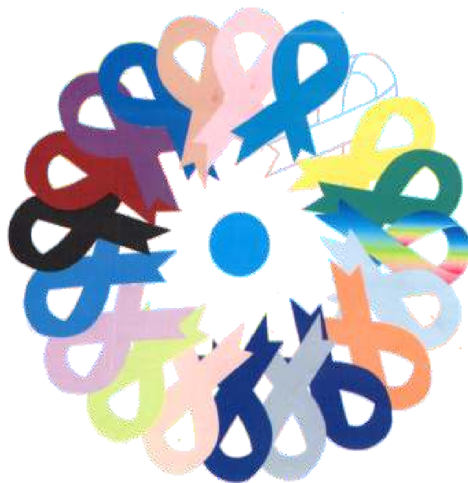
REPUBLIC OF KENYA

MINISTRY OF PUBLIC HEALTH AND SANITATION
AND
MINISTRY OF MEDICAL SERVICES

NATIONAL CANCER CONTROL STRATEGY



2011 - 2016

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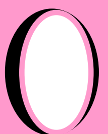

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Abbreviations

DNCD	Division of Non Communicable Diseases
HCW	Health Care Workers
HIV	Human Immunodeficiency Virus
HCP	Health Care Provider
HPV	Human Papilloma Virus
IAEA	International Atomic Energy Agency
KEHPCA	Kenya Hospices and Palliative Care Associations
KEMRI	Kenya Medical Research Institute
KENCANSA	Kenya Cancer Association
KNH	Kenyatta National Hospital
MOA	Ministry of Agriculture
MOE	Ministry of Education
MOL	Ministry of Labour
MOMS	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
NCD	Noncommunicable Diseases
NCI	National Cancer Institute
NEMA	National Environment Management Authority
NGO	Non-Governmental Organizations
TWG	Technical Working Group
WHO	World Health Organisation

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Foreword

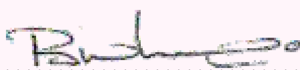
Cancer is one of the major noncommunicable diseases (NCDs), and together with cardiovascular diseases, diabetes and chronic respiratory diseases they cause over 60% of total global mortality every year. It is estimated that cancer kills over 7.9 million people globally every year constituting close to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

In Kenya, cancer ranks third as a cause of death after infectious diseases and cardiovascular diseases. It causes 7% of total national mortality every year. Although population based data does not exist in the country, it is estimated that the annual incidence of cancer is about 28,000 cases and the annual mortality to be over 22,000. Over 60% of those affected are below the age of 70 years. In Kenya, the risk of getting cancer before the age of 75 years is 14% while the risk of dying of cancer is estimated at 12%. 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/IDS (Kaposi's sarcoma and lymphomas), Human Papilloma Virus (HPV), Hepatitis B & C (Liver cancer), bacterial infections such as *Helicobacter Pylori* (cancer of stomach) and parasitic infestations such as schistosomiasis (cancer of bladder)

The leading cancers in women are breast, oesophagus and cervical cancers. In men, oesophagus and prostate cancer and Kaposi sarcoma are the most common cancers. Based on 2002 data from the Nairobi Cancer Registry, of all the cancers registered breast cancer accounted for 23.3%, cervical cancer for 20% and prostate cancer for 9.4%. In 2006, around 2 354 women were diagnosed with cervical cancer and 65% of these died of the disease.

The development of this strategy reflects our shared commitment to reducing the incidence of cancer and improving the quality of life of those who develop cancer in Kenya. The strategy aims to build strong cancer prevention and control capacities both in public and private sectors through investment in cancer awareness, human resource, equipments, surveillance and research. The strategy therefore outlines comprehensive interventions to be undertaken by the government and other partners to enhance existing structures and pull together additional resources to tackle the challenges posed by cancer.

Effective cancer prevention and control calls for a multi-sectoral and multi-disciplinary approach. It is in this regard that we call upon other government departments, development partners, institutions of higher learning, civil society, private sector and Kenyans at large to join us in this noble initiative.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Executive Summary

Cancer is a class of diseases in which a group of cells display *uncontrolled growth*, with intrusion on and destruction of adjacent tissues and sometimes spread to other locations in the body via lymph or blood. Most cancers form a tumor (growth) but some, like leukemia, do not. Cancer is now recognised globally as one of the leading noncommunicable diseases. Second to cardiovascular diseases, cancers contribute to over 7.9 million deaths (13% of total global mortality) each year and this figure is projected to rise to nearly 10 million unless the problem is addressed urgently.

The National Cancer Control Strategy is a response by the Ministries of Health and stakeholders to the obvious need to prioritise cancer prevention and control in Kenya. It recognises 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 2011 to 2016 and explains the scientific basis for cancer control and prevention; outlines a vision and mission; suggests objectives as well as interventions to prevent and control cancer in Kenya. The strategy draws from experiences gained in various countries that have similar programmes, and also includes technical advice provided by relevant bodies.

Vision, Mission and goal

This strategy document envisions an effective and efficient National Cancer Prevention and Control Programme in order to achieve the goal of reducing cancer morbidity and mortality in Kenya. Its mission is to improve community wellbeing by reducing the incidence and impact of cancer through the provision of efficient and evidence based preventive, promotive, curative and palliative care services accessible to all Kenyans.

Objectives

The objectives of this strategy are to cover the entire continuum of cancer prevention and control. It aims to promote cancer prevention and early detection and 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. It also aims to integrate cancer prevention and control activities with national health and socio-economic plans and promote community involvement and participation in the same.

Key interventions

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

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

ii) **Early detection of cancer:** This is an 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, but also streamlining referral of diagnosed 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) **Pain relief and 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, especially cancer registration. It suggests ways to improve research capacity, dissemination and use of research findings.

vi) **Coordination of cancer prevention and control activities**: The strategy suggests a centralised coordinating body such as a National Cancer Institute to coordinate all cancer prevention and control activities thus ensuring efficient use 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 National Cancer Control Strategy envisions a scenario where all activities will be carried out equitably, and owned by all implementing agencies and communities. Leadership and fairness as well as adequate coordination among all partners will be expected in running all programmes. All activities undertaken to meet the objectives of this strategy will be evidence based, sustainable and carried out through a systematic and integrated approach. There will be utmost respect for people of both gender as well as respect for religious and cultural diversity. All stakeholders are therefore called upon to embrace this strategy and join hands in confronting cancer in Kenya.

Dr. S.K. Sharif
Director of Public Health and Sanitation

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Director of Medical Services

SECTION 1

1.0 Introduction

Cancer is a disease that results from failure of the mechanisms that regulate normal cell growth and cell death leading to uncontrollable proliferation of cells, destruction of neighbouring tissues and spread of the disease to other parts of the body. 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 neighbouring tissues and eventually, spreading to other parts of the body. It can affect almost any part of the body. There are several types of cancer. 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. Leukaemia 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. However, it is possible to significantly reduce the effects of cancer on the society if effective measures are put in place to control risk factors associated with cancer, early detection and offer good care to those affected.

The risk factors for cancer are profoundly associated with socio-economic status; they are higher in low social economic status while cancer survival is lower in the poor than in those in higher social settings. The risk factors for cancer can be broadly categorized into four types namely: behavioural risk factors, biological risk factors, environmental risk factors and genetic risk factors. Behavioural 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 their genetic/hereditary make up. Environmental risks include exposure to environmental carcinogens such as chemicals, radiation and infectious agents.

1.1 Global Burden of Cancer

Cancer is a leading cause of death worldwide. According to the World Health Organization, the disease accounted for 7.9 million deaths (about 13% of all deaths worldwide) in 2009. More than 70% of all cancer deaths occur in low- and middle-income countries. The overall burden of cancer in the world is projected to continue rising, particularly in developing countries. It is projected that an estimated 15.5 million people will be diagnosed, and 12 million will die of cancer in the year 2030. The annual mortality attributed to main types of cancer includes: lung cancer (1.3 million deaths), stomach cancer (803 000 deaths), colorectal cancer (639 000 deaths), liver cancer (610 000 deaths) breast cancer (519 000 deaths) cervical cancer (450,000) and oesophageal cancer (380,000). The most frequent types of cancer among men affect the lung, stomach, liver, colorectal, oesophagus and prostate. Among women the most common areas affected are breast, lung, stomach, colorectal and cervix.

The annual incidence of cancer globally is estimated to be 10 million. Of these 4.7 million are in developed countries while nearly 5.3 million are in developing countries. In developed countries, cancer is the second most common cause of death after cardiovascular conditions and epidemiological evidence points to 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.

1.2 Cancer situation in Kenya

In Kenya, cancer ranks third as a cause of death after infectious diseases and cardiovascular diseases. It causes 7% of total national morality every year. Although population based data does not exist in the country, it is estimated that the annual incidence of cancer is about 28,000 cases and the annual mortality to be over 22,000. Over 60% of those affected are below the age of 70 years. In Kenya, the risk of getting cancer before the age of 75 years is 14% while the risk of dying of cancer is estimated at 12%. 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/IDS (Kaposi's sarcoma and lymphomas), Human Papilloma Virus (HPV), Hepatitis B & C (Liver cancer), bacterial infections such as *Helicobacter Pylori* (cancer of stomach) and parasitic infestations such as schistosomiasis (cancer of bladder)

The leading cancers in women are breast, oesophagus and cervical cancers. In men, oesophagus and prostate cancer and Kaposi sarcoma are the most common cancers. Based on 2002 data from the Nairobi Cancer Registry, of all the cancers registered breast cancer accounted for 23.3%, cervical cancer for 20% and prostate cancer for 9.4%. In 2006, around 2,354 women were diagnosed with cervical cancer and 65% of these died of the disease.

Despite the fact that noncommunicable diseases such as cardiovascular diseases, cancers, diabetes and chronic respiratory diseases are on the increase, the health systems in the country have traditionally concentrated on the prevention and control of communicable diseases. As a result, health and development plans have not adequately invested in the prevention and control of these diseases. The silent epidemic of noncommunicable diseases now imposes a 'double burden of disease' to the country which unless it is addressed will over whelm the country in the near future. This bias in the system has resulted in weakness in programmes that should be addressing noncommunicable diseases and their risk factors in the country.

According to the regional cancer registry at KEMRI, about 80% of reported cases of cancer are diagnosed at advanced stages, when very little can be achieved in terms of curative treatment. This is

largely due to the low awareness of cancer signs and symptoms, inadequate screening services, inadequate diagnostic facilities and poorly structured referral facilities. The country has few cancer specialists who are concentrated in a few health facilities in Nairobi. This makes it difficult for a great majority of the population to access cancer treatment services resulting in long waiting times causing some previously curable tumours to progress to incurable stages.

The reason for this sad situation is that cancer treatment infrastructure in Kenya is inadequate and some cancer management options are not readily available necessitating some Kenyans to seek cancer treatment abroad. Within the health care systems, cancer is treated through medical, surgical or radiation therapy. Effective treatments require that all these modalities of treatment be available in the same setting to avoid distant referral and delays in treatment administration. The essential drugs list does not include chemotherapy for cancer. Some of the very essential drugs for pain management are rare to find in most public hospitals. There is therefore need for clear policies concerning terminal pain management, supportive and palliative care for cancer patients in Kenya. Some of the main impediments to palliative care in Kenya include shortage of financial and human resources, lack of awareness and legal restrictions on the use and availability of opioid analgesics.

Cancer research in Kenya is not commensurate with the magnitude of the problem. This is due inadequate funding and training facilities in cancer research. There is also no comprehensive cancer surveillance system and no population based cancer registry.

1.3 The National Cancer Control Strategy

This strategy aims to build on the existing health system in Kenya to strengthen cancer prevention and control capacities both in public and private sectors through control of risk factors associated with cancer, investment in cancer control workforce, equipment and through cancer research. This is the first cancer control strategy document to be developed. It consolidates aspects in cancer prevention, screening, diagnosis, treatment and care for cancer patients as well as investment needed to deliver these services.

The strategy particularly reinforces the need for action to prevent cancer, especially those 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 recognise the symptoms of cancer and identify people at risk or living with cancer. It seeks to 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. It seeks to 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. The strategy also seeks to improve access to cancer drugs and other aspects of care for cancer patients.

This strategy seeks to harmonise and coordinate cancer care, national cancer registration, sharing of resources and information among health facilities. It will ensure patients and their families have better support and access to quality treatment including palliative care. Lastly, the strategy will enable the country to improve services through education and research in the field of cancer prevention and control ensuring a culture of evidence based practice. This strategy is based on the World Health Organization's global cancer control strategy.

1.4 Principles of cancer prevention and control

Cancer prevention and control is an organised approach to reducing the burden of cancer. It recognises that the disease cannot be eradicated, but that its effects can be significantly reduced. The aims of cancer prevention and control are to reduce the number of people who develop cancer and the number who die from cancer, and to ensure a better quality of life for those who do develop the disease.

1.4.1 Primary prevention

Primary prevention of cancer involves eliminating or minimizing exposure to the risk factors incriminated in its causation. Prevention of cancer is a key element in cancer prevention and control programmes. It offers the greatest public health potential and the most cost-effective long-term cancer control as more than 40% of cancers could be prevented by modifying or avoiding key risk factors.

Prevention services include the use of health protection, health promotion and disease prevention strategies. These services will alert the population of cancer risk factors, promote healthier lifestyles and create healthier environments that aim to reduce potential risk factors. Some of these risk factors include tobacco use, being overweight or obese, low fruit and vegetable intake, physical inactivity, harmful use of alcohol, sexually transmitted HPV-infection, HIV infection, urban air pollution and indoor smoke from household use of solid fuels.

1.4.2 Early detection

Early detection comprises early diagnosis of cancer in symptomatic populations and screening in asymptomatic, but at risk populations. The aim is to detect the cancer when it is localized (before metastasis). Early detection of cancer is based on the observation that treatment is more effective when disease is detected early as there is a greater chance that curative treatment will be successful, particularly for cancers of the breast, cervix, mouth, larynx, colon and rectum, and skin. Early detection is therefore successful when linked to effective treatment, as 30% of treatable cancers can be cured if detected early..

1.4.3 Diagnosis and treatment

Cancer diagnosis is the first step to cancer management. This calls for a combination of careful clinical assessment and diagnostic investigations including endoscopy, imaging, biochemistry histopathology, cytopathology and other laboratory studies. Once a diagnosis is confirmed, it is necessary to ascertain cancer staging, where the main goals are to aid in the choice of therapy.

The primary objective of cancer treatment is cure, prolongation and improvement of the quality of life. Treatment is multidisciplinary and may involve surgery, radiation therapy, chemotherapy, hormonal therapy or some combination of these.

1.4.4 Support and rehabilitation

The impact of cancer extends beyond the physical effects of the disease. It includes psychological, social, economic, sexual and spiritual consequences. The Canadian Strategy for Cancer Control defines

supportive care and rehabilitation as the provision of the necessary services, as determined by those living with or affected by cancer, to meet their physical, social, emotional, nutritional, informational, psychological, sexual, spiritual and practical needs throughout the spectrum of the cancer experience. These needs may occur during diagnosis, treatment or follow-up after treatment, and include issues of survivorship, recurrence of the disease and, in some cases, death.

1.4.5 Palliative care

Palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life-limiting illness. This is through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain as well as any other physical, psychosocial and spiritual challenges. Pain relief and palliative care must therefore be regarded as integral and essential elements of a national cancer programme.

1.4.6 Cancer surveillance and Research

Cancer surveillance involves the routine and continuous collection of information on the incidence, prevalence, mortality, diagnostic methods, stage distribution and survival of those with cancer and aspects of care received. A fully functioning and dedicated cancer registry with appropriate expertise is a cornerstone of cancer-control surveillance. Research is needed across the spectrum of cancer control to provide the basis for continual improvement. A coordinated agenda for cancer research is an essential element in the effective prevention and control of cancer.

1.5 Justification for a national cancer control strategy

The rapid increase in noncommunicable 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 Kenya are undergoing rapid urbanization and economic development. These changes coupled with increase in globalization of markets for unhealthy foods and consumer products are raising risk factor prevalence in the population.

To mitigate the health impact of these socio-economic transformations, the country must brace for a challenge in the prevalence of chronic noncommunicable diseases. The prevention and control of these diseases therefore becomes a high priority to safeguard the gains made in economic development Establishment of a national cancer control strategy is recommended wherever the burden of the disease is significant. Unfortunately, Kenya has weak health systems in 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 limited resources available to make an impact in cancer prevention and control. This is only possible if the most efficient and cost-effective strategies are applied in disease prevention and control.

This National Cancer Control Strategy is a public health initiative designed to reduce the incidence and mortality of cancer and improve the quality of life of cancer patients in Kenya. It comprises an integrated set of activities covering all aspects of cancer prevention and control, as well as cancer management, and operates with an appropriate allocation of available resources among the various activities and has equitable coverage of the population. This is done through systematic and equitable implementation of evidence-based interventions for prevention, early detection, treatment, and palliation, making the best use of available resources. Proper planning will ensure efficient use of resources for cancer prevention and control.

SECTION 2

2.0 Strategic Framework

2.1 Vision

An effective and efficient national cancer prevention and control program.

2.2 Mission

To improve community wellbeing by reducing the incidence and impact of cancer through the provision of efficient and evidence based preventive, promotive, curative and palliative care services accessible to all Kenyans.

2.3 Goal

To reduce cancer morbidity and mortality in Kenya.

2.4. Objectives

- To promote cancer prevention and early detection.
- To improve diagnosis and treatment including palliative care .
- To promote cancer surveillance, registration and research .
- To promote partnership and collaboration in cancer control.
- To advocate for cancer prevention and control legislation.
- To integrate cancer prevention and control activities with national health and socio-economic plans.
- To promote community involvement and participation in cancer control and prevention.

2.5 Guiding Principles of the Cancer Control Strategy

All activities undertaken to meet the objectives of this strategy will be guided by the following fundamental principles:

- **Ownership, leadership and fairness** in implementation of this national strategy.
- **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 the implementation.
- **Evidence-based approach** focusing on best practice.
- Recognise and **respect gender sensitivity and cultural diversity**.

2.6 Strategies and Interventions

2.6.1 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 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 and physical activity and protection against exposure to environmental carcinogens.

a) Strategy 1. Tobacco control

Tobacco use is the leading preventable cause of cancer. It causes various types of cancers, such as lung, oesophageal, laryngeal, oral, bladder, kidney, stomach, cervical and colorectal. Over 80% of all lung cancers and about one third of all cancers in developing countries are as a result of tobacco use.

Objective

- To reduce the prevalence of tobacco smoking by 5% by 2016.

Interventions

- Enhance Implementation of legislation on tobacco control.
- Advocate smoke free environments in all indoor workplaces and public places.
- Develop tobacco cessation guidelines.
- Incorporate Tobacco Control into the community strategy.
- Incorporate tobacco control into school health program including in school curriculum.
- Conduct advocacy and public awareness of tobacco health effects.
- Provide cessation and support services for smokers.

b) Strategy 2: Promotion of Healthy Diet and Physical Activity

Physical inactivity, unhealthy diets, obesity and overweight are risk factors of cancers.

Objectives

- To reduce the prevalence of obesity and overweight by 2% by 2016.
- To increase the consumption of vegetables and fruits by 5% by 2016.
- To increase the level of physical activity in the population.

Interventions

- Adapt and implement national guidelines on diet and physical activity.
- To establish surveillance systems for nutrition, including dietary trends and patterns in household consumption as well as level of physical activity.
- Promote farming and consumption of a variety of healthy foods.
- To enhance public awareness on the benefits of physical activity and healthy diets on cancer prevention.
- Advocate for physical environments that support safe active commuting, and create space for recreational activity.

- Advocate for healthy diets and physical activities in schools and work places.
- Promote farming, storage, preservation and cooking methods that reduce cancer risks such as aflatoxins and pesticides.
- Prepare and put in place, mechanisms for promoting responsible marketing of foods and non-alcoholic beverages to children in order to reduce the impact of foods high in saturated fats, *trans*-fatty acids, simple sugars and salt.

c) Strategy 3: Control of harmful use of alcohol

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

Objectives

- To reduce the prevalence of harmful use of alcohol.
- To provide care and cessation support for alcohol users.

Interventions

- Adopt the WHO Global Strategy on harmful use of alcohol.
- Advocate for the implementation of legislation on production and consumption of alcohol.
- Raise public awareness especially among the young people about alcohol-related risks.
- Incorporate information on the risks of alcohol consumption into the school health program.
- Develop national guidelines on prevention and control of harmful use of alcohol.
- Establish regional alcohol abuse treatment and rehabilitation services within health care system.
- Develop a national information system to provide regular data on alcohol consumption and related problems.

d) Strategy 4: Control of environmental exposure to carcinogens.

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, oesophagus and leukaemia. Ionizing radiation can cause almost any type of cancer particularly leukaemia, lung, thyroid and breast cancer

Objective

- To reduce exposure to environmental carcinogens arising from the environment, workplaces and radiation.
- To strengthen surveillance of carcinogens and mitigating exposure.

Interventions

- Advocate for enforcement and strengthening of 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.
- Increase surveillance and control of environmental carcinogens and workplace emissions.
- Promote protection of work place exposure through various avenues of communication.
- Routine screening of individuals exposed to occupation hazards that cause cancer.

- Support researchon occupational exposures and potential environmental conditions that lead to cancer.
- Advocate stopping the use of all forms of asbestos.
- Improving the monitoring and reporting of occupational related cancers.
- Develop regulatory standards on the use of known carcinogens in the work place.
- Advocate for the enforcement of the national radiation protection guidelines.

e) Strategy 5: Control of Biological agents that cause 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

- To reduce the burden of cancer causing infections.

Interventions

- Develop effective targeted screening and control of pathological agents such as HPV, HIV and hepatitis B especially in high-prevalence populations.
- Control of infectious diseases that are linked to cancer.
- Strengthen health promotion on infectious disease-related cancers.
- Promotion of healthy sexual behavior.
- Advocate for vaccination against viral infections associated with cancers e.g. HPV and Hepatitis B.
- Treatment of infectious diseases causally associated with cancers.
- Develop or strengthen strategies on specific infectious disease prevention that contribute to cancer prevention.

2.6.2 Early detection of cancer

Early detection comprises early diagnosis of cancer in symptomatic populations and screening in asymptomatic high risk populations. It is an approach that promotes vigilance for signs and symptoms that may be indicative of early disease. Early detection and treatment of cancer is known to reduce greatly the burden of cancers such as cancer of the cervix.

a) Strategy 1: Enhancing early detection of cancer

Objectives

- To improve the rate of early detection of cancer.
- To improve the treatment outcomes for cancer.

Interventions

- Sensitize policy makers on the need to support early detection programs.
- Raise awareness of cancer to empower the public and health workers to recognize early signs and symptoms of cancer.
- Develop guidelines for screening for early detection of specific cancers.

- Build human resource capacity for cancer screening.
- Build institutional capacity for screening such as provision of laboratory equipment.
- Integrate early detection and screening for cancer into existing health programs.
- Strengthen inter institutional linkages to facilitate timely diagnosis.

b) Strategy 2: Streamlining the referral system for cancer patients

Objectives

- To strengthen diagnostic and early detection services at lower level health facilities.
- To establish a clear referral policy for patients with cancer.

Interventions

- Develop standard guidelines and tools for referral systems.
- Sensitize health professionals and health managers on the guidelines that allow for consultations, referrals, and transfer of patients.

2.6.3 Diagnosis and treatment of cancer

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

a) Strategy 1: Improvement of cancer diagnosis

Objective

- To improve the capacity of health facilities to accurately diagnose cancer.
- To ensure a timely cancer diagnostic process.

Interventions

- Constitutea technical working group to conduct a situational analysis of cancer diagnostic capacity.
- Mobilize financial resources to designate and adequately equip 15 cancer diagnostic centers .
- Conduct training for HCWs on cancer diagnosis.
- Conduct community awareness on the available services and the need for early cancer diagnosis.
- Develop guidelines for cancer diagnosis and standard operating procedures.
- Ensure regular maintenance and upgrading of cancer diagnostic equipment .
- Strengthen the multidisciplinary approaches to cancer diagnosis.

b) Strategy 2: Enhancing accessibility of cancer treatment services

a) Objective 1

- To improve accessibility to quality and safe cancer treatment services.

Interventions

- Conduct a national needs assessment for cancer management.
- Prioritize budgetary allocation for cancer treatment.
- Develop an essential cancer drug list and integrate it into the national essential drug list.
- Develop clinical protocols and QA guidelines for cancer management.
- Avail commodities and equipment for cancer treatment.
- Establish multidisciplinary teams in each centre for cancer managemen.
- Establish linkages with relevant stakeholders on cancer management.
- Establish cancer specialist outreach programs at all levels.
- Advocate for inclusion of cancer treatment and care in health insurance schemes.
- Establish psychosocial and nutritional support programs for cancer patients.

ii) Objective 2

- To establish and improve cancer treatment centers.

Interventions

- Develop guidelines for the establishment of cancer management centers.
- Upgrade existing national cancer treatment centres based on the guidelines.
- Establish and equip regional and sub-regional cancer treatment centres based on the guidelines
- Develop guidelines for monitoring and evaluating quality of treatment and standards of equipment at the cancer treatment centres.

iii) Objective 3:

- To mobilize financial resources for a comprehensive cancer control programme.

Interventions

- Advocate for increased budgetary allocation for establishment of a comprehensive cancer control programme.
- Develop and implement cancer prevention and control plans and integrate them with the health sector plans.
- Mobilize relevant stakeholders for financial support.

c) Strategy 3: Human capacity development

Objective

- To enhance human resource capacity for comprehensive cancer management

Interventions

- Develop and implement national training curricula for various cadres of cancer health care practitioners.
- Conduct training for HCPs on cancer management
- Conduct appropriate deployment of staff trained in cancer management
- Establish training centers in collaboration with national academic institutions.

2.6.4 Palliative care and pain relief

Palliative care should be provided from the time of diagnosis of the life limiting illness. 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: Enhancing palliative care including pain relief

Objective

- To improve quality of life of cancer patients and their families.

Interventions

- Integrate palliative care services into the national health services.
- Advocate for legislation and policies that support palliative care.
- Develop and implement national palliative care guidelines.
- Develop curricula and training materials for palliative care.
- Develop an essential palliative care drug list and integrate it into the national essential drug list.
- Build capacity for the health care providers and care givers on palliative care.
- Conduct awareness campaigns on palliative care targeting policy makers, public, media, health care personnel and regulators.
- 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 elderly.
- Develop networks, partnerships and collaboration with local and international partners.

2.6.5 Cancer surveillance and research

Cancer surveillance is a fundamental element of any cancer control strategy since it provides the foundation for advocacy and policy development. Cancer control research seeks to identify and evaluate the means of reducing cancer morbidity and mortality with an aim of improving the quality of life.

a) Strategy 1: Enhancing surveillance for cancer and its risk factors

i) Objective 1:

- To establish national and regional cancer registries.
- To strengthen existing cancer registries.

Interventions

- Develop guidelines, tools and standards for cancer registries
- Establish a national cancer data collection and processing centre.
- Conduct regional needs assessment for establishing cancer registries.
- Adopt and customize the WHO curriculum for training cancer registrars.
- Build capacity for cancer registration personnel and sensitize health personnel on cancer registration.
- Procure equipment for regional cancer registries e.g. hardware and software

ii) Objective 2:

- To improve the cancer surveillance system.

Interventions

- Review existing cancer surveillance and registration tools.
- Develop and harmonize cancer surveillance tools
- Train personnel on the use of the cancer registration and surveillance tools.
- Procure and maintain the hardware and software for cancer surveillance.
- Establish a cancer surveillance database.

iii) Objective 3:

- To disseminate cancer information to the relevant stakeholders.

Interventions

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

b) Strategy 2: Enhancing capacity for research in cancer

Objective 1 To identify national research priorities in the area of cancer prevention and control.

Interventions
- Conduct a situation analysis on cancer research.
- Establish a technical team to formulate research priorities.
- Develop a national inventory of cancer research.
- Generate and disseminate updates on cancer research.

Objective 2: To develop capacity for cancer research.

Interventions
- Review and update existing guidelines in cancer research.
- Establish well equipped cancer research centers.
- Strengthen the existing cancer research institutions.
- Identify training needs in cancer research.
- Develop cancer research training curriculum and materials.
- Train personnel on cancer research based on training needs.

i) **Objective 3:** To mobilize financial resources for cancer research.

Interventions
- Advocate for increased budgetary allocation for cancer research.
- Advocate for financial support for cancer research from stakeholders and partners.

c) Strategy 3: Enhancing dissemination and use of research findings

Objective 1: To promote sharing and utilization of research findings with other stakeholders.

Interventions
- Establish guidelines for dissemination and utility of cancer research.
- Hold an annual cancer conference to disseminate cancer research findings.
- Translate research findings to inform clinical practice, public health interventions and policy formulation.
- Establish resource centres for cancer information.

ii) Objective 2: To strengthen partnerships in cancer research.

Interventions
- Develop guidelines for partnerships for cancer research.
- Identify and collaborate with other research institutes.
- Enforce IPR (Intellectual Property Rights).
- Promote national research culture and ethics.

Objective 3: To establish a cancer research database.

Interventions

- Design and establish a cancer research database.
- Promote the use of the cancer research database to inform cancer research priorities.

2.6.6 Coordination of cancer prevention and control activities

Coordination of all cancer prevention and control activities ensures efficient use of resources. This aids in directing efforts of all key stakeholders towards a common goal and ensures smooth running of programs and avoids overlaps and redundancies.

Strategy: Enhance coordination of cancer prevention and control interventions.

Objective

- To establish an institutional framework to coordinate national cancer control activities.

Interventions

- Strengthen the institutional capacity for the Division of Non-communicable Diseases to coordinate national cancer activities.
- Strengthen the national cancer control program.
- Strengthen the existing national taskforce for cancer prevention and control.
- Advocate for establishment of a statutory national cancer control institution such as a National Cancer Institute.
- Constitute implementation teams for the various cancer control strategies.

2.6.7 Monitoring and Evaluation

Continuous review of the progress and impact of cancer control activities is essential in achieving the planned interventions. Effective systems for monitoring and evaluation are vital management tools.

Strategy: Strengthen monitoring and evaluation of cancer prevention and control activities.

Objective

- To monitor and evaluate cancer prevention and 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 prevention and control.

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
Primary Prevention											
Tobacco Control	To reduce the prevalence of tobacco smoking by 5% by 2016	Legislation on tobacco reviewed	Enhance implementation of legislation on tobacco control.	Reviews of tobacco legislations						MoH	WHO Local Partners
		Increased smoke free environments	Advocate smoke free environments in all indoor workplaces and public places	Laws and regulations describing smoke free environments						MoH	WHO Local Partners
		Tobacco cessation Guidelines developed and in use	Develop and implement national tobacco cessation guidelines	No. of health facilities using the cessation guidelines						MoH	WHO Local Partners
		Tobacco control integrated into 2,500 community health units	Incorporate Tobacco Control Activities (TCA) into community strategy	No. of units undertaking TCA						MoH	WHO Local Partners
		Tobacco control initiatives introduced into 30% of primary schools.	Incorporate tobacco control into school health programme including in school curriculum.	% schools with tobacco control Initiatives						MoH MOE	WHO Local Partners
		Tobacco control messages developed and disseminated.	Conduct advocacy and public awareness of tobacco health effects.	% awareness on tobacco effects						MoH	WHO Local Partners
		Cessation and support services for smokers readily available at the health facilities	Provision of cessation and support services for smokers at the health facilities	Prevalence of tobacco smoking						MoH	WHO Local Partners
Promotion of Healthy Diet and Physical Activity	To reduce the prevalence of obesity and overweight by 2% by 2016	National guidelines for diet and physical activity developed and implemented	Adapt and implement national guidelines on diet and physical activity	Copy of document in place and in use Number of institutions using the guidelines						MoH	WHO, NGOs
		Surveillance systems for nutrition, dietary trends and patterns in household consumption as well as level of physical activity in	To establish surveillance systems for nutrition, including dietary trends and patterns in household consumption as well as level	Surveillance reports and publications						MoH	WHO, NGOs

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
		place.	of physical activity								
		Support the strengthening of regulatory bodies to ensure responsible marketing to children.	Put in place a mechanism for promoting the responsible marketing of foods and non-alcoholic beverages to children,	Survey reports on prevalence of obesity						MoH	WHO
	Increase the consumption of vegetables and fruits by 5% by 2016	Increased consumption of healthier diets and physical activity by the community	Promote farming and consumption of a variety of healthy foods	Survey reports on dietary habits						MoH	WHO, UNICEF, FAO
		Reduction in incidence and prevalence of aflatoxin poisoning	Promote farming, storage, preservation and cooking methods that reduce cancer risks such as aflatoxins and pesticides.	Survey reports						MoH	MOA , WHO, UNICEF, FAO
	To increase the level of physical activity in the population	Reduction in overweight and obesity in the youth	Advocate for health promotion early in schools	Proportion of school with health promotion initiatives						MoH	MOE UNICEF, WHO
		Increased awareness on the need for and engagement in physical activity	Health promotion campaigns to raise public awareness on the benefits of physical activity and healthy diets on cancer prevention.	Proportion of the general public engaging in required physical activity						MoH	Min Sports WHO
		Physical environments and recreation parks in place	Advocate for physical environments that support safe active commuting, and create space for recreational activity.	Survey reports on available spaces for physical activity						, MOH	WHO, Min Sports Public works, NEMA
Reduction of harmful use of alcohol	To reduce the prevalence of harmful use of alcohol in the country	Strategy adopted by local government agencies	Adopt the WHO Global Strategy on harmful use of alcohol	No of institutions that have adopted the strategy						MOH	WHO, NACADA, UNODC
		Legislation on alcohol implemented	Advocate for the implementation of legislation on production and consumption of alcohol	Proportion of harmful use of alcohol						NACAD A, MOH	WHO
		Decreased marketing of alcoholic beverages to children	Raise public awareness especially among the young people about alcohol-related risks, including cancer, using	Level of awareness of harmful effects of alcohol						NACAD A, MOH	WHO

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
			gender specific messages								
		School health programme in use	Incorporate control of alcohol use into the school health programme	Awareness among school children						NACADA, MOH, Min Education	WHO
		Guidelines developed	Develop national guidelines on prevention and control of harmful use of alcohol	Copies of the documents						NACADA, MOH	WHO
		Regional Alcohol abuse centres developed	Establish regional alcohol abuse treatment and rehabilitation services within health care system.	No and people using such centres						MOH	WHO
		Information systems for alcohol established in 30% of health facilities	Develop a national information system to provide regular data on alcohol consumption and related problems	Proportion of facilities submitting reports on alcohol use.						MOH	WHO
		Relevant IEC materials available in all health facilities	Develop Information, Communication and Education (IEC) materials on harmful use of alcohol	No. of facilities where the IEC materials are appropriately in use.						MOH	WHO
Control of environmental exposure to carcinogens	To reduce exposure to environmental carcinogen arising from the environment, workplaces and radiation.	Legal framework to protect workers	Advocate for enforcement and strengthening of the legal framework to protect workers and general population from environmental carcinogens.	Copies of the documents						MOH MOL	WHO
		Proper disposal of toxic wastes	Regulate the dumping of toxic wastes such as industrial, nuclear and electronic wastes.	Available waste disposal sites and disposal mechanisms for various wastes						NEMA MOH	MOH, WHO
		Reduced environmental carcinogens	Increase surveillance and control of environmental carcinogens and workplace emissions.	Proportion of various carcinogens in air, water and soil						MOH NEMA	WHO
		Proper communication channels on risks, degree and types of exposure	Promote protection of work place exposure through various avenues of	Proportion of workplaces with proper						NEMA, MOH	WHO, CSO

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
			communication	communication channels							
		Good post exposure care	Routine screening of individuals exposed to occupation hazards that cause cancer.	Proportion of workers exposed to carcinogens receiving post exposure care						MOH MOL	WHO,
		Increased knowledge on occupational hazards	Supporting research into occupational exposures, and into potential environmental conditions that lead to cancer.	Publications on exposures at the work place						MOH	WHO, NEMA
		Non asbestos in use in the country	Stop using all forms of asbestos.	Proportion of structures still using asbestos						NEMA MOH	MOH, WHO
		Regular reports on occupational cancers	Improving the monitoring and reporting of occupational cancers.(industrial, agricultural, laboratory)	No. of reports						MOH MOL	KEMRI, WHO
		Strict regulation of carcinogens at workplaces	Develop regulatory standards on the use of known carcinogens in the work place.	Regulation documents						MOH MOL	WHO, IAEA
		Strict enforcement of radiation protection guidelines	Advocate for enforcing of the national radiation protection guidelines.	Reports on enforcement actions taken						MOH	WHO, IAEA
Control of Biological agents that cause cancer	To reduce the prevalence of cancers associated with infectious diseases.	Improved knowledge, attitude and practices (KAP) of the community towards infectious diseases causing cancer.	Control of infectious diseases that are linked to cancer	% increase in KAP in the community.						MOH	WHO
		Periodic reviews of strategies	Develop and strengthen existing strategies on specific infectious disease prevention that contribute to cancer prevention	Reports on strategies strengthened						MOH	WHO
		Screening and vaccination services available .	Develop effective targeted screening and control of pathological agents such as HPV, HIV and hepatitis B especially in high-prevalence	% coverage of target population screened or vaccinated against cancer causing preventable						MOH	WHO

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
			populations	infections							
Early detection of cancer											
Strategy 1: Enhancing early detection of cancer	To improve the rate of early detection of cancer	Screening guidelines in use in 30% of Health facilities.	Advocacy to sensitize policy makers on the need to support early detection programs	Proportion of health facilities providing screening services as per the guidelines						MOH	WHO
		Increased suspicion index and self examination	Raise awareness of cancer to empower the public and health workers to recognize early signs and symptoms of cancer.	% target population appropriately screened at each level of health care.						MOH	WHO
		Cancer screening routinely provided at all levels of health care.	Develop guidelines for screening for early detection of specific cancers	% increase in No. of people seeking screening services						MOH	WHO
		Increased uptake of cancer screening services	Build institutional capacity for screening (Equipment, laboratory)	Proportion of facilities offering screening services for certain cancers						MOH	WHO
	Improve the treatment outcomes for cancer	Increased human resource capacity	Build human resource capacity	Proportion increase in human capacity						MOH MEDICAL SCHOOLS	WHO
		Early detection incorporated into health programmes	Integrate early detection and screening for cancer into existing health programmes	Proportion of health programmes that have cancer early detection services						MOH	WHO
		Improved coordination between institutions in referral and care of patients	Strengthen inter institutional linkages facilitate timely diagnosis.	Changes in referral times						MOH	WHO
Strategy 2: Streamlining referral of cancer patients	Strengthen diagnostic and early detection facilities	Guidelines developed and in use	Develop guidelines and standard tools for referral systems.	Proportion of facilities adhering to the guidelines						MOH	WHO
	To establish a clear referral policy for patients with cancer	Improved coordination between institutions in referral and care of patients	Education to health professionals and health managers on the guidelines that allow for consultations, referrals, and transfers.	Changes in referral times						MOH	WHO
Diagnosis and treatment of cancer											

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
		Protocols in place	Develop clinical protocols and QA guidelines for cancer management	Copies of documents and proportion of facilities using them						MOH	WHO
										MOH	
		Outreach programmes in place	Establish Cancer specialist outreach programs at all levels.	No. of outreach events organized						MOH	KNH, Regional Hospitals
		Cancer care included in health insurance	Include cancer treatment in health insurance schemes	Proportion of insurance firms covering cancer care						MOH, NHIF	WHO, Insurers (AKI)
		Improved psychosocial and nutritional support for cancer patients	Advocate for provision of psychosocial and nutritional support.	Proportion of health facilities that have adopted this care						MOH	KEHPCA
	To establish and improve cancer treatment centres	Guidelines developed	Develop guidelines for establishment of cancer management centres	No. of Guidelines developed						MOH	WHO
		KNH cancer treatment centre upgraded	Upgrade the national cancer treatment centre at the Kenyatta national hospital based on the guidelines.	Inventory of equipment and staff available at the centre						MOH	IAEA, WHO, NCI
		4 regional facilities established and equipped	Establish and equip 4 regional cancer treatment centres based on the guidelines	No. of facilities equipped						MOH	IAEA, WHO, NCI
		10 sub regional centres established	Establish and equip 10 sub-regional cancer treatment centres based on the guidelines	No. of functional facilities						MOH	IAEA, WHO, NCI
		Increased public awareness on cancer treatment	Create awareness on cancer treatment centres	Proportion of public aware of available cancer treatment options and centres						MOH	WHO
		QA guidelines developed and in use	Develop guidelines for monitoring and evaluating quality of treatment and standards of equipment at the cancer treatment centres.	Reports on QA assessments of cancer treatment centres						MOH	WHO
	Mobilize financial resources for cancer diagnosis	Increased finances for cancer diagnosis	Advocate for increased budgetary allocation.	% increase in funding for diagnosis						MOH	IAEA, WHO,KENCANSA

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
Strategy 1: Improvement of cancer diagnosis	To improve the capacity of health facilities to accurately diagnose cancer	Needs/Strengths identified	Constitute a technical working group to conduct a situational analysis of cancer diagnostic capacity**.**	Analysis report						MOH	WHO
		15 diagnostic centres designated	Mobilize financial resources to designate and adequately equip 15 cancer diagnostic centres.	Proportion of these centres established and their output						MOH	WHO, NCI, IAEA
		Improved capacity of health facilities to accurately diagnose cancers.	Conduct training for at least 500 HCWs on cancer diagnosis	Proportion of HCW trained						MOH	WHO, NCI, IAEA
		Improved supply of consumables	Secure supply of diagnostic consumables	Proportion of supplies experiencing stock outs						MOH	WHO
	To ensure a timely cancer diagnostic process.	Guidelines developed and ii use	Develop guidelines for cancer diagnosis: work instruction documents and standard operating procedures	Copies of documents and proportion of facilities using them						MOH	WHO
		Robust multi disciplinary teams in cancer management	Strengthen the multidisciplinary approaches to cancer diagnosis	Proportion of facilities having such teams						MOH	WHO
		Proper maintenance of equipment	Ensure regular maintenance and upgrading of diagnostic equipment.	Proportion of specific equipment not working						MOH	WHO
Strategy 2: Enhancing accessibility of cancer treatment services	To improve accessibility to quality and safe cancer treatment services	HCWs trained	Constitute TWG to conduct a national needs assessment for cancer management.	No. of HCWs trained						MOH	IAEA, WHO,KENCANSA,KEHPCA,
		Up to date essential drug lists in place	Develop an essential cancer drug list and integrate it into the national essential drug list.	Copies of documents and proportion of facilities using them						MOH	WHO, IAEA
		Improved supply of drugs	Avail drugs and commodities for cancer treatment	Proportion of essential drugs experiencing stock outs						MOH	KEMSA, WHO
		Multidisciplinary teams in place	Establish multidisciplinary teams in each centre for cancer management	Proportion health facilities having such teams						MOH	WHO

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
	and treatment	Increased non budgetary financial resources for diagnosis and treatment	Lobby for financial support from other stakeholders.	% increase in on budgetary resources						MOH	IAEA, WHO,KENCANSA
		Improved grant writing and financial management	Develop guidelines for grant writing, and financial management.	Guidelines and reports on their use						MOH	IAEA, WHO,KENCANSA
Strategy 3: Human capacity development	Enhance human resource capacity for cancer management	Curricula developed and in use	Develop and implement national training curricula for various cadres of cancer health care practitioners.	No. of staff trained using the curricula						MOH	IAEA, WHO,KENCANSA
		Staff trained	Conduct training for at least 1000 HCPs on cancer management	No. of staff trained						MOH MEDICAL SCHOOLS	IAEA, WHO,KENCANSA
		Appropriate staff distribution	Conduct appropriate deployment of staff trained in cancer management	Reports on national cancer staff distribution						MOH MEDICAL SCHOOLS	WHO
		Training centres established	Establish training centres in collaboration with national academic institutions	No. of training centres						MOH MEDICAL SCHOOLS	WHO, IAEA
Palliative care											
Strategy 1 Enhancing pain relief and palliative care	To improve quality of life of cancer patients and their families	Functional palliative care guidelines in place	Develop and implement national palliative care guidelines.	Copies of palliative care guidelines in use						MOH	WHO, KEHPCA,
		Curricula developed and in use	Develop curricula and training materials for palliative care.	Copies of palliative care Curricula available						MOH	WHO, KEHPCA,
		HCPs trained on multi-disciplinary approach to palliative care	Train healthcare providers and care givers on palliative care.	No. of HCPs trained						MOH	WHO, KEHPCA,
		Awareness on palliative care created	Conduct awareness campaigns on palliative care targeting policy makers, public, media, health care personnel and regulators	Proportion of target groups aware						MOH	WHO, KEHPCA,
		Policy support for palliative care services in place	Advocate for legislation and policies that support palliative care.	Copies of policy documents						MOH	WHO, KEHPCA,
		Palliative care services available and accessed	Integrate palliative care services into the national health services.	No. of health facilities providing palliative care						MOH	WHO, KEHPCA,

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
		Community and home based palliative care services available and accessed	Strengthen community and home-based palliative care services.	No. of community-based palliative care programs						MOH	WHO, KEHPCA,
		social support services for cancer patients	Establish social support services for cancer patients.	No. of patients support groups formed						MOH	WHO, KEHPCA,
		Palliative care for special groups such as children in place	Provide palliative care services catering for groups with special needs e.g. children.	Reports on palliative care services for special groups						MOH	WHO, KEHPCA,
Cancer surveillance and research											
Strategy 1: Enhancing cancer surveillance	To strengthen existing cancer registries and establish regional cancer registries.	Guidelines developed and in use	Develop guidelines tools and standards for cancer registries	Copies and institutions that use them						MOH	WHO
		Centre established	Establish national cancer data collection and processing centre.	Amount of data produced and reports generated						MOH	WHO
		Needs established	Conduct regional needs assessment for establishing cancer registries.	Reports on cancer registry needs						MOH	WHO
		National Curriculum for cancer registry in place	Adopt and customize the WHO curriculum for training cancer registrars.	No. of institutions using the curricula						MOH	WHO
		Cancer registrars trained	Train cancer registration personnel and sensitize health personnel on cancer registration.	No of registrars trained						MOH	WHO
		Equipped regional registries	Procure equipment for regional cancer registries e.g. hardware and software	Number of hardware's installed and in use,						MOH	WHO
	To improve the cancer surveillance system.	Tools reviewed	Review existing cancer surveillance and registration tools.	Reports on reviews and copies of new tools						MOH	WHO
		Tools harmonized	Develop and harmonize cancer surveillance tools.	Copies of harmonised tools						MOH	WHO
		Personnel trained	Train personnel on the use of the cancer registration and surveillance tools.	No. of personnel trained						MOH	WHO

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
		Reliable hardware and software in place	Procure and maintain the hardware and software for cancer surveillance.	Inventory of hard ware available and the software in use						MOH	WHO
		Database established	Establish cancer surveillance database	No. of institutions using the database						MOH	WHO
	To disseminate cancer information to stakeholders	Improved management of cancer data	Strengthen cancer data collation, analysis, interpretation and dissemination.	No, of institutions using the cancer data and reports on cancer situation						MOH	WHO
		Guidelines in place and in use	Establish guidelines for dissemination and utility of surveillance/registry data.	No, of institutions using the cancer data and reports on cancer situation						MOH	WHO
		Annual cancer conference held	Hold an annual cancer conference.	Reports of the cancer conference						MOH	WHO
		Cancer reports published regularly	Generate and publish annual cancer status reports	Copies of cancer reports						MOH	WHO
Strategy 2: Enhancing capacity for research in cancer	To identify national research priorities in the area of cancer prevention and control	Situation analysis done	Conduct a situation analysis on cancer research	Report of the cancer research situation						MOH	WHO
		Research priorities determined	Establish a technical team to formulate research priorities	Report on research priorities						MOH	WHO
			Generate updates on cancer research							MOH	WHO
	To develop capacity for cancer research	Guidelines reviewed	Review and update existing guidelines in cancer research.	Copies of guidelines and reports on reviews						MOH	WHO
		Cancer research centres established	Establish well equipped cancer research centres.	No. of cancer research centres and their outputs in terms of publications						MOH	WHO
		Cancer research centre strengthened	Strengthen the existing cancer research institutions.	No of publications from the research centre						MOH	WHO
		Training needs identified	Identify training needs in cancer research	Reports on training needs						MOH	WHO
		curricula developed and in use	Develop cancer research training curriculum and materials	Copy of curricula and proportion of institutions that have adopted it						MOH	WHO

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
		Personnel trained	Train of personnel based on training needs	No of personnel trained						MOH	WHO
	Mobilize financial resources for cancer research	Increased budgetary allocation for research	Advocate for increased budgetary allocation for cancer research.	Proportion of health budget dedicated to cancer research						MOH	WHO
		Increased support from partners	Lobby for financial support for cancer research from stakeholders and partners.	Amount of extra-budgetary support for cancer research						MOH	WHO
		Guidelines developed and in use	Develop guidelines for grant writing, and financial management	Reports on financial management of cancer research funds						MOH	WHO
Strategy Enhancing dissemination and use of research findings	To share research findings with other stakeholders and to promote utilization of cancer research findings.	Guidelines in place and in use	Establish guidelines for dissemination and utility of cancer research	Proportion of institutions following the guidelines						MOH	WHO
		Annual cancer conference held	Have an annual cancer conference	Reports of conferences						MOH	WHO
		Findings disseminated	Disseminate cancer research findings	Proportion of stakeholders aware of various research findings						MOH	WHO
		Improved use of research finding to inform clinical practice	Translation of research findings to inform clinical practice, public health interventions and policy formulation	Reports on clinical practices changed in line with new knowledge from research						MOH	WHO
	To strengthen partnerships in cancer research.	Guidelines developed and in use	Develop guidelines for partnerships for cancer research	Copies of guidelines and proportion of institutions using them						MOH	WHO
		Improved collaboration with other institutions	Identify and collaborate with other research institutes	No of publications done jointly between local and international institutions						MOH	WHO
		Improved respect for property rights	Enforce IPR (Intellectual Property Rights)	Reports on property rights violations						MOH	WHO
		Improved research culture	Promoting national research culture and ethics	Proportion of people taking up cancer research						MOH	WHO

Strategy	Objective	Outputs	Activities	Monitoring Indicators	Time Frame (yrs)					Lead Agency	Key Partners
					1	2	3	4	5		
	To establish a cancer research database	Cancer research database in place and in use	Design and establish a cancer research database.	No of times the database is used (sourced)						MOH	WHO
		Research priorities set in line with the database	Promote the use of the cancer research database to inform cancer research priorities	Proportion of research publication in relevant research areas						MOH	WHO
Coordination of cancer prevention and control activities											
Enhance coordination of cancer prevention and control interventions	To establish an institutional framework to coordinate national cancer control activities	Improved coordination among stakeholders	Establish linkages with relevant stakeholders on cancer management	Reports of meeting and activities jointly performed						MOH	IAEA, WHO
		Cancer Control Taskforce established and strengthened	Strengthen the existing national taskforce for cancer prevention and control.	Reports on meeting and activities of the taskforce						MOH	WHO
		Recommendations for Statutory body made	Advocate for establishment of a statutory national cancer control institution(s).	Reports on meetings and deliberations towards formation of a statutory body						MOH	WHO
		National cancer control programs strengthened	Strengthen the national cancer control program	Reports on the activities of the national programme						MOH	WHO
		Improved implementation of cancer control activities	Constitute implementation teams for the various cancer control strategies	Reports on progress of various activities						MOH	WHO
Monitoring and evaluation											
Strengthen monitoring and evaluation	To monitor and evaluate cancer prevention and control interventions	Baseline survey done	Carry out a baseline cancer situation analysis.	Reports on cancer situation						MOH	WHO
		Guidelines developed	Develop monitoring and evaluation guidelines and tools.	Copies of documents and institutions using them						MOH	WHO
		M&E Framework developed	Develop an M&E framework for cancer prevention and control.	Copies of documents and institutions using them						MOH	WHO

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