Republic of Zambia
MINISTRY OF HEALTH

Ministry of Health
Ndeke House
P.O Box 30205
Lusaka, ZAMBIA

NATIONAL CANCER CONTROL STRATEGIC PLAN

2016-2021

CONTENTS

FOREWORD

Non-communicable diseases (NCDs) are a major cause of disability and premature death and contribute substantially to the escalating costs of health care. In Zambia, their onset is often insidious. Patients often present in middle age and when the disease is advanced. Over 80% of mortality from NCDs is 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 shown to reduce morbidity and mortality in people at greater risk and those with diagnosed or undiagnosed NCDs.

Recommendations have been made for the reduction of NCD risk factors through changes in lifestyle, primary prevention, screening and early diagnosis, appropriate follow-up, treatment and provision of palliative care. This strategic plan provides guidance on the interventions needed to reduce the burden of cancers in Zambia. The Ministry of Health (MoH) recognizes that the time to create a national cancer control program and to ramp up our capacity to fight cancers amongst Zambians is long overdue.

Given that 30% of cancers are preventable, every health care interaction should include prevention support. When patients are systematically provided with information and skills to reduce health risks, they are more likely to reduce/stop alcohol and substance abuse, stop using tobacco products, practice safe sex, eat healthy foods, engage in physical activity, request for screening, and subsequently seek medical attention early. These risk-reducing behaviours can dramatically reduce the long-term burden and health care demands that the cancer burden can place on existing health care systems. Further, it is known that a number of cancers are curable as long as they are diagnosed early. It is therefore crucially important to couple screening interventions with early diagnosis activities to reduce the late presentation of cases of cancer in our health institutions.

A collaborative management approach at the primary health care level with patients, their families, communities, and other health care actors is essential to effectively prevent, diagnose, and treat cancers early to reduce cancer mortality. Screening for cancer should be integrated with other existing clinical services at the primary health care (PHC) level such as HIV clinics, maternal and child health (MCH) departments, and out-patient departments. Use of innovative technology based programmes such as mobile based interventions for prevention and treatment of cancers can also play a crucial role.

In conclusion, this strategic plan is intended to be the basis for national response to the burden of cancer in line with the United Nations political declaration on NCDs and the Global Action Plan for the Prevention and Control of NCDs 2013-2020. It is aligned with the Sustainable Development Goals 2016-2030, the Global Strategy for Women's, Children's and Adolescent's health 2016-2030, the 7th National Development Plan and the National Health Strategic Plan 2016-2021.

Hon. Dr. Joseph Kasonde, MP
Minister of Health

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Dr. Elizabeth Chizema – Director, Disease Surveillance, Control and Research, MoH

Dr. Kennedy Lishimpi – Director Clinical Care and Diagnostic Services, MoH

Dr. Namasiku Siyumbwa – Deputy Director Clinical Care and Diagnostics, MoH

Dr. Citonge Msadabwe-Chikuni – Senior Medical Superintendent, Cancer Diseases Hospital

Dr. Mutale Nsakashalo-Senkwe - Non-Communicable Diseases Specialist, MoH

Dr. Jelita Chinyonga – Provincial Medical Officer, Southern Province

Dr. Richard Nsakanya – Registrar National Cancer Registry, MoH

Dr. Lewis Banda – Head Clinical Care, Cancer Diseases Hospital

Dr. Pauline Musukwa Sambo – Paediatrician, University Teaching Hospital

Dr. Aaron Lunda Shibemba – Consultant Pathologist, Cancer Diseases Hospital

Dr. Simon Mukosai – Consultant Urologist, University Teaching Hospital

Dr. Angel Mwiche – Reproductive Health Specialist, MoH

Dr. Sharon. Kapambwe – National Coordinator Cancer Prevention Service, MoH

Dr. Evans Chinkoyo – Medical Officer, Chipata Level 1 Hospital, MoH

Dr. Mwate Joseph Chaila – Palliative Care Unit, Livingstone Central Hospital

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Dr. Peter Mwaba
PERMANENT SECRETARY
MINISTRY OF HEALTH

LIST OF ACRONYMS

CDH	Cancer Diseases Hospital
CHA	Community Health Assistant
CHAZ	Churches Health Association of Zambia
COPD	Chronic Obstructive Pulmonary Diseases
CPs	Cooperative Partners
CVD	Cardiovascular Diseases
DDA	Dangerous Drug Administration
DCMO	District Community Medical Officer
DHIS	District Health Information System
EPI	Expanded Programme on Immunisation
GDP	Gross Domestic Product
HBV	Hepatitis B Virus
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information Systems
HRH	Human Resources for Health
IEC	Information, Education Communication
JAR	Joint Annual Reviews
JSI	John Snow Incorporated Limited
LCH	Livingstone Central Hospital
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDG	Millennium Development Goals
ML	Medical Licentiate
MO	Medical Officer
MoH	Ministry of Health
MoU	Memorandum of Understanding
MP	Member of Parliament
NCD	Non-Communicable Diseases
NCI	National Cancer Institute
NCIZ	National Cancer Institute of Zambia
NDP	National Development Plan
NHL	Non-Hodgkin's Lymphoma
NHSP	National Health Strategic Plan
NPCSF	National Palliative Care Strategic Framework
OPD	Outpatient Department
PHC	Primary Health Care
PPP	Public Private Partnership
PMO	Provincial Medical Officer
PRRR	Pink Ribbon Red Ribbon
RTT	Radiation Therapy Technologist
SAG	Sector Advisory Group
SNDP	Sixth National Development Plan
SSA	Sub-Saharan Africa
SWAps	Sector Wide Approaches
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TWG	Technical Working Group
UN	United Nations
USD	United States Dollars
UTH	University Teaching Hospital
WHO	World Health Organisation
ZDHS	Zambia Demographic Health Survey

EXECUTIVE SUMMARY

INTRODUCTION

Zambia is currently experiencing a high burden of non-communicable diseases (NCDs) with significant consequences on morbidity and mortality. Among the four NCDs, cancer has had significant morbidity and mortality, especially cancers that affect women. This document presents the National Cancer Control Strategic Plan (NCCSP) 2016-2021. It presents the national strategic framework for the management and control of cervical, breast, and prostate cancers, and retinoblastoma in Zambia 2016-2021. The document is aligned to the Sustainable Development Goals (SDGs) and the Global Strategy for Women's, Children's, and Adolescents' Health. On the national level, the document is aligned to the 7th National Development Plan and the National Health Strategic Plan 2016-2021.

Tremendous achievements and gains have been scored under cancer management, but there are still challenges, such as:

1. Insufficient human resources and infrastructures to meet country-wide demand
2. Low awareness levels of risk factors and health-seeking behaviours among the general public
3. Inadequate surveillance and research to respond to the increasing incidence of NCDs
4. Poorly supported referral system of both patients and specimens

PROCESS

The NCCSP was developed through a highly consultative process involving key stakeholders from both the public and private sectors. The process included the following phases: preliminary data collection and analysis, strategic planning workshops, preparation of the draft plan, review, and approval. Implementation of this plan will ensure continued progress towards reducing cancer mortality by one-third by 2030.

SITUATION ANALYSIS

The burden of cancers in Zambia is increasing with significant impact on morbidity and mortality rates. The most common cancers in Zambia in adults are cervical cancer, Kaposi's sarcoma, breast cancer, prostate cancer, and gastrointestinal cancer, while in children the most common cancers are leukaemia, Wilms tumour, lymphoma, and retinoblastoma. Many cancers are associated with lifestyle, such as unhealthy diets, physical inactivity, obesity, alcohol and substance abuse, and tobacco use, while other cancers have an infectious etiology.

MAIN GOAL

The main goal is to reduce NCD-associated mortality in Zambia by one-third by 2030 and to attain the other eight targets listed in the Global Action Plan for the prevention and control of NCDs (GAP, 2013-2020).

STRATEGIC DIRECTIONS

These strategic directions are based on a holistic, system-wide approach using the "Six Health System Building Blocks" framework. The strategic plan has prioritised four cancers (breast, cervical, prostate, and retinoblastoma) that, if controlled, would collectively reduce the morbidity from cancer by about one-half. The main objective is to expand access to cancer awareness, prevention, early detection, treatment, and care for these prioritised cancers. Each objective has specific objectives and key strategies which have been translated into activities to guide the implementation of this plan.

This NCCSP is designed to address gaps of cancer management and strives to engage all stakeholders and key players. It also endeavours to engage communities in the implementation of cancer diseases activities through a well-coordinated and formulated framework. With the NCCSP now in place, we look forward to greater opportunities to improve services of cancer management and reduce incidence and mortality. This can only be achieved through prudent management of available resources, use of innovative technology, and consistent implementation of cancer-related activities.

Government and stakeholders in cancer prevention and control need to adhere to this useful plan as it is a communication and implementation guide to ensure that the goals and objectives are attained.

INTRODUCTION

Over the past few decades, cancers have been increasing globally, most rapidly in developing countries. However, resources for cancer prevention, screening, and treatment have remained scarce during this time. According to the World Health Organization (WHO), estimated new cancer cases were 14.1 million in 2012 compared to 12.7 million cases in 2008. Cancer-related mortality was responsible for 8.2 million deaths in 2012 compared to 7.6 million deaths in 2008.

Projections by Globocan 2012 show a significant increase of new cancer cases per year to 19.3 million by 2025 due to growth and aging of the global population. According to 2012 statistics, more than half of all cancers (56.8%) and cancer deaths (64.9%) occurred in low and middle income countries. These proportions will increase further by 2025 (WHO/Globocan 2012).

Globocan estimated that the overall age-standardized cancer incidence rate for both sexes in Zambia in 2012 was 136.2 per 100,000 (10,593 cases) for all cancers excluding non-melanoma skin cancer. They also estimated the age-standardized mortality rate to be 104.9 per 100,000 (7,521 deaths). This means that the majority (71%) of new cancer cases in Zambia die from the disease.

In order to address the high morbidity and mortality in Zambia, this National Cancer Control Strategic Plan (NCCSP) will serve as the strategic and policy guide on how the Government of Zambia, our international partners, private sector partners, and civil society partners will push forward the cancer control programs to respond to the large needs amongst our population. The NCCSP is also designed in line with the priorities set in the National Health Strategic Plan (NHSP) 2011-2015 which identified the objective to halt and begin to reverse the incidence and prevalence of non-communicable diseases (NCDs) in order to improve cancer care services throughout Zambia. The government is committed to expanding cancer prevention and control programs country-wide, while ensuring financial stability, sustainability, and quality services for all clients of the public health care system.

This NCCSP lays out the overall framework for cancer control in Zambia and discusses what is known of the descriptive epidemiology of cancer in the country. It also presents the overall vision for cancer control and responsibility in order to ensure that continued progress is made to achieve the objectives set in the NHSP. This NCCSP includes four priority cancers: cervical, breast, prostate cancers, and one of the paediatric cancers, retinoblastoma.

This NCCSP has the following sections: introduction, situation analysis, principles of cancer prevention and control, justification, monitoring and evaluation, implementation framework, policy and regulatory framework, institutional and coordination framework, general objectives, strategic framework, coordination and cancer prevention and control, implementation framework, cost analysis, appendix, and NCCSP activity sheets.

SITUATION ANALYSIS

Descriptive Epidemiology of Cancer in Zambia

Just like the rest of the world, Zambia is facing an ever-increasing burden of non-communicable diseases (NCDs). NCDs such as cardiovascular diseases, respiratory diseases, diabetes mellitus (type II), and cancers are increasing as a proportion of cause of mortality in the country. According to WHO estimates from 2008, NCDs accounted for 27% of all deaths in the country, and cancers constitute an important proportion of these.[1]

Globocan estimated[3] that the five most commonly diagnosed cancers in Zambian men in 2012 were Kaposi sarcoma, non-Hodgkin's lymphoma, and cancers of the prostate, esophagus, colorectum. The five most commonly diagnosed cancers in Zambian women in 2012 were Kaposi sarcoma and cancers of the cervix, breast, esophagus, and colorectum.[2] The relative frequency of these cancers is consistent with data collected through the Zambia National Cancer Registry (ZNCR 2008-2012 report) and observed at the Cancer Diseases Hospital (CDH) in Lusaka that has been operating since 2006.

Cancer prevention and control are particularly challenging because prevention efforts often require significant lifestyle changes. Screening can be complex, time-consuming, and resource-intensive. Treatment of cancers of all types is difficult even in resource-rich environments. Genetic factors can also pose a significant risk in whether a person is likely to develop cancer. An ageing population contributes to the increased number of cancer patients. Risk factors that increase the likelihood of developing cancers include: tobacco use, insufficient physical exercise, harmful use of alcohol, diet and obesity, environmental factors, and infections associated with cancer.[3]

Current Capacity for Cancer Control

Despite Zambia having a strong health care system, awareness and capacity for prevention, diagnosis, and care for cancer has been very limited.

Cancer awareness

In the community, knowledge and understanding of risk factors, signs, symptoms, and available services in the public health care system are low and this is further compounded by poor health-seeking behaviour. Community participation and behavourial change in cancer prevention and detection activities and cancer control programmes is also minimal.

Cancer screening and early diagnosis

Cancer screening and early diagnosis in the country is limited by the inadequate numbers of trained specialized health care workers, infrastructure, inadequate availability of cancer screening tools, and limited laboratory capacity to diagnose cancer.

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[1] WHO, *Zambia NCDs Factsheet*, http://www.who.int/nmh/countries/zmb_en.pdf
[2] GloboCan, *Zambia Factsheet*, available at: http://globocan.iarc.fr
[3] WHO, *Global Status Report on Noncommunicable Diseases 2010*, available at: http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf

Cancer Treatment

Cancer is usually managed by a multi-modality approach which includes surgery, chemotherapy, radiotherapy, and palliative care. Radiotherapy and chemotherapy services are centralised and therefore not easily accessible to everyone. Cancer surgery is practiced by general surgeons and not surgical oncologists. There is also limited laboratory capacity to follow up cancer.

Surgery

There are 65 general surgeons and 37 gynaecologists in Zambia (MoH, 2014), but there are no surgical oncologists or gynaecologic oncologists. Most of the surgeons and gynaecologists operating on cancer patients have received no specialist oncological training. Cancer cases are not discussed within a multidisciplinary board of specialists before surgery, nor is there a tumour board. Infrastructure for surgery is inadequate and equipment needs to be upgraded.

Radiotherapy and Chemotherapy

Radiotherapy is only offered at CDH, whereas chemotherapy is offered at CDH, University Teaching Hospital (UTH) Paediatric Oncology Unit, and other tertiary and general hospitals where capacity exists. Zambia only has six clinical and radiation oncologists all based at CDH. CDH is currently operating below capacity due to a shortage of adequately qualified health care workers and equipment required for the level of service it is supposed to provide.

Palliative Care

Opportunistic palliative care services do exist in the country, but are minimal and disjointed with no nationally coordinated palliative care service.

Cancer Surveillance

The ZNCR was established in 1982. Its main function is to collect and classify information on all cancer cases diagnosed in order to produce statistics on the occurrence and burden of cancer in Zambia for assessing and controlling the impact of cancer on the community. The ZNCR is currently undergoing a process of transformation from a hospital-based registry with passive surveillance to a population-based cancer registry with active cancer surveillance. Zambia has to deliberately make cancer notification a legal requirement to compel all attending medical personnel to report all cancer cases to the ZNCR. It is imperative for the Minister of Health to issue a statutory instrument in this regard to enable the ZNCR to conduct highly thorough cancer surveillance. It is also imperative that the ZNCR gains access to mortality data in Zambia as an important source of cancer case finding.

Stakeholder analysis

The main stakeholders for cancer control include the community, patients with cancer, associations of people living with cancer, the central government (particularly MoH and relevant government line ministries and departments), Churches Health Association of Zambia (CHAZ), the private sector, civil society organizations, local communities, and the international community. The table below summarizes the various stakeholders and their interests:

Stakeholder	Role of stakeholder	Current status	Interest in Issue	Influence	Position	Impact
General population and communities	• Have general information about cancer – what it is, its presentation, how it's prevented • Seek prevention, screening, and treatment early • Share information about cancer • Speak out and break the silence surrounding cancer • Demystify cancer and reduce stigma	• Inadequate information on cancer in general • Inadequate service outlets • Inadequate use of technology for information dissemination and behavioural change • Inadequate community involvement and participation in cancer prevention and control • Cancer is shrouded in silence, fear, and stigma	High	High	Supportive	Positive
Patients with cancers and associations of people living with cancer	• Be able to seek and receive quality, efficient, and effective curative care early and support services for respective cancers • Access palliative care at community level • Be able to form support groups for patients with cancer • Be involved in community education regarding cancer prevention and management • Speak out and break the silence surrounding cancer	• Late presentation • Limited access to cancer care services • Inadequate patient involvement and participation in cancer prevention and control • Cancer is shrouded in silence, fear and stigma	High	High	Supportive	Positive

Stakeholder	Role of stakeholder	Current status	Interest in Issue	Influence	Position	Impact
Civil Society Organisations (CSOs)	Advocate for: • Delivery of quality cancer health services to communities • Equal access to cancer health care services • Community participation in cancer prevention and control programmes • Dissemination of information on cancer • Resource mobilization for cancer activities, ensure drug availability by both government and private sector • Stigma reduction	• Few organizations mostly confined to Lusaka and Copper-belt provinces • Low focus on funding cancer programs	Moderate	Medium	Supportive	High
Health care workers	• To have appropriate training, exposure, and support in the prevention, early detection, and management of cancer for different cadres at all levels of care • To have a community health worker package that includes education regarding prevention, early detection, and control of cancers • Appropriate and prompt referral to appropriate level and follow-up	• Inadequate knowledge of cancer prevention among health care workers without formal training in cancer prevention and control • Inadequate number of health care workers with formal cancer prevention and treatment training	High	High	Supportive	High
Suppliers of goods and services	• To supply in a fair, efficient, consistent, and transparent manner, quality goods and services to MoH for the control and management of cancer	• Procurement procedure is laborious and bureaucratic • No local manufacturers for cancer drugs and most equipment • Non-adherence of suppliers to contracts • Government suppliers are now only registered by the Zambia Public Procurement Authority (ZPPA) • Apparent lack of understanding of the procurement act and terms of contracts by some suppliers • Challenges in obtaining drugs from international drug companies	High	Low	Supportive	High

Stakeholder	Role of stakeholder	Current status	Interest in Issue	Influence	Position	Impact
Cabinet	• Providing overall policy direction on health • Adequate resource allocation for cancer prevention, diagnosis, and treatment • Ensuring the health and productivity of the population • Prioritisation of cancers and resource mobilization • Provision of infrastructure and equipment for screening, diagnosis and treatment • Create framework contracts for procurement of cancer drugs • Ensure that the general population has access to information and to cancer services as close to the family residence as possible • Provide overall policy direction on cancer control cancer and its implementation • To have a well-defined and functional cancer patient navigation and referral system	• Lack of a national cancer control policy • Inadequate funding and structured support from partners.	High	High	Supportive	High
MoH		• The need to prioritise cancers has been identified and efforts are being made to address cancer • Innovation and technology-based programmes such as mHealth (mobile phone-based) will be implemented at the national level				

Stakeholder	Role of stakeholder	Current status	Interest in Issue	Influence	Position	Impact
Other government line ministries and departments	• Information in curricula on healthy life styles – Education • Build sport facilities and promote community space to encourage physical activity, sports, and recreation – Local Government, Youth and Sports • Control tobacco use and alcoholism – Home Affairs, Local Government, Agriculture • Promotion of sport/physical activity. Youth and Sport, Local Government • Food security and safety – Agriculture and MoH • Enforcement of specific legislation and regulations relevant to palliative care – MoH and Home Affairs • Ensure that taxes accruing from tobacco, alcohol, and unhealthy foods are disbursed directly to the health sector – Ministry of Finance, Commerce, Information and Broadcasting	• Existence of inter-ministerial communication that assists policy approval	High	High	Supportive	High
The faith-based health sector	• Provision of affordable health services to the general public, including cancer prevention, diagnosis, treatment and care, within the national health policy, regulatory and strategic framework • To include cancer care and control in current prioritized strategies	• Attend to cancer patients, refer patients to the next level, and provide palliative care • Tele-pathology services are available in a few facilities	Moderate	Moderate	Supportive	Positive

Stakeholder	Role of stakeholder	Current status	Interest in Issue	Influence	Position	Impact
Private health institutions	• Provision of private commercial health services to the general public, including cancer prevention, diagnosis, treatment and care, within the national health policy, regulatory and strategic framework	• Diagnose and refer to CDH those patients who are unable to afford private care	Low	Low	Supportive	Positive
Traditional health practitioners/herbalists	• Dissemination and enforcement of cancer information in communities and referral to health facilities • Recognise early symptoms and encourage referral to health facility or liaise with community health workers	• Patients are delayed at this level and present very late at the public health facilities • Not empowered with cancer information and services available	High	High	Moderately Supportive	Positive
The international community	• Provision of financial and technical support to the sector within the established policy, strategic framework, and priorities	• Some are providing technical and/or financial support	High	High	Supportive	Positive
Traditional/ community leaders	• Dissemination and enforcement of cancer awareness and provision of information and referral to facilities	• Not empowered with cancer information and services available	High	High	Supportive	Positive

Strengths, Weakness, Opportunities and Threats in Cancer Continuum of Care

In order to establish effective cancer control and management, the strengths, weaknesses, opportunities, and threats (SWOT) need to be evaluated. The table below summarizes a SWOT analysis for cancer control in Zambia according to the WHO pillars of health care.

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
1. Health Service Delivery					
(a) Prevention					
Presence of health promotion/education units at all levels of health care including mHealth components (Project Mwana)	• Lack of a communication strategy on cancer • Inadequate awareness on the cancer risk factors at all levels • Inadequate use of technology-based interventions for prevention and control of cancers	• Unit should prioritise cancer and develop a communication strategy • Unit should develop education package on cancer risk factors • Unit should scale-up mobile phone-based interventions for cancer prevention and control	• Established media channels to use for dissemination of information • Zambia has a receptive community that can help in raising awareness • Zambia has intersectoral collaboration within government line ministries • Zambia has good coverage of mobile phone networks, telecom providers, and prior examples of successful mHealth interventions done	• Traditional healers and myths providing conflicting messages • Traditional practices and beliefs that may cause avoidance or delay in seeking cancer diagnosis and treatment • Low literacy levels and knowledge gaps	• Media programmes to counter myths developed and disseminated. • Educate Traditional Healers on cancer prevention, early detection, and treatment services available • Use mass media

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Presence of food and product safety officers in MoH to enforce legislation	• Inadequate, misplaced staff and limited law enforcement	• Reorient Environmental Health Officers on cancer risk factors and control	• Existence of legislation and policy on the control of known products that increase the risk to cancer	• Resistance to policy and legislation by the relevant industries selling products which are known risk factors for some cancers and NCD, e.g. tobacco use, alcohol, fast foods, physical inactivity, obesity • Weak enforcement of enacted policies, e.g. smoking in public	• Stakeholder engagement to ensure that they are within NCCSP priority areas • Engage relevant stakeholders to enforce legislation
Availability of health services to perform prevention activities	• Lack of coordinated prevention activities and ownership • Lack of infrastructure for genomics, proteomics, metabolomics, and bio-banking	• MoH to coordinate prevention activities • Ensure high coverage of Hepatitis B vaccination, implementation of HPV vaccination, and cervical cancer screening and follow-up services. • Plan and budget for genetic testing within national budget	• Presence of partners working in cancer prevention • Technology available on the market, e.g. mHealth, internet	• Funds not assured to sustain cancer program • Expensive technology	• Programs should be implemented within MoH budget • Educate community leaders • Increase advocacy to make genetic testing available locally
Coordination mechanism (Sector Advisory Group, Joint Annual Review, Mid-Term Review) in place for all Health sector stakeholders	• Cancer stakeholders not taking advantage of these mechanisms	• National Cancer Technical Working Group members to attend these meetings	• Availability of interministerial committees that can influence traditional/community and political leaders	• Inadequate information among community leaders	• Sensitize traditional, political, and community leaders on cancer

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Availability of NCD strategic plan	• NCD strategy is deficient on issues of cancer prevention and control	• NCCSP should be developed, approved, disseminated, and implemented	• Stakeholder partners willing to support the NCCSP. • Existence of other cancer strategic plans by other countries	• Unassured support from partners to support the NCCSP	• Advocate for partner support and engage them
Primary prevention – HPV vaccination demonstration programme near completed. Zambia is now eligible for Gavi national roll-out application	• Gavi application for support of national HPV vaccination introduction is not yet done. • From demonstration, cumbersome and costly delivery system for HPV vaccinations	• Gavi application must be made after approval of NCCSP • Integrate HPV vaccination into other immunization schedules	• Partner support in HPV vaccination demonstration. • Enhanced intersectoral coordination	• The demonstration largely donor funded.	• Integrate this into Expanded Programme on Immunisation (EPI) schedule
Well-coordinated EPI programme'	• HPV vaccination is given outside official vaccination programme for Zambia	• Expand immunisation programme to include 9-13 year old girls, and continue to strengthen the school health programmes	• Donor support available	• Long-term funding commitment from donors is not assured	• Include in national budgeting programme to ensure sustainability
Hepatitis B vaccination already included in the EPI programme	• Hepatitis B vaccination is only available for under-5 children and only started recently	• Immunization of populations that are not covered especially at risk populations	• Availability of vaccines and a willing population. Zambia is Gavi-eligible for under-5 children	• Too costly to vaccinate ineligible populations • Existence of anti-vaccination groups	• Lobby for additional funding • Intensify social mobilisation

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Implementation of mHealth for Cervical Cancer, Breast Cancer, Prostate Cancer and Retinoblastoma control programmes	• Inadequate mHealth framework in the health sector	• Partnership with other mHealth programs that have already been implemented at scale in Zambia • Build capacity for mHealth implementation at various levels • Need to improve technology platform that carries mHealth	• Strong coverage of mobile phone networks • Strong presence of telecom companies and potential for partnerships • Well-designed tools and methodologies for mHealth • Proven evidence of successful mHealth implementation, e.g. Project Mwana-Zambia is one of the champion countries for implementation of mHealth programme for cervical cancer	• High cost of sending bulk messages • Technology set up for 2 way (or mostly push messaging)	• Engage ZICTA and other telecom companies. • Leveraging the technology set up by already functional programs. • Leverage on e-governance
(b) Early Detection					
Community awareness about cancer in general is present	• Inadequate awareness about cancer in general	• Create and implement awareness programmes	• Partners working in communication areas available	• Partners' programmes might not accommodate cancer activities	• Approach partners early enough for them to add cancer activities to their plans
Clinical expertise is available	• Expertise is centralised	• Build capacity and decentralise clinical expertise	• Qualified personnel available outside Zambia	• Other countries offering better working environment	• Create conducive working environment to attract and retain cancer workforce

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Well-coordinated under-5 children's clinics	• Early detection for childhood cancers not integrated in under-5 clinics	• Integrate cancer early detection into existing immunization and under-5 clinic visit schedules	• Some countries have already implemented early detection services for childhood cancers	• Unassured willingness of countries to share their experiences	• Create mutually beneficial partnerships
UNZA has a training program for pathologists that could be utilised to train histopathologists and cytologists	• Inadequate lecturers	• Train and retain locally available staff	• Well established organisations and expertise available outside Zambia	• Unassured interest from such organisations and experts	• Create conducive working and research environment to attract and retain workforce • Develop and utilise telepathology and teleconferencing
Histopathology services available	• Inadequate histopatology services available (Lusaka, Kabwe, Ndola) • • Inadequate histopathology skills	• Train more histopathology technicians and cytologists • Establish telepathology programme • Improvement in the specimen referral mechanism	• Outside expertise available (private sector/outside Zambia) • Mission hospitals already implementing telepathology (St. Francis, Kalene, Mukinge, Mtendere)	• Currently telepathology expensive and difficult to sustain	• Create local capacity
Radiological expertise available	• Inadequate numbers and centralised	• Establish local training programmes for radiologists	• Expertise available outside Zambia	• Unassured interest to work in Zambia	• Create a conducive working and research environment to attract and retain workforce
Teleradiology services available at CDH	• Teleradiology services only link CDH to outside Zambia	• Establish links between local hospitals and CDH	• International and regional partners willing to report for a fee	• Expensive to sustain	• Build local capacity to do in-country teleradiology

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Diagnostic equipment available	• Inadequate and centralised diagnostic equipment (MRI, CTs, mammogram, nuclear medicine etc.) • Equipment not serviced adequately • Inadequate number of trained bio-medical technicians/engineers available to maintain and service equipment	• Procurement and installation of diagnostic equipment as per level of care • Implement preventive maintenance plans • Advocate for training of biomedical technicians and additional exposure internationally	• Equipment available in accessible markets internationally • Preventive maintenance plans available • Availability of training programs	• Second-hand and poor quality equipment in some markets • Inaccessible equipment maintenance codes (controlled by the manufactures) • Inadequate training institutions offering biomedical training	• Conduct health technology assessment to select appropriate equipment and • Advocate for factory training • Advocate for training in more sites
Availability of mobile health services	• Services not always available due to inadequate staff	• Advocate recruit staff dedicated to mobile services	• Partners willing to support mobile services	• Unassured sustainability	• Stakeholder engagement to ensure that they are within MoH priority areas and services are integrated
Availability of people with basic laboratory training	• Inadequate skills to support cancer diagnosis	• Build capacity to train histopathology technicians	• Partners willing to support histopathology training programmes	• Unassured long-term funding to ensure long term support	• Integrate into university/college training curricula
VIA, cryotherapy, Loop Electrosurgical Excision Procedure (LEEP) for cervical cancer screening and treatment available	• Services not available in all districts (available only in 27districts out of 104)	• Establish additional “See-and-Treat” sites at the district level • Take services to women through mobile screening and treatment	• Partners willing and ready to support program	• Unassured long-term funding to ensure long term support	• Engage partners early for them to add cancer activities in their budget

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
(c) Cancer Case Management					
Health promotion programs already in place	• Cancer knowledge about case management low	• Health promotion to include case management messages	• Communities receptive to cancer health information	• Health promotion structures are under utilized	• Need to strengthen use of health promotion structures and advocate
Trained oncologists, pathologists, and relevant trained experts	• Centralised expertise • No multi-disciplinary meetings (Tumour Boards)	• Build capacity in the peripheral facilities and develop referral guidelines • Set up Tumour Boards	• Availability of Medical doctors that could be trained within and outside the country • Learn from other countries with Tumour Boards	• Brain drain within and outside the country • Exercise could be costly and unassured	• Create conducive working environment to retain workforce • Use teleconferencing
Young medical professionals who can be trained to be cancer specialists	• Inadequate local capacity to train cancer specialists	• Increase training capacity	• Outside training institutions available to conduct trainings	• Outside Training is expensive	• Build local capacity
Cancer diseases hospital (which is providing radiotherapy, chemotherapy and hormonal Rx)	• CDH lacks high technology Radiotherapy delivery mechanisms	• Need to procure high technology Radiotherapy delivery mechanisms	• Technology available on the market	• Second-hand and poor quality equipment on the market	• Do Health Technology Assessment and procure correct equipment
Availability of operating theatres	• Theatres have old and inadequate equipment	• Upgrade theatres and procure modern equipment	• Theatre equipment is available on the market	• Lack of trained personnel to procure equipment	• Experts should be involved in these procurements

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Available general surgeons to be trained as surgical oncologists	• Lack of local capacity for surgical oncology training	• Recruit and retain super-specialized man power • Build local capacity by initially training a number of surgical oncologists from outside	• International partners willing to support us in skills transfer	• Partners may have competing interests and priorities	• Advocate and engage partners early
Direct funding to radiotherapy and chemotherapy centre from government availability	• Inadequate funding	• Source for more funding from GRZ/partners	• Generic commodities available on the market	• Quality of generic commodities not assured	• Health technology assessment (Evidence about a particular technology)
Referral System guidelines and structures in place	• Referral system not cancer specific for both patients and specimens • Knowledge gaps at all levels (communities and professionals)	• Design referral systems for cancer • Capacity Building on referral system	• Public- Private partnerships for efficient movement of patients and specimens	• Government does not have full control over private partners	• Provide social support mechanisms and engage wider network of partners
Availability of paper-based patient record system	• Absence of a comprehensive electronic patient record	• Establish a robust and comprehensive electronic patient record system that includes patient referral, navigation, treatment and follow-up for both pre-invasive and invasive cancer	• Similar electronic systems available	• Systems may be expensive and not adaptable to local environment • Partner innovative systems not locally owned	• Create and own systems that shall support electronic patient record systems
Some patient support available in communities	• Few support groups	• Develop and strengthen patient support groups	• Presence of willing volunteers	• Unassured support	• Mobilise partners and communities to engage in this activity

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
(d) Palliative Care					
Expertise in palliative care available	• Localised palliative care provision in selected hospitals and hospices • Inadequate palliative care multidisciplinary teams • No funded establishment for palliative care in government • Lack of palliative care in curricula for medical professionals	• Advocate for care and support for cancer patients • Establish National, provincial and district hospital multi-disciplinary teams • Advocate for creation of funded establishment for palliative care • Advocate for introduction of palliative care into preservice training	• Supporting bodies (hospices) • Some donor funding available	• Unassured support for palliative care	• Awareness campaigns and advocacy
Inclusion of palliative care in the National Health Policy	• No strategic plan on palliative care	• Formulate strategic plan for palliative care delivery at all levels	• Similar strategic plans developed and implemented in other countries	• Possibility of adopting plans that are not suited to our situation	• Adapt plans to our Zambian situation
Community Development Officers (CDO) and CHW available	• Most cadres not yet trained in palliative care	• Train Community Development Officer and CHW in palliative care	• Training support from non-governmental organizations (NGOs), e.g. PCAZ, working in palliative care • Structures at community level available, e.g. hospices, traditional families	• Sustainability of support not assured	• Creation of palliative care coordinator at national, provincial, and district level • Strengthen community-based palliative care

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Palliative Care management is available	• Most palliative care only concentrating on pain management and no other components	• Make all components of palliative care available	• WHO guidelines on palliative care available	• Inadequate understanding of palliative care principles	• Establish and accredit model centres available to provide an opportunity for learning
General funding for clinical care available at central level	• Funding not specific for palliative care	• Develop and fund a comprehensive palliative care system and make all commodities available, e.g. morphine	• Partners willing to support palliative care	• Unassured sustainability	• Establish long-term partnerships • Advocate for palliative care
Structures to care for and support patients at community and primary healthcare level available	• Poor linkages between the community and health centres • Low awareness of existence of palliative care services	• Strengthen linkages • Raise awareness about availability of services and how to access them	• Associations dealing with palliative care issues available	• Unassured funding to support such services	• Lobby for more funding for palliative care services including hospice

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Pain medication available on the essential drug list	• Drug stock-outs common • Limited range of drugs • Limited number of trained pharmacists • Only MOs allowed to prescribe opiates • Fear of prescribing opiates	• Improves drug logistics management system • Establish essential pain management drug list • Ins service training of pharmacy personnel on morphine reconstitution • Review Dangerous Drug Act to include other cadres • Sensitize and train healthcare workers	• Availability of palliative care strategic plan in other countries • Availability of legislation in other countries	• Potential abuse of narcotic drugs	• Advocacy, education and awareness • Enforce control mechanisms
2. Health Workforce/Human Resources					
Community health workers and development officers available	• Inadequate awareness and lack of training on cancer	• Design training programme and train CHWs and CDOs	• Web-based course on cancer for CHWs available • Training institutions available	• Poor access to internet • Limited number of such training institutions and lack of training in cancer	• Provide hard copies for studying and conduct tests in a central place with internet access • Advocate for introduction of cancer in their curricula
Nurses and clinical officers available at primary health care level	• Inadequate numbers of cadres at this level and there is lack of training in cancer care	• Training in cancer prevention and control	• Training institutions available	• Some training institutions are expensive and lack of cancer component in their curricula	• Source funds for training and introduce a cancer component in their curricula

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Nurses, doctors, radiographers, laboratory technicians and pharmacists available at secondary and Tertiary level	• Inadequate numbers of cadres	• Training in cancer diagnosis and management	• Training institutions available • Partners willing to support medical education	• Some training institutions are expensive and there is no cancer component in their curricula • Unassured sustainability	• Create affordable training institutions for cancer and advocate for introduction of cancer component in curricula of existing institutions
Specialists available (oncologists, oncology nurses, radiologists, pathologists, urologists, paediatricians, physicians, gynaecologists, etc.)	• Inadequate numbers, especially in oncology and radiology	• Train specialists	• Training institutions available within and outside Zambia	• Inadequate capacity to train locally	• Build local training capacity
Trained urologists, pathologists, medical oncologists, and radiation oncologists	• Most experts centralised in the capital city and in a few facilities	• Build capacity and decentralise	• Availability of medical doctors and nurses	• Brain drain of specialised human resource	• Improve conditions of service and create posts for them
Health staff establishment in place	• Inadequate posts for cancer management in establishment at all levels	• Advocate for creation of posts for cancer management	• Structures for this process available, e.g. cabinet	• Other competing medical posts	• Advocacy for creation of posts

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
3. Medical Commodities, Infrastructure, Equipment, and Transport					
(a) Drugs and Medical Supplies					
Transport system available in MoH	• No established mechanism for transportation of specimens	• Establish mechanisms for transportation of specimens	• Private courier services available	• High costs	• Negotiate for flat rates
Appropriate pharmaceutical policies and regulations are in place.	• Procurement process bureaucratic and inefficient • Logistics and software to establish this system not available in the cancer management system	• Advocate for streamlining the procurement process and implementing of the framework process	• Partner-driven process for HIV/AIDS drugs available to learn from	• Cancer drug logistic system may not yet be prioritized by partners	• Advocate for implementation and acquisition of system
Drug Supply Budget Line System available for cancer drug procurement	• Inadequate allocation for cancer drugs	• Advocate for increased budget allocation for cancer drugs	• International Partners supporting medicines for chronic diseases	• Support is mainly for HIV/AIDS	• Need to provide evidence to show the need to support cancer drugs
Logistics management for cancer drugs available	• Weak logistics system • Cancer drugs are only offered at CDH/UTH	• Strengthen the logistics system • Make chemotherapy drugs available at secondary level facilities and provide training and facilities for reconstitution and administration of chemotherapy drugs at secondary facilities	• Partner-driven process for HIV/AIDS drugs available to learn from	• Cancer drug logistics system may not yet be prioritized by partners	• Advocate for implementation and acquisition of system

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
(b) Infrastructure					
Availability of infrastructure	• Infrastructure available but limited	• Upgrade infrastructure to cater to cancer management at different levels of the health care system	• Some International partners support infrastructure development	• Sustainability not assured	• Advocate for resource allocation for infrastructure development • Work with partners for long-term support
Existence of budget line for Infrastructure Development and management.	• Inadequate funds for infrastructure development	• Advocate for more funding	• Some partners support infrastructure development	• Sustainability not assured	• Advocate for resource allocation for infrastructure development • Work with partners for long-term support
Availability of infrastructure planners at national and provincial levels.	• Clinicians as stakeholders are not always involved in planning	• Involve clinicians for planning and infrastructure development	• Expertise and partners available	• Cooperation not assured	• Engage partners and non-health ministries early in the planning process
(c) Transport					
Existence of a general ambulance service	• Ambulance service does not cover all sites	• Advocate for transport system to reach all parts of the country	• Existence of an extensive public transport system • Partnership with CSOs providing transportation	• Cooperation from private transporters not assured	• Engage and advocate for seats on private buses for cancer patients • Advocate with government (MoH) through the social cash transfer) on financing transport for cancer patients (PPP)

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
4. Health Information (surveillance, Health Management Information Systems (**HMIS), Research, E-learning)**					
Cancer registry available Public Health Act available Standard Operating Procedures (SOP) for active case finding available Census data available	• Mainly hospital-based and not population-based countrywide • Statistics underestimate the cancer burden • Mortality data are not routinely used as an important source of cancer case finding • No positions for ZNCR in MoH establishment	• Upgrade cancer registry to make it population-based starting with Lusaka and extending to other provinces. • Revise public health act to make cancer a notifiable disease • Need to increase the proportion of cancers reported with pathology report • Create establishment for ZNCR • ZNCR to gain routine access to mortality data for case finding	• Availability of International partners that are helping and willing to strengthen the ZNCR	• Unassured support from partners	• Provide annual reports on cancer • Become a Member of the Africa Cancer Registry Network
HMIS available	• Gives inadequate information on cancer	• Revise to include more cancer indicators	• Partners willing to help improve HMIS	• Cooperation and sustainability not assured	• Engage partners on long-term cooperation
Information officers available	• Information officers not trained in cancer specifics	• Build capacity by training more information officers	• Institutions already offering training in the region	• Accessibility to training not assured	• Establish local training capacity and add cancer in training guidelines
Department of disease surveillance, control and research available	• Inadequate resources for research	• Lobby for more resources for research	• Local and international NGOs willing to fund and collaborate in cancer related research	• NGO funds tied to specific diseases	• Involve partners during planning stages

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Expertise available	• Inadequate expertise for research • Lack of protected time to do research	• Invest in cancer research	• Partners offering cancer research skills training, e.g. NCI • Advocate for policy to ensure protected research time	• Accessibility not assured	• Engage partners and create conducive research environment
Research institutions available	• Lack of interest in cancer research	• Create incentives for research	• Peer review journals available	• Cost of doing research	• Make it affordable
Electronic vital registration in Zambia, ensure that death registration includes date and cause of death	• Lack of accurate mortality surveillance • System not linked to ZNCR	• Establish linkages between electronic vital registration and ZNCR	• Availability of advanced electronic vital registration systems in other SADC countries • International organisations willing to help	• Unassured cooperation from countries with best practices	• Come up with a mutually beneficial arrangement
5. Health Care Financing (Government, funding partners/CPs, NGOs etc.)					
Resource allocation criteria available and there is government commitment to increase health sector funding	• Funding mostly for treatment though inadequate and for prevention of few specific cancers	• Advocate for increased funding for prevention and treatment of cancer	• Partners willing to support cancer programmes	• Sustainability not assured	• Establish long-term relationships with partners
Well-developed sector coordination structures with health sector financing technical working group.	• Cancer care activities not prioritized	• Ensure inclusion of cancer care activities in health sector financing technical working group	• Global sources of support available, e.g. World Bank, NCI, IAEA	• Weak coordination and harmonization of external sources of funding	• Advocate for strengthening of coordination and harmonisation mechanisms
Significant progress on the process of establishing Social Health Insurance (SHI) in Zambia	• Still in planning and not yet approved	• Advocate for speeding up of approval process	• System already working in other countries, e.g. Ghana, Kenya	• Unassured adaptability to Zambia	• Case studies of countries already implementing SHI for cancer management

Strengths	Weaknesses	Strengths counteracting weaknesses	Opportunities	Threats	Opportunities counteracting threats
Public Private Partnership (PPP) act available	• Lack of awareness among cancer care providers	• Increase awareness of availability of PPP	• PPP initiatives in providing health care and other services in the sector.	• Unassured private sector expenditure on health	• Engage partners early
6. Leadership and governance (policy, guidelines, organisational structures, etc.)					
Strong and consistent leadership of the sector from MoH	• Awareness and prioritization of cancer inadequate	• Advocacy on cancer prevention and control	• Strong political will	• Changing political landscape	• Ensure policy documents are in place
Developed and institutionalized "Bottom-Up" planning system, encompassing all levels.	• Inadequate time for wider consultation	• Planning process must include cancer care activities	• Strong partnerships with the communities, CHAZ, CPs, and civil society.	• Weak systems for coordination and harmonization of sector support.	• Strengthen partner coordination mechanisms
Presence of institutional structures for decentralised management and stakeholder participation at all levels of cancer care	• Structures not very well elaborated for decentralised management • Inadequate capacity at all levels	• Build capacity at all levels	• Support from bilateral partners is available	• Unassured support from partners	• Build capacity at all levels • Engage partners for decentralisation process
Governance Action Plan, jointly developed with the CPs and civil society, aimed at strengthening sector governance and accountability.	• Weaknesses in the systems and structures for promoting transparency, accountability and access to information.	• Strengthen systems to promote transparency, accountability and access to information	• Existing MOUs with CPs and civil society	• Delays in renewing MOUs	• Prompt renewal of MOUs

Health Sector Performance

Since 2006, the health sector has recorded significant progress in most of the key areas of health service delivery and health support systems, leading to major improvements in most of the key health performance indicators. There has been significant progress in cancer control. Awareness concerning cancer in the community has improved, resulting in higher uptake of cancer services. Screening for cervical cancer has been rolled out from Lusaka to all ten provinces in Zambia. There has been improvement of diagnostic capacity in terms of pathology services, availability of CT scan, and MRI. Availability of chemotherapy drugs for cancer treatment has improved as well as radiotherapy delivery.

Despite these achievements, the sector continues to face seven major challenges, which include: (1) high disease burden with inadequate cancer awareness and late presentation, (2) inadequate specialized staff for cancer, (3) weak logistics management in the supply of drugs and medical supplies, (4) inadequate and inequitable distribution of health infrastructure, equipment, and transport, (5) obstacles related to health information systems, (6) inadequate financing, and (7) weaknesses in the health systems governance. This NCCSP will focus on overcoming these constraints and challenges in order to ensure effective implementation of the plan and attainment of the national health objectives.

Cancer Situation in Zambia

According to the Zambia National Cancer Registry, the number of new cancer cases has significantly increased in the country from 2006 to 2011, becoming a major public health concern. The highest number of cancer cases is due to cervical cancer, followed by Kaposi's sarcoma. The other types of cancer which are prevalent in Zambia include prostate, breast, oesophagus, and eye cancers.

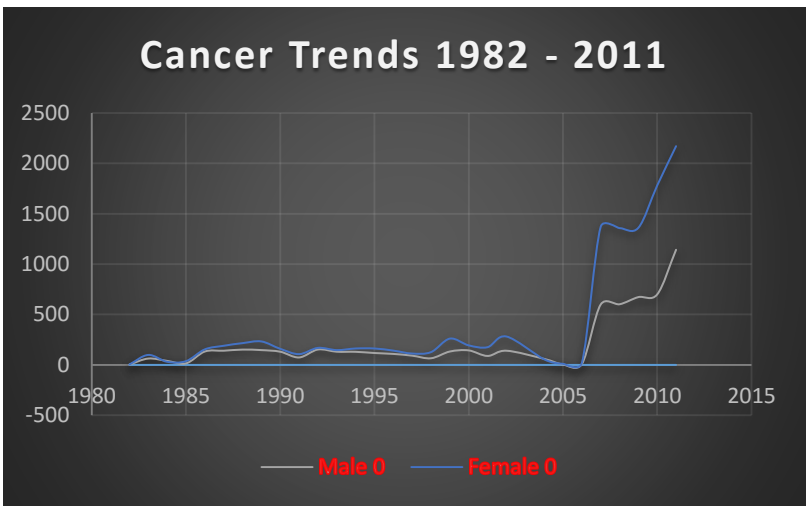

Figure: Cancer incidence trends (ZNCR)

According to data obtained from CDH, the total number of cancer cases has been increasing over time. This increase is likely due to improved diagnosis, cervical cancer screening, and improved data collection.

Figure below shows this increasing trend of new cancers seen at the facility per annum.

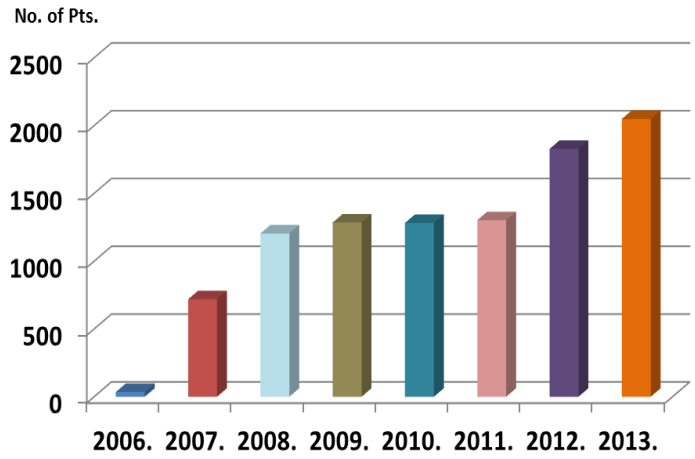

Figure 1.Increasing trend of new cancers seen at CDH per annum

Additional CDH (2013) data show the following proportions in occurrence of cancers: cervical cancer 32%, breast cancer 9%, Kaposi's sarcoma 9%, prostate cancer 5% and lymphomas 5%. Most cases seen at CDH come from Lusaka and the Copperbelt province. This is likely due to better and easier access to diagnosis and treatment.

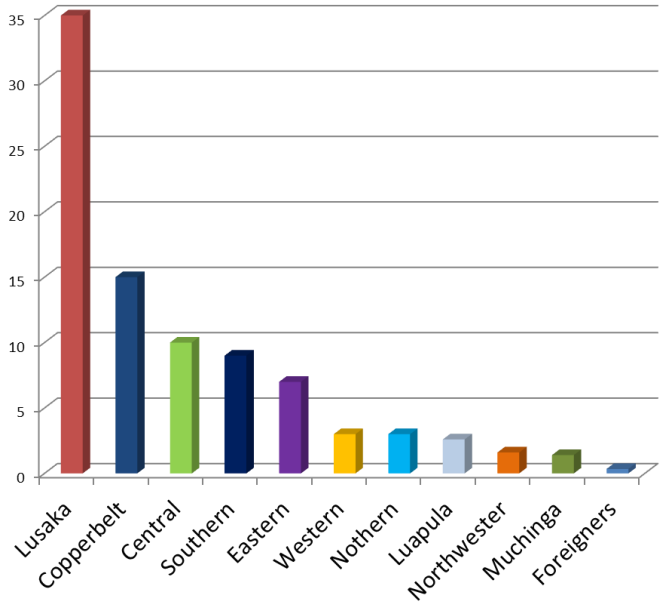

Figure 2. Provincial distribution of cases seen at CDH

Females are more affected by cancer, which could be attributed to the high prevalence of both cervical and breast cancers.

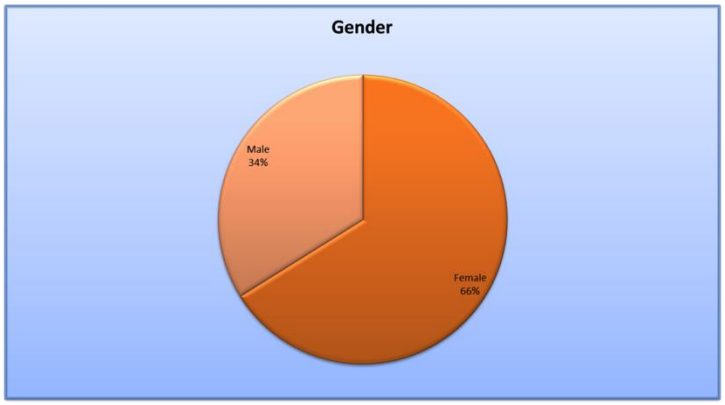

Figure 3. Sex distribution of cancer cases seen at CDH

Zambia has the 6th highest incidence rate of cervical cancer in the world. The reproductive age group, which is socially and economically active, is the most affected by the disease.

PRINCIPLES OF CANCER PREVENTION AND CONTROL

1. Primary prevention

This involves reducing exposure to risk factors associated with cancer as well as providing immunisation for known infections associated with cancer, e.g. HPV, HBV. Interventions at this level are aimed at preventing cancer from developing.

2. Secondary prevention

Secondary prevention interventions are aimed at detecting the earliest signs of cancer and intervening before it is fully established. This involves a screening programme to detect individuals with precancerous lesions and treating the conditions.

3. Tertiary prevention

Tertiary prevention interventions are aimed at preventing complications from established cancer disease. This involves effective rehabilitation of patients with impairments that may cause disability or management of cancer in such a way that complications are prevented.

4. Palliative care

This is aimed at improving the quality of life of cancer patients and their families through the prevention and relief of suffering, early identification, accurate assessment and treatment of pain and other physical, psychosocial, and spiritual problems.

JUSTIFICATION

The increasing burden of cancer in Zambia requires sufficient planning to ensure that there is adequate prevention and control. As in much of the world, Zambia is facing an ever-increasing burden of non-communicable diseases (NCDs). NCDs such as cardiovascular disease, respiratory diseases, diabetes mellitus (type II), and cancers are increasing as a proportion of mortality in the country. Current cancer prevention and control measures are

lacking sufficient integration and coordination. The NCCSP will be a guiding policy document for all stakeholders and will assist in effective, efficient monitoring and evaluation of cancer interventions. The plan will assist Zambia to manage patients according to international standards and will result in efficient use of resources and improvement in patients' quality of life and survival.

MONITORING AND EVALUATION

Periodic review of cancer interventions to respond to the needs of cancer control, prevention, and management is important. This is the basis of strengthening the ZNCR to capture quality, timely, and complete data for all cancer cases. To achieve this, an effective and well-coordinated M&E system is essential. Monitoring and evaluation of the implementation of the NCCSP will be conducted through appropriate existing and new mechanisms. Design of the monitoring tools will be done in collaboration with clinicians while the NCC TWG will be responsible for periodic review of the tools. Monitoring community response towards cancer prevention and control is also cardinal.

IMPLEMENTATION FRAMEWORK

The implementation framework should embrace the following:

- The legal and regulatory framework
- The institutional framework
- WHO cancer prevention and control guidelines
- National protocols on cancer prevention and control

LEGAL AND REGULATORY FRAMEWORK

Section 112 of the Zambian Constitution states that:

112. The following Directives shall be the Principles of State Policy for the purposes of this Part:

> (d) the State shall endeavour to provide clean and safe water, adequate medical and health facilities and decent shelter for all persons, and take measures to constantly improve such facilities and amenities;

In a similar fashion, the draft of the proposed constitution of 2012 (?) states that:

> 61. (1) Parliament shall enact legislation that provides measures, which are reasonable, to achieve the progressive realisation of the economic, social and cultural rights under the Bill of Rights.
>
> 62. (1) A person has the right to -
>
> (a) the highest attainable standard of health, which includes the right to health care services and reproductive health care;

The Constitution creates for the Government of Zambia an obligation to constantly improve access to health care services. The objective of this framework is to develop the MoH's strategy for meeting constitutional obligations as they relate to cancer and NCD prevention, diagnosis, treatment, and care.

INSTITUTIONAL AND COORDINATION FRAMEWORK

The NCCSP will be implemented through the existing health sector's institutional and coordinating framework. Working closely with MoH, NCIZ will take overall responsibility for coordinating and ensuring successful implementation and attainment of the objectives of this plan. However, several other players will be involved in its implementation, including: Cancer Diseases Hospital and its satellites, other line ministries and government departments, Churches Health Association of Zambia (CHAZ), private sector, traditional and alternative medicines sector, civil society/communities, and Cooperating Partners (CPs).

To ensure efficient and effective coordination of the partnerships with all these players, SWAp and inter-sector collaboration and coordination mechanisms will be strengthened at all levels. Emphasis will be placed on strengthening the leadership and governance systems and structures, so as to ensure the highest levels of participation, transparency and accountability at all levels. In this regard Zambia should endeavour to urgently create a National Cancer Institute that will assist government to lead, coordinate, and implement cancer activities in the country.

The NCCSP will be implemented through the development and implementation of medium-term expenditure framework (MTEF) and annual action plans (AAPs) and budgets based on a bottom-up planning process.

STRATEGIC FRAMEWORK

Mission Statement: To provide equitable access to cost effective, quality preventive, promotive, curative, palliative cancer care services as close to the family as possible

Vision: A Zambian 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 and their loved ones

Overall Goal: To reduce cancer morbidity and mortality in order to contribute to a healthy and productive population

GENERAL OBJECTIVES

1. To determine the incidence and prevalence of cancer in Zambia
2. To prevent cancer through increased cancer awareness, vaccination, and screening
3. To promote early detection of cancer and ensure follow-up
4. To provide quality cancer treatment
5. To develop an effective palliative care service

Strategic Directions and Key Strategies

General: The Logframe

1. Service delivery

CERVICAL CANCER					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Mid-Term (2018)	**End-Term (2021)**
Objective 1.1: To expand access to and availability of cervical cancer services in Zambia	Percent of the eligible population accessing cervical cancer service	Hospital Registers, ZNCR report, HMIS	200,000/2,700,000 (7%) women in the reproductive age group	1,620,000/2,700,000 (60%) women in the reproductive age group	2,160,000/ 2,700,000 (over 80%) women in the reproductive age group
Output 1.1.1: HPV vaccination established and scaled-up	Percent of 9-13 year old girls completing full three-dose vaccination	EPI Reports	Pilot (59%)	80%	Over 80% coverage of eligible girls
Output 1.1.2: access to cervical cancer screening and treatment of precancerous cervical lesions expanded	Number of staff capable of performing VIA plus cryotherapy	Screening Clinics staffing register	145 Nurses and 126 Cos and MOs trained so far	To train 200 more nurses and 100 more Cos and MOs	To train 300 more nurses and 150 more Cos and MOs
	Percent of eligible women screened at least once with VIA	Screening clinics and ZNCR, HMIS	20%	55%	80%
	Percent of VIA-positive women eligible for cryotherapy completing same-day treatment	Screening clinics and ZNCR, HMIS	80%	80%	80%
	Number of sites offering LEEP services	Screening clinics and ZNCR, HMIS	25/132	66/132	132/132

CERVICAL CANCER					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Mid-Term (2018)	**End-Term (2021)**
	Number of sites offering VIA treatment	Screening clinics and ZNCR, HMIS	41/132	80/132	132/132
	Percent of VIA-positive women eligible for LEEP who complete LEEP completing treatment.	Screening clinics and ZNCR, HMIS	6% of VIA-positive women are eligible for LEEP and 95% are treated with LEEP	6% of VIA-positive women are eligible for LEEP and 95% are treated with LEEP	6% of VIA-positive women are eligible for LEEP and 95% are treated with LEEP
First country-wide implementation of an mHealth program	Percent of women over the age of 25 years receiving mHealth messages	Mobile phone providers	0%	50%	Above 80%
Output 1.1.3: access to cervical cancer treatment services expanded	Number of eligible persons receiving cervical cancer treatment	ZNCR, HMIS	Surgery 240/800 (30%) Chemo-radiation 600/1200 (50%)	50% of eligible cases should have surgery 60% of eligible patients must receive chemo-radiation	Over 80% of eligible patients should have surgery Over 80% of eligible patients should receive chemo-radiation

BREAST CANCER					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Year 1 (2016)	**End-Term (2021)**
Objective 1.2: To expand access to and availability of breast cancer services in Zambia	Percent of the eligible population accessing breast cancer service	Hospital Registers, ZNCR report, HMIS	200,000/2,221,813 (9%) women aged 25-69 years	1,333,088/2,221,813 (60%) women aged 25-69 years	1,777,450/2,221,813 (over 80%) women aged 25-69 years
Output 1.2.1: Increased awareness of breast cancer in the community	Percent of women being reached by mHealth messages	Mobile phone companies sending SMSs to target population	0%	50% of women aged 25-69 years	Over 80% of women aged 25-69 years
Output 1.2.2: breast cancer screening and early detection scaled up	Number of health care facilities performing clinical breast exam (CBE)	Screening clinics, ZNCR, HMIS reports	3 facilities: CDH, UTH and Kabwe General Hospital (KGH)	50% of Health Facilities able to perform CBEs	Over 80% of Health Facilities doing CBEs
	Number of health care facilities performing both CBE and cervical cancer screening	Screening clinics, ZNCR, HMIS reports	2 facilities: UTH and Kabwe General	50% of clinics providing cervical cancer screening to provide CBE	100%
	Number of women receiving CBE	Screening clinics, ZNCR, HMIS reports		50% of target population have had CBE done	Over 80% of target population have had CBE done yearly
	Number of Ultrasound-guided Biopsies (USG) performed	Screening clinics, ZNCR, HMIS reports	Only 3 facilities performing this: CDH, UTH, and KGH	50% of eligible population have had biopsies done	Over 80% of eligible population have had biopsies done
	Number of Breast	Screening	60 breast	Number	Number

BREAST CANCER					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Year 1 (2016)	**End-Term (2021)**
	Cancer cases diagnosed	clinics, ZNCR, HMIS reports	cancer USG biopsies done	breast cancer/ number of USG biopsies done	breast cancer/ number of USG biopsies done
	Number of Mammograms done	Hospital records, ZNCR, HMIS records	6370/908,897 (0.7%) performed at CDH of women aged 40-69 years	25% performed in Zambia for women aged 40-69 years	Over 40% performed in Zambia for women aged 40-69 years
Output 1.2.3: breast cancer treatment services improved	Percent of eligible women receiving treatment	Hospital records, ZNCR, HMIS records	500/900 (55%) treated at CDH	70% of all diagnosed cases treated	Over 80% of all diagnosed cases treated
	Number of facilities providing breast cancer treatment	Hospital Records	Surgery – 7 Hospitals Radio-therapy – 1 Hospital Chemo-therapy – 1 Hospital Hormones – 1 Hospital	Develop capacity in central and general hospital to manage surgery, radiotherapy and chemo-therapy for cancer	Surgery CDH plus all Tertiary and General Hospital Radiotherapy – CDH plus all Provincial Hospitals Chemo – CDH and all general hospitals Hormones – all general hospital upwards

PROSTATE CANCER					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Year 1 (2016)	**End-Term (2021)**
Objective 1.3: Expand access to and make available prostate cancer services in Zambia	Percent of the eligible population accessing prostate cancer service	Screening clinics, hospital records, ZNCR, HMIS reports	1000/ 764,632 (0.1%) of men aged 45-80+ years	229,390/764, 632 (30%)	458,779/764, 632 (60%)
	Number of facilities with prostate cancer services	Availability of prostate cancer services at each level of health care delivery	Only CDH at the current moment performing PSA testing	50% of health facilities have PSA testing services	Over 80% of health facilities have PSA testing services
Output 1.3.1: Increased public awareness of prostate cancer signs and symptoms	Number of districts with community health care workers trained in prostate cancer	DHO Information report	0	30% of districts trained	Over 80% of districts planned
Output 1.3.2: Increased number of early diagnosis of prostate cancer	Number of USG prostate biopsies done	Hospital records	0		
	Number positive for prostate cancer	Hospital records, HIMIS, ZNCR	890 men between 45 – 80+ years		
Output 1.3.3: Improved quality and coverage of early diagnosis and treatment services for prostate cancer	Number of eligible persons receiving prostate cancer treatment	Hospital records, HIMIS, ZNCR	450/890 (50%) men aged 45-80+ years diagnosed treated	534/890 (60%) of diagnosed prostate cancer patients treated	Over 712/890 (80%) of diagnosed prostate cancer patients treated

PROSTATE CANCER					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Year 1 (2016)	**End-Term (2021)**

RETINOBLASTOMA					
Results Chain	**Indicators**	**MoV**	**Base (2015)**	**Target**	
				Mid-term (2018)	**End term (2021)**
Objective 1.4: To expand access to and make available retinoblastoma services in Zambia	Number of facilities with retinoblastoma services	Availability of retino-blastoma services at each level of health care delivery	2: only UTH, CDH at the current moment performing confirmatory tests and treatment of retino-blastoma	50% of health facilities have retinoblastoma screening and diagnosis services	Over 80% of health facilities have retino-blastoma screening & diagnosis services
				155,700/519,000 (30%) accessing retino-blastoma services	363,300/ 519,000 (70%) accessing retino-blastoma services
	Percent of the eligible population (519,000 children aged 0-5 years) accessing retinoblastoma services	Under-5 clinics, hospital records, ZNCR, HMIS reports	0%	30% of target staff trained	70% of target staff trained
Output 1.4.1: preliminary clinical diagnosis of retinoblastoma from community to district hospital strengthened	Number of districts with staff trained in preliminary clinical diagnosis of retinoblastoma	Clinic Staff HR Registers	0	50% patients of retinoblastoma patients referred	100% of retinoblastoma patients referred
Output 1.4.2: referral services retinoblastoma to district hospital and refer cases to secondary and tertiary services strengthened	Number of referrals to district, secondary and tertiary services	Hospital records, HIMIS, ZNCR	Less than 5% referred	50% of secondary health facilities with capacity to manage retino-blastoma	Over 80% of secondary health facilities with capacity to manage retino-blastoma
Output 1.4.3: A system for prompt, appropriate, and effective multi-	Number of eligible persons receiving retinoblastoma cancer	Hospital records, HIMIS,	0	50% of secondary health	Over 80% of secondary health

RETINOBLASTOMA					
Results Chain	**Indicators**	**MoV**	**Base (2015)**	**Target**	
				Mid-term (2018)	**End term (2021)**
disciplinary management of retinoblastoma at secondary and tertiary level established	treatment	ZNCR		facilities with capacity to manage retino-blastoma	facilities with capacity to manage retino-blastoma

PALLIATIVE CARE					
Results Chain	**Indicators**	**MoV**	**Base (2015)**	**Target**	
				Mid-term (2018)	**End term (2021)**
Objective 1.5: To develop an effective palliative care service at all levels of the health care system	Percent of the eligible population accessing palliative care services (WHO estimates 1% of total population are diagnosed with cancer every year = 130,000) On average only about 3,000 cases are confirmed in a year	Hospital records, ZNCR, HMIS reports	100 per year	1500/ 3,000 (50%) accessing palliative care services	Over 2,400/ 3,000 (80%) accessing palliative care services
Output 1.5.1: Increased awareness of palliative care services	Number of awareness creation events undertaken	Health Promotion unit report	Uncertain	50% of population aware	Over 80% of population aware
Output 1.5.2: Palliative care services mainstreamed and institutionalized	Number of positions on the establishment for palliative care created	HR registers	0	50% of positions created and filled	Over 80% of positions created and filled
	Number of HCW trained in palliative care	HR registers	Uncertain	50% of HCW trained	Over 80% of HCW trained

2. Human Resources					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Year 1	**End-Term**
Objective 2.1: To increase HR capacity of oncology services in Zambia	Percent of hospitals offering cancer care services with at least 75% of trained health workers	HR registers	1 (CDH)	50% of hospitals offering cancer care services with at least 75% of trained health workers	Over 80% hospitals offering cancer care services with at least 75% of trained health workers
Output 2.1.1: The number of health care workers for cancer care services increased	Number of number specialised oncologists trained	HR registers	6 for 13,000,000	At least 16 in training	16 oncologists trained and employed
	Number of number ophthalmologists trained	HR registers	4	At least 4 in training	4 completed training and employed
Output 2.1.2: Programs for short term In-service training for oncology health workers developed	Number of short courses planned and implemented	HR registers	0	50% of planned courses delivered	Over 80% of planned courses delivered

3. Medical Products and Infrastructure					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Mid-Term (2018)	**End-Term (2021)**
Objective 3.1 To ensure availability of adequate, quality, efficacious, safe, and affordable essential cancer medicines and medical supplies at all levels of the health system	Percent of essential medical tracer supplies and cancer medicines available in facilities	Hospital stock control cards, Drug Therapeutics Committee minutes	Cytotoxics are only available at CDH	80% of essential supplies and medicines available at all levels	80% of essential supplies and medicines available at all levels
Output 3.1.1: Strengthened systems and procedures for selection of cancer products.	National quantification of cancer supplies and medicines done	Essential cancer supplies and medicines list	Available at CDH only	80% of essential cancer supplies and medicines list selected	80% of essential cancer supplies and medicines list selected
Output 3.1.2: Strengthened systems for planning, forecasting, and procurement of essential cancer medicines and supplies.	Percent of eligible facilities with no stock outs of cancer drugs	List essential cancer supplies and medicines delivered to medical stores	Cytotoxics available at CDH only	80% of essential cancer supplies and medicines list procured	80% of essential cancer supplies and medicines list procured
Objective 3.2: To ensure optimal availability, appropriateness, distribution and conditions of essential infrastructure and equipment for cancer services	Percent of essential equipment and infrastructure procured	List essential cancer equipment & infrastructure	Cancer equipment available at CDH and provincial centers doing screening (40) clinics	80 % of cancer equipment & infrastructure available at all facilities offering cancer services	80 % of cancer equipment & infrastructure available at all facilities offering cancer services

3. Medical Products and Infrastructure					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Mid-Term (2018)	**End-Term (2021)**
Output 3.2.1: Capital investment plan for cancer infrastructure developed and implemented	Availability of CIP for cancer infrastructure		Only radiotherapy and chemo-therapy CIP available	CIP developed for cancer screening, palliative care, diagnostic infrastructure, referral mechanism and e-patient information system	80% of the total CIP implemented
	Number of provinces in which cancer treatment centres have been established	Infrastructure reports of MoH	CDH and 40 cancer screening clinics	50% districts covered	Over 80% districts covered
Output 3.2.2: Capital investment plan for cancer equipment developed and implemented	Availability of CIP for cancer equipment	Equipment report of MoH	CDH and 40 cancer screening clinics have equipment	50% districts have equipment	Over 80% districts have equipment
	Number of hospitals offering cancer services having adequate equipment as per minimum standard	Annual Report MoH	CDH only	50% of hospitals offering cancer care services	Over 80% of hospital offering cancer care services

4. Heath Information					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Year 1 (2016)	**End-Term (2021)**
Objective 4.1: To ensure availability of relevant, accurate, timely, and accessible cancer related data, to support the planning, coordination, monitoring and evaluation of cancer services	Number of cancer cases collected and abstracted (WHO estimates that 1% of a given population are diagnosed with cancer per year for Zambia – 130,000 cases)	ZNCR, HMIS Reports	3,000/130,000 (0.02%) of cases abstracted	7,000/130,000 (0.05%) of cases abstracted	14,000/130,000 (0.1%) of cases abstracted
	Number of positions on the establishment for ZNCR created	HR Registers	0	50% of positions created and filled	Over 80% of positions created and filled
Output 4.1.1 : Cancer information system strengthened	Number of population-based Registries established	ZNCR reports	1 population registry for Lusaka	Another population registry for Ndola	2 population-based Registries established for Zambia
Output 4.1.2: SmartCare system modified to capture the cancer related data.	SmartCare reports with cancer data	SmartCare reports	0	CANREG 5 integrated with SmartCare	CANREG 5 integrated with SmartCare

5. Health Care Financing					
Results Chain	**Indicators**	**MoV**	**Base**	**Target**	
				Year 1 (2018)	**End-Term (2021)**
Objective 5.1: To mobilise adequate financial resources and ensure efficient and effective utilization to support provision of cancer services	Financing strategy for cancer services developed	Financial report	0	Financial strategy complete	Financial strategy implemented
Output 5.1.1: cancer care services financing framework developed	Percent of resources disbursed within the intended year against the total budgeted amount	Financial report	60%	85%	100%
Output 5.1.2: Mechanisms for tracking cancer services related expenditure established	Number of cancer expenditure reports	4 Financial report per year	0	Tracking mechanism established and in use	Tracking mechanism established and in use

6. Leadership and Governance

Results Chain	Indicators	MoV	Base	Target	
				Year 1	End Term
Objective 6.1: To implement an efficient and effective decentralised system of governance, of cancer programs to ensure high standards of efficiency, transparency and accountability at all levels of the health sector.	Cancer care services available at all levels of health delivery as per national health care package	Evidence of cancer services at health facility	38 health Facilities	50% of Health facilities	95% of health facilities
Output 6.1.1: cancer services included the health care package, health legislation, policies and strategies.	NHCP and NHSP with cancer services included	NHCP and NHSP documents	Included	Continue to reflect	Continue to reflect
Output 6.1.2: Strengthened leadership, management and governance systems and structures, to enhance transparency and accountability at all levels.	Cancer focal person positions created at MOH and provincial, district levels	HR registers	Zero	50% of positions created and filled	Over 80% of positions created and filled

Cervical Cancer

Zambia is estimated to have the second highest cervical cancer rate in the world. As a result of poor access to screening services, the mortality rate is also high. Zambia's estimated age-standardised incidence and mortality rates from cervical cancer are at 58.0 and 36.2 per 100,000 women, respectively.[4] Cervical cancer is the most common cancer seen at Cancer Disease Hospital (CDH) in Lusaka, comprising approximately 35% of all cancers managed at CDH.[5] Cancer of the cervix is preventable, easily detectable, and curable in its early stages, but lack of awareness and limited screening programmes result in the majority of women presenting at late stages with invasive and advanced disease when it is very difficult and expensive to treat.

Main Objective:

To expand access to cervical cancer awareness, prevention, early detection, treatment, and care to reduce mortality by 25% by 2025

Specific Objectives:

1. To establish a national HPV vaccination program in Zambia by 2016
2. To increase awareness of cervical cancer in the general population by 30% by 2016
3. To expand access to screening and treatment of pre-cervical cancerous lesions in Zambia to 30 districts by 2016
4. To expand access to cervical cancer treatment and care services in Zambia to all provinces by 2021

Key Strategies

- Completion of HPV Vaccination demonstration programme by 2014
- Integrate the HPV Vaccination into the national immunisation programme
- Scale-up cervical cancer screening by establishing VIA with immediate treatment of pre-cancerous lesions with cryotherapy/cold coagulation in primary health care facilities, and referral of women with more advanced lesions to secondary or tertiary level facilities
- Strengthen linkages between HIV care and treatment and cervical screening clinics in all the centres offering VCT services
- Develop quality improvement systems in all cervical cancer screening clinics
- Strengthen telemedicine/website consultation in cervical cancer screening clinics with internet facilities
- Implement a national level programme on mHealth for Cervical Cancer (mCervical Cancer) for prevention and control of cervical cancer
- Provide transportation support for women requiring referral for advanced care
- Strengthen the referral system for women with complex pre-cervical cancer lesions or abnormal screening results needing further management.
- Strengthen cervical cancer early diagnosis and referral services in Zambia

[4] GloboCan, 2012, available at: http://globocan.iarc.fr
[5] Gilbert Phiri, Presentation: Cancer Statistical Report 2012

- Scale up cervical cancer surgical treatment services
- Scale up radiotherapy and chemotherapy services
- Improve palliative care services for cervical cancer patients
- Use WHO tool to cost cervical cancer services
- Scale up cervical cancer surgical treatment services
- Scale up radiotherapy & chemotherapy services
- Improve palliative care services for cervical cancer patients
- Use WHO tool to cost cervical cancer services

Breast Cancer

In Zambia, breast cancer is second to cervical cancer in incidence rates among women (22.4 per 100,000). It is estimated that breast cancer in Zambia kills approximately 400 women each year (Globocan, 2012). According to data from CDH, breast cancer cases make up 9% of all cases seen at CDH and yet the 2-year survival rate among women treated at CDH remains below 50% due to late stage at diagnosis. At present, there are few programs in developing countries that have targeted breast cancer. Yet screening and surgical treatment – along with general prevention efforts – can be implemented commensurate with the scale-up of capacity for laboratory diagnostics and surgical, chemotherapy, and radiotherapy capacity. Introduction of community breast self-awareness and encouraging women to seek out care when symptoms or signs are initially detected is critical to improving treatment survival rates in the country. Zambia should scale up early diagnosis activities with breast ultrasound and ultrasound-guided core biopsies. To facilitate breast screening and early diagnosis, the Zambian government has installed ten analogue mammography units. These should be converted into digital units to allow for central reporting.

Main Objective:

To expand access to breast cancer awareness, prevention, early detection, treatment and care to reduce mortality by 25% by 2025

Specific Objective:

- Increase awareness of breast cancer in the community to 30% by 2016
- Scale-up of breast cancer screening and early detection to 30 districts by 2016
- To expand access to breast cancer treatment and care in Zambia to three provinces by 2016

Key Strategies:

- Strengthen and support community awareness programs to educate women and health workers on breast cancer risk factors, breast self-awareness, early detection, and its treatment
- Upgrade and increase coverage of mammography services in Zambia
- Increase awareness and encourage breast self-awareness
- Use available personnel to train other staff members on clinical breast exam, pathology, radiology, and core biopsies.
- Improve referral system
- Strengthen capacity for management of breast cancer in Zambia

Prostate Cancer

Zambia is estimated to have a slightly above average incidence of prostate cancer, but has one of the world's highest estimated mortality rates from prostate cancer.[6] Zambia's incidence and mortality rates from prostate cancer are at 21.9 and 18.2 per 100,000 men respectively.[7] Prostate cancer is the most common cancer seen amongst men at Cancer Disease Hospital (CDH 2013 annual report) in Lusaka, representing 5% of all cancers seen there.[8] The average age of a man diagnosed with prostate cancer at CDH is 71 years of age.

Main Objective:

To expand access to prostate cancer awareness, prevention, early detection, treatment and care to reduce mortality by 25% by 2025

Specific Objectives:

- Increase public awareness of prostate cancer signs and symptoms to 20% by 2016
- Improve quality and coverage of early diagnosis to 20 districts by 2016
- Increase coverage of treatment services for prostate cancer to three provinces by 2016

Key Strategies:

- Increase community awareness of prostate cancer
- Develop a strategy for early diagnosis of prostate cancer
- Strengthen treatment services for prostate cancer

[6] GloboCan, *Prostate Cancer Factsheet*, available at: http://globocan.iarc.fr
[7] GloboCan 2012, available at: http://globocan.iarc.fr
[8] CDH 2012 annual report

Retinoblastoma

Retinoblastoma is the most frequent intraocular malignancy during childhood. In developing countries in Africa and Asia, retinoblastoma is the second and third commonest tumour. In Zambia, Nigeria, Malawi, Kenya, Tanzania and India, retinoblastoma is the most common eye tumour and is one of the five most frequent childhood malignancies. Data from the ZNCR shows that paediatric cancers comprise 6% of cases out of the total number of cancers diagnosed. Retinoblastoma has been reported to be the second and third commonest tumor in children in Zambia in two retrospective reviews conducted in 1980-1992 and 2008-2010 respectively (ZNCR). Retinoblastoma was the third commonest childhood cancer seen at the Paediatric Haemato-oncology Unit in UTH in 2011 and 2012.

Despite retinoblastoma being highly curable in developed countries, a higher mortality is seen in developing countries where most of the affected children live. Between 40–70% of children with retinoblastoma in Asia and Africa die, compared with 3–5% in Europe, Canada, and the USA.

Since retinoblastoma is one of the most common paediatric cancers in Zambia, and given the potential for early detection and high curative rates if diagnosed early, it is prudent that activities for early detection of retinoblastoma be included in the NCCSP.

Main Objective:

To expand access to retinoblastoma awareness, prevention, early detection, treatment and care to reduce mortality by 25% by 2025

Specific Objectives:

- To develop and establish early recognition and clinical diagnosis of retinoblastoma to 30 districts by 2016
- Develop and implement referral system for retinoblastoma at all levels in the above districts by 2016
- To develop and establish efficient and effective multi-disciplinary management of retinoblastoma at secondary and tertiary levels in the above districts by 2016

Key Strategies:

- Encourage early detection of retinoblastoma by increasing awareness of and conducting advocacy programmes for early recognition and diagnosis of retinoblastoma at the community level
- To integrate screening for retinoblastoma into existing newborn, under-5 schedules and community programs
- Build capacity to confirm the clinical diagnosis and treatment of retinoblastoma

Palliative Care

Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual (WHO 2002).

Palliative care services are provided at a few public hospitals. However, in the community, provision of palliative care services through the public sector is very underdeveloped and almost nonexistent. Most palliative care services at community level are provided mainly through the voluntary sector. The closure of most hospices in Zambia due to inadequate funding negatively affected the provision of palliative care at community level. Palliative care therefore needs to be brought closer to cancer patients and their families through institutionalisation at MoH.

Main Objective:

To initiate development of an effective palliative care service at all levels of the health care system country wide by 2016

Key Strategies:

- Advocate for palliative care and support for cancer patients
- Raise awareness about availability and appropriateness of services and how to access them
- Complete and implement the National Palliative Care Strategic Framework (NPCSF)
- Create establishment for palliative care at MoH and at all levels
- Train CDOs, CHWs, and other health care providers in palliative care
- Make all components of palliative care available, affordable, and accessible at all levels
- Establish and improve hospice care

Human Resources

Human resources are key in the control of cancer in any country. Well-trained and an adequate number of personnel is an important component of ensuring that adequate screening and early diagnosis is done with appropriate treatment for the cancer. The first step that needs to be taken in the control of cancer is planning for the human resources required with appropriate training to manage and control cancer in the country, province, district, or community. Human resources in cancer care should be looked at as a continuum from community to specialised level of care.

Main Objective:

Increase number of employed and equitably distributed health workforce with appropriate skills mix for cancer prevention and control services in Zambia by 2016

Key Strategies:

- Advocate for creation and funding of posts for cancer management
- Train healthcare workers at all levels to provide services in cancer awareness, prevention, early detection, treatment, and care
- Strengthen pathology services and establish tumor board, multidisciplinary care, and treatment teams at the central and selected regional levels
- Provide psychosocial support to staff working with cancer patients

Drugs and Medical Supplies

Over the past years, availability of cancer drugs in Zambia has improved. This was largely attributed to the major efforts undertaken to strengthen the drugs and logistics systems, structures, and capacities at all levels. This included the establishment of a cancer drug budget line and introduction of a framework contract for some cancer drugs.

Despite these improvements, there are still a number of challenges in this area. These include the fact that funding for drugs and medical supplies is insufficient, and that cancer treatment requires specific types of drugs and supplies, which are not always prioritized. The focus will therefore be ensuring the availability and distribution of cancer drugs and medical supplies for diagnosis and management of cancers.

Main Objective:

To ensure availability of adequate, quality, efficacious, safe and affordable essential cancer drugs and medical supplies at all levels of service delivery, through efficient and effective procurement, and logistics management by 2016

Key Strategies:

- Strengthen systems and procedures for selection of cancer diagnostic and treatment products.
- Review and update the essential cancer drugs and medical supplies lists
- Improve planning and forecasting for essential cancer drugs and medical supplies
- Develop comprehensive annual commodities projections and procurement plans for essential medicines and medical supplies
- Strengthen systems for procurement of essential cancer drugs and supplies, e.g. framework contracts
- Ensure access to affordable essential cancer drugs and consistent supply of quality medicines

Infrastructure, Medical Equipment & Transport

The policy objective for Zambia, in respect to health infrastructure, medical equipment, transport, and communication, is to ensure that the whole population has access to health facilities within a 5-kilometer radius. However, due to financial constraints, meeting this objective has remained a major challenge, particularly for the rural areas. There are several challenges associated with these services, including inequitable distribution, inappropriateness of some facilities (particularly for cancer services), and poor maintenance of existing infrastructure.

Main Objective:

To ensure availability of quality infrastructure, medical equipment, transport and communication for cancer services by 2016 at all levels

Key Strategies:

- Develop a Capital Investment Plan (CIP) for transport and equipment, including public-private partnerships to support provision of cancer care services
- Establish an electronic system to improve connectivity among established cancer units in the country to improve the quality of cancer care services
- Decentralise cancer treatment to provincial level

Health Information

A number of achievements have been made in strengthening cancer surveillance and information. These include the revamping of ZNCR and its transformation from a hospital-based to a population-based cancer registry. The challenges include the weaknesses in the coordination and harmonisation of information/data from different partners, as well as the lack of functional integration of the facility-based HMIS surveillance with the ZNCR. The current HMIS is limited in the way it captures cancer information.

The focus will be on further strengthening of cancer surveillance and information to form a strong evidence base for effective planning, monitoring, and evaluation of the cancer programme. In this respect, surveillance and reporting on cancer, including making cancer a notifiable disease by law and linking ZNCR to the death registration office, will ensure availability of high-quality information in a cost-effective manner. In order to improve cancer case reporting completeness and quality, active cancer surveillance and reporting will first be strengthened in the Lukasa district and then rolled out to another district.

Main Objective:

To ensure the collection, collation, analysis and use of relevant, accurate, timely and accessible cancer related data, to support the planning, coordination, monitoring and evaluation of cancer services at all levels by 2016

Key Strategies:

- Integrate the collation of cancer information into the routine HMIS
- Further improve the usage of the cancer-related information to support the programming of cancer services
- Strengthen the population-based cancer registry in Lusaka District through detailed work plans for routine active case finding at health facilities and through death surveillance
- Strengthen staff training and capacity building at district, hospital, and provincial levels in the collection, management, and coding of cancer data
- Create establishment and employ staff for ZNCR to include national, provincial, and district positions
- Advocate for information sharing at national and international level

Health Care Financing

Generally, the total funding to the health sector has continued to be inadequate and far below the required levels. This is despite the significant and consistent increases in funding recorded over the past five years, from both domestic and international sources. The major concern is that both internal and external funding to health has mainly been directed at combating priority communicable diseases, particularly HIV and AIDS, malaria, TB, and STIs. While there has been an effort by Government to avail direct funding for cancer services and drugs, it is still inadequate.

Efforts will be made towards significantly increasing funding for cancer at all the levels of care. This will be achieved through prioritisation of cancer, increasing Government funding to the sector, encouraging private sector participation, including for- and not-for profit initiatives, PPPs, introducing Social Health Insurance (SHI), and strengthening health insurance. Efforts will also be intensified towards engaging the international community to prioritise and scale up support for cancer and strengthening the coordination and harmonisation of such support for higher impact. Significant efforts will also be made in strengthening financial management systems and capacities in order to ensure high standards of transparency and accountability.

Main Objective:

To mobilize adequate financial resources, and ensure efficient and effective utilization to support provision of cancer services at all levels all the time

Key Strategies:

- Ensure that cost framework of NCCSP is funded
- Advocate for funding for cancer prevention programmes
- Ensure inclusion of cancer care activities in health sector financing technical working group
- Advocate for speeding up of the approval process for Social Health Insurance and inclusion of coverage for cancer diagnosis and treatment in the Social Health Insurance scheme
- Increase awareness of availability of PPP

Leadership & Governance

Since 1991, Zambia has been implementing comprehensive and wide-ranging health sector reforms. These are aimed at strengthening the governance of the health sector to achieve the stated goal of improving the health status of the people of Zambia. The Government of Zambia has continued to provide appropriate leadership in the implementation of these reforms and the overall governance of the health sector. However, there are still significant weaknesses and gaps in the cancer policy, regulatory, institutional and organizational frameworks, partnerships, and monitoring and evaluation frameworks, which have all contributed to the weak national response to cancer.

The health sector will focus on strengthening the leadership and governance systems and structures for cancer control by creating the National Cancer Institute of Zambia through an Act of Parliament. Efforts will be directed at ensuring prioritisation of cancer in the national health policy and strategic framework by strengthening policy and legislation aimed at promoting cancer surveillance, prevention, diagnosis, treatment, care, and support. Once created, the National Cancer Institute of Zambia (NCIZ) shall anchor on the five pillars of cancer control: (1) cancer prevention and registration, (2) early diagnosis and treatment, (3) palliative care, (4) training, and (5) research. By doing so, the NCIZ will oversee guidelines and framework implementation for cancer activities on behalf of MoH.

Cancer surveillance information and research will enhance evidence-based planning and stakeholder participation and further form a basis for monitoring and evaluation. Furthermore, promoting the use of cancer surveillance information will increase the quality of data collected.

Main Objective:

To start implementing an efficient and effective decentralised system of governance, of cancer programs to ensure high standards of efficiency, transparency and accountability at all levels of the health sector by 2021

Key Strategies:

- Ensure that cancer services are prioritised in the review of health care packages, health legislation, policies, and strategies
- Strengthen leadership, management, and governance systems and structures to enhance transparency and accountability at all levels
- Strengthen governance and leadership systems to promote transparency, accountability and access to information
- Establishment of inter-ministerial committee on the control of cancer to address cross-cutting issues

COORDINATION AND CANCER PREVENTION AND CONTROL

Coordination

As cancer care and control requires a broad array of different health specialties, it is critical that there be a strong organisational structure coordinating and monitoring the activities undertaken in this NCCSP. The ultimate responsibility for ensuring the ongoing development of Zambia's response to all cancers should be carefully and adequately managed by all stakeholders and spearheaded by MoH.

Prevention

Cancer prevention and control requires a systematic approach to reduce the burden of the disease. Cancers are particularly challenging because prevention efforts often require significant lifestyle changes, screening can be complex, time-consuming, and resource-intensive. Treatment of cancers of all types is difficult even in resource-rich environments. Genetic factors can also play a significant role in whether a person is likely to develop cancer and their response to treatment. However, there are effective cancer prevention measures that can be implemented for primary cancer prevention (such as HPV and HBV vaccinations), and secondary prevention (VIA for cervical cancer screening). Other primary cancer prevention approaches include tobacco and alcohol control legislation and programs, reducing physical inactivity and obesity, and dietary changes.

IMPLEMENTATION FRAMEWORK

This NCCSP is a set of planned interrelated activities aimed at achieving the defined objectives by producing specified outputs. The table below summarizes objectives, key strategies and interventions that will lead to achievement of outcomes set in this plan

Objectives	Key Strategies	Interventions	Timeframe							Cost
1. Service Delivery			15	16	17	18	19	20	21	
a) Cervical Cancer										
1. To establish and scale up HPV vaccination	Increase awareness of cervical cancer	Develop a cervical cancer control communication strategy and participate in commemoration days and community awareness programmes	X	X						251,084
	Implement national level mHealth for cervical cancer programme (mCervical Cancer)	Implement national level mHealth for cervical cancer programme (mCervical Cancer)	X	X	X	X				4,250,000
	Completion of HPV vaccination demonstration programme end of 2015.	Carry out three facility based HPV vaccination campaigns in the demonstration districts in Kafue, Lusaka, and Chongwe	X							262,500
		Conduct coverage survey of HPV vaccination	X							-
	Integrate the HPV vaccination into the national immunisation programme by 2016	Re-design the national immunisation programme to include HPV vaccination		X						84,436
		Apply to Gavi for national introduction of HPV vaccination.		X						6,887
		Retrain existing nurses in the under-5 clinics by 2021		X			X			983,966
		Expand cold chain storage to ensure optimal vaccine storage conditions		X						5,000,000
		Implementation of national roll-out			X	X	X	X		216,000,000

Objectives	Key Strategies	Interventions	Timeframe							Cost
2. To expand access to cervical cancer screening and treatment of precancerous cervical lesions to strengthen referral and follow-up system of women	Scale up cervical cancer screening by establishing VIA with immediate treatment of precancerous lesions in primary health care facilities	Establish VIA plus cryotherapy/cold coagulation facilities in primary health care facilities (Districts) by end 2015	X	X	X	X	X	X	X	10,248,000
	Strengthen linkages between HIV care and treatment and cervical screening clinics in all the centres offering VCT services	Update national HIV VCT guidelines to include cervical cancer screening		X						56,618
	Develop quality improvement systems in all cervical cancer screening clinics	Establish a preventive oncology unit at CDH to provide technical support on screening programmes in the provinces and districts with internet connectivity	X							56,800
	Strengthen telemedicine/website consultation in cervical cancer screening clinics with internet facilities	Procurement of equipment for telemedicine connectivity		X						52,099,485
	Strengthen the referral system for women with complex pre-cervical cancer lesions needing further management.	Train gynaecologists in the provision of LEEP services		X			X			135,980
3. To expand access to cervical cancer treatment services in Zambia	Strengthen cervical cancer early diagnosis and referral services in Zambia	Train pathology technicians in district and provincial hospitals to process small biopsy tissues to make them ready for referral to interpretation centres either in block form via courier or stained slides via internet		X			X			1,260,454

Objectives	Key Strategies	Interventions	Timeframe							Cost
	Scale up cervical cancer surgical treatment services	Train gynaecologists at secondary and tertiary institutions to improve their skills in cervical cancer surgery		X				X		135,980
		Provide long-term training for 4 gynaecologists in gynaecologic oncology		X	X	X	X	X	X	3,200,000
		Establish local training program for gynaecologic oncologists					X			392,940
	Scale up radiotherapy and chemotherapy services	Establish local training program for clinical and radiation oncologists, RTTs, Medical Physicists, oncology nurses and oncology pharmacists	X	X	X	X				392,940
		Set up radiotherapy and chemotherapy units in each province	X	X	X	X	X			600,000,000
b) Breast Cancer										
1. Increase awareness of breast cancer in the community	Strengthen community awareness programmes to educate women and health workers on breast cancer risk factors and its treatment	Complete NCD and cancer communication strategy		X						76,084
		Train doctors, clinical officers, nurses, district community development officers, community health assistants and community health workers in districts on breast cancer risk reduction that can help increase awareness of the risk factors of breast cancer	X	X	X	X	X	X	X	8,813,220
		Engage partners to support community education on the early symptoms of breast cancer		X						57,250

Objectives	Key Strategies	Interventions	Timeframe							Cost
		Develop packages with information on breast cancer to train community leaders on breast cancer awareness and early detection		X			X			327,780
	Establishment of inter-ministerial committee on the control of NCDs	Secretary to the cabinet for appointment of committee	X							488,100
2. Scale-up of breast cancer screening and early detection	Improve quality and coverage of mammography services in Zambia	Upgrade existing mammography machines to digital		X						3,500,000
		Purchase more mammography units, ultrasound units, biopsy gun needles, and laboratory supplies and equipment				X				86,920,000
		Lobby government to make mammography screening more accessible		X						-
	Use available personnel to train other staff members on clinical breast exam, pathology technicians, radiology, and core biopsies	Training package for clinical breast exam for nurses and doctors, training package for pathology technicians, and training package for nurses, clinical officers and doctors in breast ultrasound and core biopsies		X			X			655,560
	Improve referral system	Set up an electronic referral system for specimens, processed slides, and patients		X						6,540,000

Objectives	Key Strategies	Interventions	Timeframe							Cost
3. Improve breast cancer treatment services	Strengthen capacity for management of breast cancer in Zambia	Develop curriculum and training modules for professionals involved with breast cancer treatment to upgrade the skills of existing surgeons in breast cancer surgery		X			X			203,970
		Identify 4 surgeons to train in surgical oncology abroad Localise the training of surgical oncologists in Zambia		X	X	X	X	X	X	3,200,000
		Engage training facilities in Zambia to train more nurses, anaesthetists, and surgical and clinical oncologists		X						4,180
		Equip newly upgraded institutions with theatre equipment to perform breast surgery					X			13,312,000
		Set up multi-disciplinary cancer teams in second and third level hospitals		X			X			666,880
	Improve palliative care services for breast cancer patients	Establish Palliative care training package for all levels of health care		X						392,940
		Identify and train health care workers in palliative care		X				X		1,164,720
		Train more pharmacists to constitute oral morphine and in supply chain		X		X		X		1,164,720

Objectives	Key Strategies	Interventions	Timeframe							Cost
C. Prostate Cancer										
1. Increase public awareness of prostate cancer signs and symptoms	Increase community awareness on prostate cancer	Develop training materials on prostate cancer for use with community health workers			X				X	392,940
2. Improve quality and coverage of early diagnosis and treatment services for prostate cancer	Develop a strategy for early diagnosis of prostate cancer	Procure and make available PSA testing from health centre upward	X	X	X	X	X	X	X	11,648,000
		Train doctors at district and provincial level on prostrate ultrasound, digital rectal examination, and prostate core biopsy		X			X			655,560
		Procure transrectal ultrasound and prostate biopsy guns and needles		X						2,630,400
		Produce guidelines for periodic PSA testing of males above 45 years (5 yearly age 45-55, 3 yearly from 55-70; optional above 70). Need to generate local evidence		X				X		198,810
	Strengthen treatment services for prostate cancer	Identify 4 urologists to train as uro-oncologists		X						3,200,000
		Upgrade district and provincial laboratories in order to strengthen pathology and patient referral system and access to treatment facilities			X		X			15,000,000
		Develop treatment protocols in order to diversify to treatment options for prostate cancer		X						48,810

Objectives	Key Strategies	Interventions	Timeframe							Cost
d) Retinoblastoma										
1. Strengthen preliminary clinical diagnosis of retinoblastoma from community to district hospital	Prevent late presentation of retinoblastoma by increasing awareness and conducting advocacy programmes for retinoblastoma	Educate leaders (traditional and political), health care workers, community development officers, and communities on retinoblastoma			X					1,924,830
		Produce and disseminate IEC materials on retinoblastoma into communities		X						317,340
2. Strengthen referral services retinoblastoma to district hospital and refer cases to secondary and tertiary services	Integrate screening for retinoblastoma into existing immunisation and under-5 schedules	Develop screening and diagnosis guidelines for communities to enable early detection of retinoblastoma at community, health posts, health centres, and district hospitals			X			X		285,980
		Train community health workers and community development officers to screen infants and children using cameras to enable early detection of retinoblastoma in the community and health posts		X		X		X		1,796,520
		Develop, print, and disseminate guidelines for the training of health care providers at health centres and district hospitals in screening infants and children with ophthalmoscope/camera for early diagnosis of retinoblastoma		X						317,340

Objectives	Key Strategies	Interventions	Timeframe							Cost
3. Enable prompt, appropriate, and effective multi-disciplinary management of retinoblastoma at secondary and tertiary level.	Build capacity to confirm the clinical diagnosis and treatment of retinoblastoma	Set up treatment unit for retinoblastoma in all second and third level hospitals			X			X		60,000,000
		Develop and implement palliative guidelines for all levels of health service delivery			X					392,940
		Train ophthalmologists to have skills in retinoblastoma surgery and treatment at second and third level institutions								203,970
e) Palliative care										
Develop an effective palliative care service at all levels of the health care system country-wide by 2021	Advocacy and awareness creation	Advocate for palliative care and support for cancer patients								
		Raise awareness about availability and appropriateness of services and how to access them								
	Mainstreaming and institutionalisation of palliative care services	Complete and implement the National Palliative Care Strategic Framework (NPCSF)								251,084
		Create establishment for palliative care at MoH and at all levels								231,084
		Train CDOs, CHWs, and other health care providers in palliative care								983,966
		Make all components of palliative care available, affordable, and accessible at all levels								
		Establish and improve hospice care								

Objectives	Key Strategies	Interventions	Timeframe							Cost
2. Human Resources										
Increase HR capacity of oncology services in Zambia	Increase the number of health care workers for cancer care services	Develop training packages for skills upgrade for health care workers in cancer care services at all levels		X						392,940
		Establish CDH Training College to support the local training of cancer health care workers		X						2,392,940
		Review existing establishment to increase the numbers of health workers in cancer care units		X						392,940
		Train at least 4 gynaecologic oncologists, 4 surgical oncologists, 4 uro-oncologists, 2 ophthalmologists, and 4 paediatric oncologists by end of 2019		X	X	X	X	X	X	4,800,000
		Develop in-service gynaecological, urological, paediatric, ophthalmological, and surgical oncology training by end of 2015								
		Develop collaborations with renowned cancer centres for short oncology courses	X	X	X	X	X	X	X	727,040
		Train personnel on clinical breast exam, pathology, radiology, and core biopsies		X			X			
		Source scholarships for the local training of clinical oncologists and radiation therapy technologists	X	x	x	x	x	x	x	3,200,000
		Strengthen capacity for management and maintenance of medical equipment through training of biomedical engineering personnel		X						9,000,000

Objectives	Key Strategies	Interventions	Timeframe							Cost
3. Medical Products and Infrastructure										
a) Drugs and Medical Supplies										
Ensure availability of adequate, quality, efficacious, safe, and affordable essential cancer medicines and medical supplies at all levels of service delivery, through efficient and effective procurement and logistics management	Strengthen systems and procedures for selection of cancer products	National quantification of cancer drugs and commodities for all levels of health care		X						221,880
		Train pharmacists, doctors, and nurses in reconstitution and administration of cytotoxic drugs		X	X	X	X	X		2,994,200
	Review and update the essential cancer drugs and medical supplies lists	Regular (annual) development of comprehensive commodities projections (development of rolling midterm procurement plans for all commodities)		X			X			
	Improve planning and forecasting for essential cancer drugs and medical supplies, develop comprehensive annual commodities projections, and procurement plans for essential medicines and medical supplies	Capacity-building for quantification and forecasting of essential commodities			X			X		130,980
	Strengthen systems for procurement of essential cancer medicines and supplies	Develop framework contracts for cancer commodities		X				X		130,980
		Develop e-pharmacy for cancer commodities			X					6,540,000

Objectives	Key Strategies	Interventions	Timeframe							Cost
b) Infrastructure										
Ensure optimal availability, appropriateness, distribution, and conditions of essential infrastructure for cancer services, in order to facilitate equity of access to essential cancer care services.	Capital investment planning for cancer infrastructure	Establish smaller cancer centre units in all the provinces for improved access to cancer care services	X	X	X	X	X	X	X	
		Study and revise the designs of health facilities at different levels to address current concerns, e.g. appropriateness and location of cancer prevention, screening, and early diagnosis and treatment services			X					180,000
		Promote private sector participation, including PPPs			X					4,180
		Maintenance and rehabilitation of cancer units at all levels		X	X	X	X	X	X	50,000,000
c) Medical Equipment, Transport and Communication										
Significantly improve on the availability and condition of essential medical equipment, transport, and communication, in order to facilitate efficient and effective delivery of cancer care services.	Develop a Capital Investment Plan (CIP) for transport, and equipment to support provision of cancer care services	Develop cancer equipment list by level of care		X	X					261,960
		Procurement of vehicles and communication equipment			X					13,800,000
	Establish a system to improve connectivity among all cancer units in the country to improve the quality of cancer care services	Create LAN in cancer health facilities to allow for connectivity		X	X					6,540,000
		Establish electronic/digital communication among all cancer care units		X	X					208,000,000
		Include cancer care activities in the ICT's standards and procedures manual			X					130,980
		Procure cancer medical equipment for all levels			X		X		X	640,000,000

Objectives	Key Strategies	Interventions	Timeframe							Cost
4. Health Information										
Ensure availability of relevant, accurate, timely, and accessible cancer related data, to support the planning, coordination, monitoring and evaluation of cancer services	Integrate the collection and collation of Cancer information into the routine HMIS	Create linkages between HMIS and national cancer registry to facilitate sharing of information		X						107,980
	Further improve the usage of the cancer related information to support the programming of cancer services	Include cancer issues in joint annual reviews and sector advisory group meetings	X	X	X	X	X	X	X	
	Strengthen a population-based cancer registry	Monthly visitation of all data sources within Lusaka district and roll out to other regions of Zambia	X	X	X	X	X	X	X	4,289,040
	Modify the SmartCare system to capture the cancer-related data	Hold meetings to modify and implement the SmartCare system to capture cancer-related data	X	X						261,960
	Strengthen staff training and capacity building at district, hospital and provincial levels in the collected cancer data	Train all information officers in collection of cancer information		X			X			1,197,680
	Create establishment for ZNCR under MoH	Establish positions at National, Provincial, and District level for ZNCR		X	X	X				13,215,960

Objectives	Key Strategies	Interventions	Timeframe							Cost
5. Health Care Financing										
Mobilise adequate financial resources and ensure efficient and effective utilisation to support provision of cancer services	Develop a financing framework to support provision of cancer care services.	Develop a financial sustainability plan for cancer services		X						130,980
		Develop proposals to mobilise funds from cooperating partners		X						203,970
		Encourage private sector participation in the provision of cancer services			X					4,180
		Advocate for improved budgetary allocation for cancer commodities and services		X	X	X	X	X	X	
		Establish mechanisms for tracking resources expended on cancer-related services.		X	X	X	X	X	X	2,934,400

Objectives	Key Strategies	Interventions	Timeframe							Cost
6. Leadership and Governance										
Implement an efficient and effective decentralised system of governance of cancer programmes to ensure high standards of efficiency, transparency, and accountability at all levels of the health sector.	Ensure that cancer services are taken on board in the review of health care package, health legislation, policies, and strategies Strengthening leadership, management, and governance systems and structures, to enhance transparency and accountability at all levels	Create cancer focal point person at MoH to coordinate cancer-related activities		X						600,000
		Build capacity in management and leadership skills at all levels of cancer care			X	X	X	X		1,080,320
		Create an inter-ministerial committee for cancer services	X				X			2,400,000
		Develop an act to create the NCIZ								203,970
Total										**K1,982,878,514.00**

COST ANALYSIS

The overall objective of the cost and financing section is to generate information on cost/budget need and projected financing inflow that is needed for the implementation of the plan, and to present the financial cost not only in total, but also by year, strategic area, and output.

The first principle in arriving at the cost presented below is the rapid assessment approach, which uses both secondary data and key informants' opinions, makes assumptions based on investigators' experiences, and generates approximate estimates on the financing need. Usually, a detailed, systematic, and system-wide cost and financing study will need a period of six months. Given the urgent need of the cost and financing information for the plan, the rapid assessment was deemed to be the most appropriate method to deliver quick results.

The second principle is that the estimation of the financing need is based on outputs. This principle requires that the outputs/activities be well specified. Upon review of the draft documents, it was found that some activities are still not specific enough for the investigator to estimate their cost. The initial task was to reword the activities to make them quantifiable and therefore costable.

In this plan, each objective for each priority area was developed further and linked key strategies for which activities were developed. The frequency of each activity was then determined, followed by the cost of each activity.

The work for reviewing and revising the outputs were intensive. The investigators reviewed every interventions for each strategic area of the plan, and revised them into more specific outputs that were consistent with the existing objectives of the plan. Revisions of the outputs resulted in the need for further revision of the plan, namely replacing the existing interventions with the revised intervention for each of the strategic areas. The drafters of the plan also looked for the risk of double counting. For example, training of oncology experts was found both at health service delivery building block and under the human resource section. Care was taken to ensure that each intervention was costed only once.

NCCSP Cost Summary Year 1

1. Service Delivery	ZM
a) Cervical Cancer	
1. Develop costing tool	
2. To establish and scale up HPV vaccination	226,838,873.00
3. To expand access to cervical cancer screening and treatment of precancerous cervical lesions to strengthen referral and follow-up system of women 4. To expand access to cervical cancer treatment services in Zambia	667,979,197.00
b) Breast Cancer	20,109,410.00
1. Increase awareness of breast cancer in the community	
2. Scale-up of breast cancer screening and early detection.	
3. Improve breast cancer treatment services	
c) Prostate Cancer	33,774,520.00
1. Increase public awareness of prostate cancer signs and symptoms	
2. Improve quality and coverage of early diagnosis and treatment services for prostate cancer	
d) Retinoblastoma	65,238,920.00
1. To strengthen preliminary clinical diagnosis of retinoblastoma from community to district hospitals	
2. Strengthen referral services of retinoblastoma to district hospital and refer cases to secondary and tertiary services	
3. To enable prompt, appropriate, and effective multi-disciplinary management of retinoblastoma at secondary and tertiary level	
e) Palliative Care	1,466,134.00
1. Advocacy and awareness creation	
2. Mainstreaming and institutionalisation of palliative care services	
2. Human Resources	11,905,860.00
3. Medical Products and Drugs	10,018,040.00
4. Infrastructure	50,184,180.00
5. Health Information	19,072,620.00
6. Health Care Financing	3,273,530.00
7. Leadership and Governance	4,284,290,00
Grand Total	**ZMW 1,982,878,514.00**

The results from the costing exercise show that the total financing need for implementing the 2-year plan is **ZMW 1,982,878,514.00.** The strategic areas that require the implementation of this plan are included covering service delivery, human resources, medicines and supplies, infrastructure, equipment, health information, and health care financing. To complete the financing picture, there is need to make revenue estimates from different sources and thereby calculate the financing gap.