="list-style-type: none"> Map all stakeholders working on palliative care and engage 	<ul style="list-style-type: none"> Palliative care guideline 	<ul style="list-style-type: none"> Train HWs
Tertiary Hospital	<ul style="list-style-type: none"> Map all stakeholders working on palliative care and engage 	<ul style="list-style-type: none"> Directory of all stakeholders working on PC 	<ul style="list-style-type: none"> Train HWs
Regional/National level	<ul style="list-style-type: none"> Map all stakeholders working on palliative care and prepare directory Facilitate national partnership on palliative care for cancer Develop and implement national palliative-care guideline and harmonize national efforts 	<ul style="list-style-type: none"> Palliative care guideline Directory of all stakeholders working on PC 	<ul style="list-style-type: none"> Trained health workers on PC

2.7.5 CANCER SURVEILLANCE AND RESEARCH

STRATEGY 1: ENHANCING SURVEILLANCE FOR CANCER AND ITS RISK FACTORS

OBJECTIVE 1: TO ESTABLISH NATIONAL AND REGIONAL CANCER REGISTRIES.

INTERVENTIONS:

- Develop guidelines, tools and standards for cancer registries in collaboration with the African Cancer Registry Network
- Conduct regional needs assessment for establishing cancer registries.
- Establish a 5-year plan for a national approach to cancer surveillance in Ethiopia
- Generate and publish annual cancer status reports

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- Adopt and customize the IARC/GICR curriculum for training cancer registrars.
- Develop a capacity building program for cancer registration personnel and sensitize health personnel on cancer registration.
- Define a standard list and procure equipment for new cancer services as appropriate

OBJECTIVE 2: TO IMPROVE CANCER SURVEILLANCE SYSTEM.

INTERVENTIONS:

- Review existing cancer surveillance and registration tools and extent of integration into the health information system
- Develop a plan for optimal integration of cancer data for public health
- Train personnel on the use of the cancer registration and surveillance tools.

OBJECTIVE 3: TO DISSEMINATE CANCER INFORMATION TO RELEVANT STAKEHOLDERS

INTERVENTIONS:

- Establish guidelines for dissemination and utility of surveillance/registry data.
- Hold an annual cancer conference.
- Generate and publish annual cancer status reports.

STRATEGY 2: IMPROVE RESEARCH CAPACITY AND ESTABLISH COLLABORATION

OBJECTIVE: TO ADVANCE ETHIOPIAN CANCER DIAGNOSIS AND TREATMENT CENTER TO A NETWORKED CENTER OF EXCELLENCE BY 2020

INTERVENTIONS:

- Develop networks, partnerships and collaboration with local and international partners
- Conduct research on diagnostic tests and treatment of cancers
- Establish population or facility-based cancer registry

2.7.6 MONITORING AND EVALUATION

STRATEGY: STRENGTHENING MONITORING AND EVALUATION OF CANCER CONTROL ACTIVITIES.

OBJECTIVE: TO MONITOR AND EVALUATE CANCER CONTROL INTERVENTIONS

INTERVENTIONS:

- Carry out a baseline cancer situational analysis.
- Develop monitoring and evaluation guidelines and tools.
- Develop a monitoring and evaluation framework for cancer Control
- Conduct a mid-cycle (year 2-3) assessment of plan implementation

3. COORDINATION OF CANCER CONTROL ACTIVITIES

Currently, the NCD Case Team within the Disease Control Directorate manages the cancer Control programme with external support from multi-sectoral national cancer Control committee. In order to have better cancer Control programme, there is a dire need to strengthen the current structure and establish similar mechanisms at all levels of the health system. As part of the effort to strengthen the cancer Control programme and in line with the national and global NCD plan of action, there is a need to have an established system of data management that includes routine nationwide cancer registry, operational research on priority areas, and the use of data for decision-making.

The following matrix summarizes the strategies, objectives and activities related to program management (coordination and data-management) during the implementation of the national cancer control plan in the period of 2015/16 to 2019/20.

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Strategies	Objectives	Interventions
Coordination		
Strengthen cancer Control coordination mechanisms at all levels	Establish a cancer Control focal point under disease prevention control in all levels of health system by the end of 2020	<ul style="list-style-type: none"> • Conduct regional consultation on the importance of the focal point • Develop program-management manual • Build capacity-building of focal persons on programme management • Conduct program managers review meeting and periodic follow up
	Establish a functional multi-sectoral NCD Control committee at national and regional levels by the end of 2020 (this includes cancer control as well)	<ul style="list-style-type: none"> • Develop terms of reference for cancer Control committee • Organize orientation meeting on cancer Control for committee and subcommittee members • Establish subcommittees on resource mobilization and partnership, communication and advocacy, technical and program implementation • Develop plan of action with monitoring and accountability indicators • Develop reporting mechanism to ensure functionality of committees and subcommittees at different levels • Conduct national consultation of committee and sub-committees
Data management		
Strengthen data management for Control of cancer.	Establish regional Population-based cancer registries by the end of 2020.	<ul style="list-style-type: none"> • Identify cancer registry facilities • Assign personnel and provide training • Avail the necessary logistics for the cancer registry. • Establish an e-based national data centre by networking the CRs. Will this be the registry based at Black Lion or elsewhere? • Use data from the national data centre for evidence-based decision during annual action planning • Conduct meetings and annual scientific forums to improve data quality and management.

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		<ul style="list-style-type: none">• Conduct review meeting of CRs
	Strengthen use of evidence-based data for decision-making.	<ul style="list-style-type: none">• Build capacity of program managers and service providers in operational research.• Conduct operational research (OR) on identified priority cancer Control issues.• Produce publications and present at international and national forums to contribute to global knowledge.• Disseminate and utilize OR results for improvement of programme.• Revise the HMIS/IDS tools to include priority cancer indicators.

4. IMPLEMENTATION FRAMEWORK

4.1 Primary Prevention of Cancer

Output Indicator: % of population reached with awareness information on cancer prevention

Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 1: Promote public awareness on cancer prevention and care	Objective 1: To reach 50% of population with cancer prevention awareness information by 2020	<ul style="list-style-type: none"> Train health workers, HEW, media and HDA on cancer prevention and advocacy 	<ul style="list-style-type: none"> # of people trained on cancer prevention and care 	FMoH, RHBs					
		<ul style="list-style-type: none"> Create networking with other relevant sectors to intensify cancer awareness 	<ul style="list-style-type: none"> Multi-sectoral forum created on cancer Control 	FMoH					
	Objective 2: To integrate cancer prevention activities at primary health care level by 2020	<ul style="list-style-type: none"> Develop and test cancer awareness messages and channel them through HEW and HAD programmes 	<ul style="list-style-type: none"> #of messages developed and disseminated 	FMoH, RHBs					

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 2: Tobacco control	Objective: To reduce the prevalence of tobacco smoking by 30% by 2020	<ul style="list-style-type: none"> Promote adoption and implementation of a comprehensive tobacco control bill/law by parliament 	<ul style="list-style-type: none"> Proclamation passed and implemented on tobacco control 	EFMHACA					
		<ul style="list-style-type: none"> Incorporate tobacco health risks in school health program 	<ul style="list-style-type: none"> % of schools with tobacco control initiatives 	FMoH, EFMHACA, MoE					
		<ul style="list-style-type: none"> Require by law and enforce 100% smoke-free environments in workplaces and public places 	<ul style="list-style-type: none"> Availability of laws requiring smoke free environment in work and public places 	EFMHACA					
		<ul style="list-style-type: none"> Ban all advertising, promotion and sponsorship of tobacco products 	<ul style="list-style-type: none"> % reduction of promotional works on tobacco use 	EFMHACA					
		<ul style="list-style-type: none"> Put health warnings boldly on all tobacco packaging 	<ul style="list-style-type: none"> % of tobacco products with health warnings 	EFMHACA					
		<ul style="list-style-type: none"> Establish a national pilot cessation program in health-care facilities 	<ul style="list-style-type: none"> # of health facilities using the cessation guidelines 	FMoH, EFMHACA					
		<ul style="list-style-type: none"> Build media awareness of both the addictive nature of tobacco use and treatment options. 	<ul style="list-style-type: none"> # programmes specific to tobacco health-risk on media 	FMoH, EFMHACA					

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 3: Promotion of healthy diet, and physical activity	Objective 1: A 15 % relative increase in mean population intake of fruits and vegetables at least twice per week by 2020.	<ul style="list-style-type: none"> Promote public awareness on risks of overweight, obesity unhealthy diet and physical inactivity. 	<ul style="list-style-type: none"> % of public with the correct knowledge of cancer risks 	FMoH, FMoA, MOUDC, EFMHACA					
		<ul style="list-style-type: none"> Control the import of processed foods having high fat, sugar and salt 	<ul style="list-style-type: none"> Regulation on importation of unhealthy food developed and implemented Number of Regions that have adopted and implemented the regulation 	EFMHACA					
	Objective 2: A 10% relative reduction in prevalence of insufficient physical activity in 2020.	<ul style="list-style-type: none"> Promote physical activity in workplaces 	<ul style="list-style-type: none"> % of workplaces with facility for physical exercise 	MoLSA, FMoH, MoUDC					
		<ul style="list-style-type: none"> Promote healthy diets and physical activities around schools 	<ul style="list-style-type: none"> # of schools adopting regular physical activities # of schools having a system in place to disallow entrance of unhealthy food into their schools 	MoE, MoYSC, EFMHACA, FMoH					
	Objective 3: To reduce overweight and obesity by 5% in 2020	<ul style="list-style-type: none"> Develop and implement national guidelines on physical activity. 	<ul style="list-style-type: none"> Guidelines on physical activity 	FMoH, MoYSC, MoUDC					
		<ul style="list-style-type: none"> Promote the availability of play grounds per vicinity 	<ul style="list-style-type: none"> Proportion of the general public engaging in physical activity 	MoYSC, FMoH, MoUDC					

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 4: Control of harmful use of alcohol	Objective: To reduce the prevalence of harmful use of alcohol by 5% by 2020	<ul style="list-style-type: none"> Adopt the NCD Global Strategy on harmful use of alcohol 	<ul style="list-style-type: none"> Strategy adopted 	FMoH, EFMHACA					
		<ul style="list-style-type: none"> Raise public awareness, especially among young people, about alcohol-related health risks, including cancer 	<ul style="list-style-type: none"> % of young people with correct knowledge of alcohol-related health risks 	FMoH, EFMHACA					
		<ul style="list-style-type: none"> Incorporate information on the risks of alcohol consumption into the school health programme 	<ul style="list-style-type: none"> % of schools with programmes on harmful use of alcohol 	FMoH, EFMHACA, MoE					
		<ul style="list-style-type: none"> Work and link interventions with other relevant sectors to reduce alcohol-related problems. 	<ul style="list-style-type: none"> Availability of multi-sectoral forum on alcohol 	FMoH, EFMHACA					
		<ul style="list-style-type: none"> Promote the implementation of legislation on production and consumption of alcohol. 	<ul style="list-style-type: none"> Number of Regions adopting and implementing the legislation on production and consumption of alcohol 	FMoH, EFMHACA					
		<ul style="list-style-type: none"> Banning of alcohol trade in the vicinity of school. 	<ul style="list-style-type: none"> % of schools with alcohol-free environment 						

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 5: Control of biological agents causing cancer	Objective: <i>To reduce the burden of cancer causing infections</i>	<ul style="list-style-type: none"> Strengthen health promotion on infectious disease-related cancers 	<ul style="list-style-type: none"> % increase in KAP on cancer in the community 	FMoH, RHB					
		<ul style="list-style-type: none"> Develop effective targeted screening and control of pathological agents such as HPV, HIV and hepatitis B especially in high-prevalence populations. 	<ul style="list-style-type: none"> % coverage of target population screened for infections causing cancer 	FMoH, RHB					
		<ul style="list-style-type: none"> Provide vaccination against viral infections associated with cancers e.g. HPV and Hepatitis B 	<ul style="list-style-type: none"> % coverage of target population vaccinated against infections causing cancer 	FMoH, RHB					
		<ul style="list-style-type: none"> Treatment of infectious diseases causally associated with cancers (HPV, HBV, HIV) 	<ul style="list-style-type: none"> % of health facilities effectively treating infectious diseases associated with cancer 	FMoH, RHB					
		<ul style="list-style-type: none"> Promotion of healthy sexual behavior 	<ul style="list-style-type: none"> % increase in KAP about healthy sexual behavior in the community 	FMoH, RHB					
		<ul style="list-style-type: none"> Develop or strengthen prevention strategies on specific infectious diseases that contribute to cancer 	<ul style="list-style-type: none"> # of prevention strategies developed 	FMoH, RHB					

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 6: Control of Environmental and Occupational Hazards	Objective: To reduce exposure to environmental hazards causally associated with cancer	<ul style="list-style-type: none"> Promote enforcement and strengthening of the legal framework to protect workers and general population from environmental carcinogens. 	<ul style="list-style-type: none"> Availability of legal framework to protect against environmental carcinogens 	MoLSA, FMoH					
		<ul style="list-style-type: none"> Regulate the disposal of toxic wastes such as industrial, nuclear and electronic wastes 	<ul style="list-style-type: none"> Availability of waste disposal sites and disposal mechanisms for various wastes 	MoLSA, ESA, FMoH					
		<ul style="list-style-type: none"> Promote protection of work place exposure to hazards. 	<ul style="list-style-type: none"> % of workplace with clear communication on risks to hazards 	MoLSA, FMoH					
		<ul style="list-style-type: none"> Promote stopping the use of all forms of asbestos 	<ul style="list-style-type: none"> Legislation developed and implemented on cessation of asbestos use # of industries that have adopted alternatives to asbestos production and use. 	MoUDC, FMoH					
		<ul style="list-style-type: none"> Develop regulatory standards on the use of known carcinogens in the work place 	<ul style="list-style-type: none"> # of workplaces applying the regulatory standards 	MoLSA, FMoH					

4.2 Early Detection of Cancer

Output Indicator:

- Total # & % (of target population) of clients screened with VIA
- Total # & % of women screening positive on VIA treated with cryotherapy/LEEP
- % Detection of breast cancer at early stage

Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 1: Promote breast self-awareness	Objective: <i>To improve early detection of breast cancer</i>	<ul style="list-style-type: none"> • Develop IEC/BCC materials for breast self-awareness 	<ul style="list-style-type: none"> • Availability of IEC/BCC materials 	FMoH	■				
		<ul style="list-style-type: none"> • Create public awareness using targeted IEC/BCC materials 	<ul style="list-style-type: none"> • Proportion of the general public aware of the benefits of BSA 	FMoH, RHB	■	■	■	■	■
		<ul style="list-style-type: none"> • Develop a job-aid for HEWs on breast self-awareness 	<ul style="list-style-type: none"> • Job-aid on BSA used by HEWs 	FMoH	■				
		<ul style="list-style-type: none"> • Integrate health education on breast self-awareness in all health facilities 	<ul style="list-style-type: none"> • % of health facilities providing regular health education on BSA 	FMoH, RHB		■	■	■	■
		<ul style="list-style-type: none"> • Develop guideline for breast self-awareness 	<ul style="list-style-type: none"> • Availability of guidelines on BSA 	FMoH	■				

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 2: Breast examination for all women above age 18 coming to health institutions for other complaints	Objective: <i>To improve early detection of breast cancer by health professionals</i>	<ul style="list-style-type: none"> Train all levels of health workers on clinical breast examination (CBE) 	<ul style="list-style-type: none"> % of health workers trained 	FMoH, RHB, Universities					
		<ul style="list-style-type: none"> Develop manuals and job aids for clinical breast examinations for health workers 	<ul style="list-style-type: none"> Availability of HWs manuals and job aids in health facilities 	FMoH, RHB, Universities					
		<ul style="list-style-type: none"> Train health care professionals (nurses, HOs, doctors) on early symptoms and signs of breast cancer 	<ul style="list-style-type: none"> % of health workers with correct knowledge of early symptoms and signs of breast cancer 	FMoH, RHB, Universities					
		<ul style="list-style-type: none"> Conduct community awareness on the availability and importance of clinical breast examination service 	<ul style="list-style-type: none"> % of eligible women who are aware of clinical breast examination services 	FMoH, RHB					
		<ul style="list-style-type: none"> Improve pathology and imaging services at health facilities 	<ul style="list-style-type: none"> Proportion of secondary and tertiary level HF with cancer diagnostic services 	FMoH, Universities					

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 3: Population based cervical cancer screening ,such as using VIA (visual screening using acetic acid) for all women aged 30-49 every 5 years	Objective: 1. <i>To improve detection of precancerous cervical lesions</i>	<ul style="list-style-type: none"> Conduct community awareness on the availability and importance of VIA and cryotherapy 	<ul style="list-style-type: none"> # of community awareness sessions 	FMoH, RHB					
		<ul style="list-style-type: none"> Avail VIA and cryotherapy services at all health facilities from health center level 	<ul style="list-style-type: none"> % of HF providing VIA and cryotherapy services 	FMoH, RHB					
		<ul style="list-style-type: none"> Build human resource capacity to conduct VIA and cryotherapy 	<ul style="list-style-type: none"> # of health workers trained on VIA and cryotherapy Total # and % (of target population) of clients screened with VIA 	FMoH, RHB					
		<ul style="list-style-type: none"> Equip health facilities with VIA and cryotherapy machines 	<ul style="list-style-type: none"> # of health facilities with functional VIA/cryotherapy equipment and supplies Total # and % of women screening positive on VIA and treated with cryotherapy/LEEP 	FMoH, PFSA					
		<ul style="list-style-type: none"> Develop referral system for advanced treatment 	<ul style="list-style-type: none"> Referral system in place 	FMoH, RHB					
		<ul style="list-style-type: none"> Introduce and adopt innovative approaches to rapidly screen large numbers of women 	<ul style="list-style-type: none"> # of innovative approaches adopted 	FMoH, RHB					

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4.3 Diagnosis and Treatment of Cancer

Output Indicator: # of fully equipped and functional cancer diagnosis and treatment centers

Strategy	Objective	Activities	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
a. Primary care level Strategy 1: Early Diagnosis	Objective: <i>To increase awareness to 50% among the general population and health care providers of early signs and symptoms and opportunities for early detection of the top two cancers</i>	<ul style="list-style-type: none"> Identify and promptly refer patients suspected of breast and cervical cancer 	<ul style="list-style-type: none"> % of target population identified and promptly referred for suspected breast and cervical cancer Time it takes to receive diagnosis and treatment for cervical/breast cancer 	FMoH, RHB					
		<ul style="list-style-type: none"> Train health professionals on clinical breast examination 	<ul style="list-style-type: none"> % of trained health workers able to correctly conduct clinical breast examination % of trained health workers with correct knowledge of early symptoms and signs of breast cancer 	FMoH, RHB, Universities					
		<ul style="list-style-type: none"> Conduct awareness campaigns 	<ul style="list-style-type: none"> # of women reached with awareness messages on cervical and breast cancer 	FMoH, RHB					
Strategy 2: Community support for	Objective: <i>To improve community</i>	<ul style="list-style-type: none"> Provide education and community support for patients with cancer 	<ul style="list-style-type: none"> # of cancer patients who receive adequate education, care and 	FMoH, RHB					

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cancer patients	<i>based cancer care services</i>		support						
		<ul style="list-style-type: none"> Integrate basic cancer care activities within existing community health workers' scope of work 	<ul style="list-style-type: none"> # Community health workers 	FMoH, RHB					
b. Secondary care level Strategy1: Improve and increase access to diagnostic and treatment services	Objectives: <i>To achieve adequate diagnosis and treatment for 20% of patients, identified by the early detection strategy</i>	<ul style="list-style-type: none"> Develop a standard set of equipment required for supplying health facilities with diagnostic equipment (to include ultrasound, X-ray, mammography, cytology, hematology services) and secure commitment to finance this in a phased manner 	<ul style="list-style-type: none"> % of health facilities equipped with basic cancer diagnostic equipment 	FMoH, PFSA					
		<ul style="list-style-type: none"> Train medical doctors and nurses on chemotherapy treatment 	<ul style="list-style-type: none"> # of medical doctors trained on chemotherapy for cancer # of trained medical doctors providing chemotherapy appropriately 	FMoH, Universities					
Strategy 2: Provide surgical treatment	Objectives: <i>To increase access to surgical care by eligible patients by 50% by 2020</i>	<ul style="list-style-type: none"> Expand surgical treatment of breast cancer 	<ul style="list-style-type: none"> % of breast cancer patients (eligible for surgery) who received surgical treatment 	FMoH, RHB, University Hospitals					
		<ul style="list-style-type: none"> Refer to tertiary level patients who require radiotherapy and complex surgery 	<ul style="list-style-type: none"> % referred for advanced care 	FMoH, RHB, University Hospitals					

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		<ul style="list-style-type: none"> Strengthen surgical treatment of cervical cancer 	<ul style="list-style-type: none"> % of cervical cancer patients (eligible for surgery) who received surgical treatment 	FMoH, RHB, University Hospitals					
		<ul style="list-style-type: none"> Organize periodic rotation of surgical services at secondary hospitals 	<ul style="list-style-type: none"> Rounds of campaigns conducted 	FMoH, RHB, University Hospitals					
c. Tertiary care level Strategy 1: Capacity building	Objectives: <i>To obtain 50% of the required health workforce to effectively diagnose and treat cancer in Ethiopia by 2020</i>	<ul style="list-style-type: none"> Develop a health workforce plan for cancer 	<ul style="list-style-type: none"> # of health workers trained 	FMoH, Universities, Partners					
		<ul style="list-style-type: none"> Task the professional societies to adapt international guidelines for diagnosis and treatment of cancer for Ethiopia 	<ul style="list-style-type: none"> # of professional societies engaged 	FMoH					
		<ul style="list-style-type: none"> Train different levels of health professionals on cancer diagnosis and treatment 	<ul style="list-style-type: none"> % of health workers with correct knowledge of early symptoms and signs of breast cancer 	FMoH, Universities, Partners					
d.		<ul style="list-style-type: none"> Supply personal protective equipment for health professionals who prepare or administer chemotherapy, and train them in its use 	<ul style="list-style-type: none"> % of health workers involved in cancer treatment provided with PPE 	FMoH					
Strategy 2: Improve access to advanced diagnostic and	Objectives: <i>To avail access to cancer diagnosis and treatment to</i>	<ul style="list-style-type: none"> Avail diagnosis with immunohistochemistry, CT, MRI, endoscopy, bone scan flocytometry, and PCR 	<ul style="list-style-type: none"> Range of diagnostic facilities available # of equipped tertiary centers correctly and promptly diagnosing 	FMoH, PFSA					

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treatment	30% of new cancer patients by 2020		<ul style="list-style-type: none"> cancer % of time with equipment breakdown 						
		<ul style="list-style-type: none"> Build capacity for administration of chemotherapy and hormonal therapy 	<ul style="list-style-type: none"> % of health facilities providing chemotherapy and hormonal therapy % of time with stock-outs of chemo and hormones for treatment 	FMoH, RHB, Universities					
		<ul style="list-style-type: none"> Expand radiotherapy services to 5 regional teaching hospitals 	<ul style="list-style-type: none"> # of newly established radiotherapy centers % of time with equipment breakdown # of trained staff to correctly administer radiotherapy 	FMOH, MOST, PFSA					
		<ul style="list-style-type: none"> Provide complex oncology surgery for cancer patients 	<ul style="list-style-type: none"> # of health facilities providing cancer surgery 	FMoH, Universities					
		<ul style="list-style-type: none"> Improve availability of blood and blood product 	<ul style="list-style-type: none"> # of facilities with blood and blood products for cancer treatment 	ERCS, FMoH,					
		<ul style="list-style-type: none"> Improve rehabilitation services 	<ul style="list-style-type: none"> # of cancer rehabilitation centers offering uninterrupted services 	FMoH, Partners					
Strategy 3: Improve availability of	Objectives: To achieve cancer diagnosis and	<ul style="list-style-type: none"> Ensure availability of cancer treatment equipment, medicine and supplies 	<ul style="list-style-type: none"> % of health facilities with uninterrupted supply of medicine and equipment 	FMoH, PFSA					

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required medicines and medical equipment	<i>treatment center with uninterrupted and up to the standard care by 2020</i>	<ul style="list-style-type: none"> Inventory of required equipment, medicine and supplies with scientific quantifications and forecast 	<ul style="list-style-type: none"> # of inventories conducted per year 	FMoH, PFSA					
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4.4 Palliative Care and Pain Relief

Output Indicator: % of eligible cancer patients receiving PC

Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 1: Capacity Building for Health Facilities and Community	Objective: <i>To build both institutional and community capacity on palliative care</i>	<ul style="list-style-type: none"> Conduct awareness campaigns on palliative care that target policy-makers, the public, media, health care personnel and regulators. 	<ul style="list-style-type: none"> # of awareness creation sessions conducted per year 	FMoH, RHB, Partners,					
		<ul style="list-style-type: none"> Train health extension workers on PC skills for identification, assessment and treatment of distressing symptoms in cancer patients 	<ul style="list-style-type: none"> % of HEW trained on PC 	FMoH, RHB, Partners,					
		<ul style="list-style-type: none"> Build capacity of health care providers and care givers on palliative care. 	<ul style="list-style-type: none"> % of HW and care givers with the correct knowledge on basic principles of PC 	FMoH, RHB, Partners,					

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Strategy 2: Integrate palliative care service at all levels health delivery outlets	Objective: <i>To ensure at least 50% of health facilities provide palliative care services by 2020</i>	<ul style="list-style-type: none"> Develop an essential palliative-care medicines list 	<ul style="list-style-type: none"> A national essential medicines list with palliative care medicines included 	EFMHACA, FMoH, PFSA						
		<ul style="list-style-type: none"> Integrate palliative care services into the national health services 	<ul style="list-style-type: none"> % of health facilities providing palliative care 	FMoH, RHB						
		<ul style="list-style-type: none"> Ensure availability and access to medication and supplies 	<ul style="list-style-type: none"> % of patients in need of PC receiving the service 	EFMHACA, FMoH, PFSA						
		<ul style="list-style-type: none"> Support health professionals to incorporate palliative care skills into their daily and routine services 	<ul style="list-style-type: none"> % of HWs with basic knowledge and skills on PC 	FMoH, RHB						
		<ul style="list-style-type: none"> Strengthen referral and networking between facilities and community-based care 	<ul style="list-style-type: none"> # of communities with functional referral system on PC 	FMoH, RHB						
		<ul style="list-style-type: none"> Promote patient & family-centered care through training and education 	<ul style="list-style-type: none"> # of PC centers supported 	FMoH, RHB, Partners						
Strategy 3: Strengthen Home Based Care and Volunteerism	Objective: <i>To create a strong patient and family-centered approach that encourages early reporting and prompt</i>	<ul style="list-style-type: none"> Mobilize communities through awareness-raising, training and recognition of problems 	<ul style="list-style-type: none"> # of community mobilization sessions 	FMoH, RHB						
		<ul style="list-style-type: none"> Strengthen community and home-based palliative care services including establishment of nutritional support services for cancer patients. 	<ul style="list-style-type: none"> # of active community and home-based PC centers 	FMoH, RHB, Partners						
		<ul style="list-style-type: none"> Establish social support services for cancer patients and provide 	<ul style="list-style-type: none"> # of centers established # of established centers 	FMoH, RHB, Partners						

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	<i>management of cancer patients living in the community</i>	palliative care services for groups with special needs, children and elderly	that provide social support to families and patients							
		<ul style="list-style-type: none"> Maintain frequent and early contact with patients through HEW and volunteer community workers 	<ul style="list-style-type: none"> % of patients in need of PC contacted by HEWs 	FMoH, RHB, Partners						
Strategy 4: Incorporate Palliative Care as Part of Health Sciences Studies Curriculum	Objective: <i>Develop curricula and training materials for palliative care.</i>	<ul style="list-style-type: none"> Raise awareness on the relevance of PC in the continuum of cancer care 	<ul style="list-style-type: none"> # of decision-makers reached with information on PC as a part of the continuum of cancer care 	FMoH, RHB						
		<ul style="list-style-type: none"> Recognize palliative care specialization in the health workforce 	<ul style="list-style-type: none"> Establish PC as a specialized training 	FMoH, Universities						
		<ul style="list-style-type: none"> Design and implement PC curriculum for physicians, health officers, nurses and pharmacists and other relevant members of the multidisciplinary team 	<ul style="list-style-type: none"> # of PC curricula developed # of institutions using the PC curriculum # of health workers 	FMoH, Universities						
Strategy 5: Networking, partnership and collaboration among public health care system, non-state actors and the community	Objective: <i>Develop networks, partnerships and collaboration with local and international partners.</i>	<ul style="list-style-type: none"> Map all stakeholders working on PC and prepare directory 	<ul style="list-style-type: none"> Availability of a national directory on PC 	FMoH						
		<ul style="list-style-type: none"> Facilitate national partnership on PC for cancer 	<ul style="list-style-type: none"> # of national forum on PC established 	FMoH						
		<ul style="list-style-type: none"> Develop and implement national palliative care guideline and harmonize national efforts 	<ul style="list-style-type: none"> National PC guideline available and disseminated 	FMoH						

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4.5 Cancer Surveillance and Research

Output Indicator: # of CR established and functioning

Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 1: Enhancing surveillance for cancer and its risk factors	Objective 1: <i>To establish national and regional cancer registries.</i>	<ul style="list-style-type: none"> Develop guidelines, tools and standards for cancer registries in collaboration with the African Cancer Registry Network 	<ul style="list-style-type: none"> Availability of tools and guidelines 	FMoH, RHB					
		<ul style="list-style-type: none"> Conduct regional needs assessment for establishing cancer registries 	<ul style="list-style-type: none"> Assessment report available and used for cancer registries 	FMoH, RHB					
		<ul style="list-style-type: none"> Establish population-based and regional cancer registries 	<ul style="list-style-type: none"> # of CR established # of established CRs that are functional 	FMoH, RHB					
		<ul style="list-style-type: none"> Adopt and customize the IARC/GICR curriculum for training cancer registrars 	<ul style="list-style-type: none"> Training curriculum available and used 	FMoH, RHB					
		<ul style="list-style-type: none"> Build capacity of cancer registration personnel and sensitize health personnel on cancer registration. 	<ul style="list-style-type: none"> # of trained personnel on CR 	FMoH, RHB					
		<ul style="list-style-type: none"> Define a standard list and procure equipment for new cancer services as appropriate 	<ul style="list-style-type: none"> % of cancer registry centers supplied with basic equipment and functional 	FMoH, RHB					
e.		<ul style="list-style-type: none"> Generate and publish annual cancer status reports 	<ul style="list-style-type: none"> # of reports produced 	FMoH, RHB					

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 1: Enhancing surveillance for cancer and its risk factors	Objective 2: <i>To improve cancer surveillance system.</i>	<ul style="list-style-type: none"> Review and revise existing cancer surveillance and registration tools. 	<ul style="list-style-type: none"> # of tools revised 	FMoH, RHB					
		<ul style="list-style-type: none"> Develop and harmonize cancer surveillance tools 	<ul style="list-style-type: none"> Availability of cancer surveillance tools 	FMoH, RHB					
		<ul style="list-style-type: none"> Train personnel on the use of the cancer registration and surveillance tools. 	<ul style="list-style-type: none"> % of personnel trained 	FMoH, RHB, Universities					
	Objective 3: <i>To disseminate cancer information to relevant stakeholders</i>	<ul style="list-style-type: none"> Establish guidelines for dissemination and utility of surveillance/registry data. 	<ul style="list-style-type: none"> Guidelines for dissemination developed 	FMoH, Universities					
		<ul style="list-style-type: none"> Hold an annual cancer conference. 	<ul style="list-style-type: none"> Cancer conference report Recommendations from the conference implemented to improve cancer registration 	FMoH, Universities					
		<ul style="list-style-type: none"> Generate and publish annual cancer status reports. 	<ul style="list-style-type: none"> # of cancer-specific reports published and disseminated Data from the annual cancer status report used for decision-making; quality of data in these reports. 	FMoH, RHB, Universities					

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Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy 2: Improve research capacity and establish collaboration	Objective: <i>To advance Ethiopian cancer diagnosis and treatment center to a networked center of excellence by 2020</i>	<ul style="list-style-type: none"> Develop networks, partnerships and collaboration with local and international partners 	<ul style="list-style-type: none"> # of networks # of functional networks 	FMoH, Universities, Partners					
		<ul style="list-style-type: none"> Conduct research on diagnostic tests and treatment of cancers 	<ul style="list-style-type: none"> # of research papers on cancer published 	FMoH, Universities, Partners					
		<ul style="list-style-type: none"> Establish population or facility-based cancer registry 	<ul style="list-style-type: none"> # of CR established # of CR that are functional 	FMoH, Universities,					

4.6 Monitoring and Evaluation

Strategy	Objective	Interventions	Monitoring indicators	Responsible Bodies	Time frame				
					Y1	Y2	Y3	Y4	Y5
Strategy: Strengthen monitoring and evaluation of cancer Control activities.	Objective: <i>To monitor and evaluate cancer Control interventions</i>	<ul style="list-style-type: none"> Carry out a baseline cancer situational analysis 	<ul style="list-style-type: none"> Baseline report Results of baseline assessment used for planning/replanning 	FMoH, RHB					
		<ul style="list-style-type: none"> Develop monitoring and evaluation guidelines and tools. 	<ul style="list-style-type: none"> Monitoring and evaluation guidelines developed and used at all levels of health care system 	FMoH, RHB					
		<ul style="list-style-type: none"> Develop a monitoring and evaluation framework for cancer Control 	<ul style="list-style-type: none"> M & E framework for cancer developed and disseminated quarterly reports on cancer available 	FMoH, RHB					

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5. THE COST OF NATIONAL CANCER CONTROL PLAN OF ETHIOPIA

Table 1: Projected cost of the National Cancer Control Plan by a strategy (X 1000 USD)

Strategy	2016	2017	2018	2019	2020	Total cost	%
Primary Prevention of Cancer	3,220.98	2,585.82	2,657.60	2,743.96	2,837.23	14,045.59	19.2
Early Detection of Cancer	1,188.27	1,066.71	1,113.30	1,105.35	1,142.38	5,616.00	7.7
Diagnosis and Treatment of Cancer	33,397.50	7,649.05	7,893.17	8,150.27	8,421.05	65,511.04	62.2
Palliative Care	1,440.31	1,467.24	1,495.61	1,528.74	1,539.64	7,471.54	10.2
Cancer Surveillance and Research	90.07	82.10	83.23	94.93	85.76	436.09	0.6
Monitoring and Evaluation	27.14	27.44	27.77	28.13	28.52	139.01	0.2
Total	39,364.27	12,878.36	13,270.68	13,651.37	14,054.58	93,219.26	100.0

Table 2: Detailed budget by category of costing for the Ethiopian National Cancer control Plan (X1000 USD)

Cost Category	2016	2017	2018	2019	2020	Total cost	%
Training	4,247.87	4,263.23	4,285.79	4,310.15	4,336.46	21,443.50	29.3
Strategy development	44.16	11.12	11.24	11.36	11.49	89.37	0.1
Workshop	860.77	867.10	873.96	881.36	889.36	4,372.55	6.0
Medicine	4,368.48	4,368.48	4,586.90	4,816.25	5,057.06	23,197.16	31.7
Vaccine	-	-	-	-	-	-	0.0
Medical supplies	-	-	-	-	-	-	0.0
Medical Equipment	21,121.64	1,448.45	1,448.45	1,448.45	1,448.45	26,915.45	9.4
Infrastructure	6,000.00	-	-	-	-	6,000.00	8.2
Human Resource	256.80	271.64	293.37	316.84	342.19	1,480.86	2.0
Awareness Raising	2,300.81	1,585.16	1,705.78	1,789.13	1,899.86	9,280.74	12.7
Research and publications	38.00	38.00	38.00	38.00	38.00	190.00	0.3
M&E	11.36	11.36	11.36	11.36	11.36	56.80	0.1
Manual Development	116.75	25.17	27.18	29.36	31.71	230.16	0.3
Others	-	-	-	-	-	-	0.0
Total	39,366.63	12,889.72	13,282.04	13,652.26	14,065.94	93,256.58	100.0

6. REFERENCES

1. GLOBOCAN (IACR) 2012
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4. Health Sector Transformation Plan, Federal Ministry of Health of Ethiopia (2015/2016-2019/20)
5. Tikur Anbessa Specialized Hospital, Oncology Centre (Unpublished Report)
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