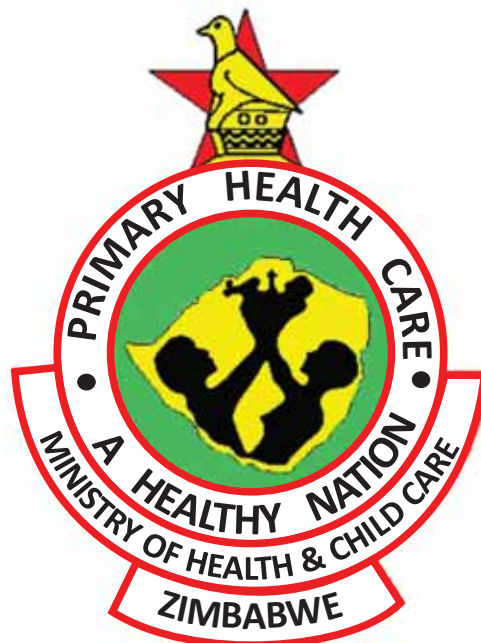




ZIMBABWE

Ministry of Health and Child Welfare
**National Cancer Prevention and Control
Strategy for Zimbabwe**



2014 - 2018

The
Epidemiology & Disease Control
NON COMMUNICABLE DISEASES UNIT



The design and production of the National Cancer Strategy was sponsored by Savanna Pharmacies in partnership with the following retail pharmacies





National Cancer Prevention and Control
Strategy for Zimbabwe
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FOREWORD

Cancer is a disease that affects large numbers of people from all walks of life. Diagnosis of cancer induces fear both in the individual and in families, and is frequently viewed as a death sentence. Its prevention, diagnosis and treatment poses great challenges particularly in resource constrained environments. There is reason for optimism however, as research indicates possibilities for major strides in its prevention and cure. There have been major improvements in the diagnosis and treatment of cancer, particularly in high income countries. However, adoption of new technologies in cancer diagnosis and treatment will place substantial and diverse pressure on the already overburdened and underfunded health delivery system, and therefore requires careful planning and resource mobilisation.

Currently, over 5000 new cancer cases are diagnosed (all types) in Zimbabwe annually. Experience has, however, shown us that this is just the tip of the iceberg as many cancers are not captured by the routine National Health Information System because the patients do not present for treatment, or some deaths are not registered. Of those who do report, the majority are already at an advanced stage of disease, due to limited access to screening services. The current cancer treatment and palliation services are unable to meet the existing demand. Additionally, and despite great progress in reducing HIV prevalence in recent years, Zimbabwe remains one of the countries most heavily burdened with HIV with an adult prevalence of 15%. The large number of people living with HIV results in an even higher number of people who will develop cancer in Zimbabwe. Meeting this increased demand and ensuring sufficient quality of services will require early and sustained decisions on investment, human resource planning and the re-organisation of health care services.

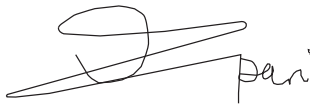
To address the rising cancer burden, this first National Cancer Prevention and Control Strategy is aligned with the priorities highlighted in the National Health Strategy 2009-2013 and advocates for a comprehensive cancer control policy and programme. Cancer prevention and control requires a population-wide, integrated and cohesive approach to cancer that encompasses prevention, screening, diagnosis, treatment and support, palliative and rehabilitative care. This calls for strong political, technical, and practical leadership as well as significant investment in terms of infrastructure and equipment, human resources, technologies, medicines and vaccines. Appropriate investment will ensure that patients accessing health care services in Zimbabwe are assured of their right to receive quality treatment and care regardless of who and where they are.

This Strategy therefore focuses on reform and re-organisation of the way cancer services are delivered in Zimbabwe, in order to ensure that future services are consistent and associated with good clinical outcomes for all cancer patients and quality care for the patients and their caregivers. It is envisaged that this will address the current finding of low cancer survival rates and fragmentation of services for cancer patients which are of major concern to the Ministry. While cancer survival

rates have been noted to vary by type of cancer, the major cause of these low survival rates has been identified as lack of access to early detection and early treatment. The strategy therefore seeks to address some of these anomalies.

The Strategy will also seek to ensure that cancer prevention and care across the whole country is equitable and of the highest possible standard, through the establishment of a National Cancer Forum whose mandate will be to monitor performance of the national cancer prevention and control programme and advise the Minister of Health and Child Care accordingly.

I wish to thank the National Cancer Prevention and Control Committee for their hard work and the efforts expended in developing this strategy. Their professional dedication is an inspiration to us all, and will help lead us forward to our goal of a healthy nation.

A handwritten signature in black ink, appearing to read 'Pari' with a stylized flourish above it.

Dr P.D Parirenyatwa (MP)
Minister of Health and Child Care

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Acknowledgements

The development of this Strategy was led by the National Cancer Prevention and Control Strategy Committee. This committee was formed following the Integrated Missions Programme of Action for Cancer Therapy (imPACT mission) of the International Atomic Energy Agency (IAEA), that highlighted the National Cancer Strategy as a need of high priority to enable the setting up of a Comprehensive National Cancer Control Programme (NCCP). The commitment and diligence shown by committee members to the process of developing this Strategy is an inspiration to all. The concerted effort and team spirit shown in producing this document is commendable.

This Cancer Prevention and Control Strategy is also a result of extensive consultation with international and national cancer control stakeholders including the World Health Organisation (WHO), the United Nations Population Fund (UNFPA), Family Health International 360, Cancer Association of Zimbabwe, the National Cancer Alliance of Zimbabwe, Breast Cancer Alleviation of Zimbabwe, Hospice Association of Zimbabwe (HOSPAZ), Island Hospice Zimbabwe, Scientific and Industrial Research Development Centre (SIRDC), Radiation Protection Authority of Zimbabwe, Africa University Faculty of Health Sciences, University of Zimbabwe College of Health Sciences Departments of Radiology, Obstetrics and Gynaecology, Surgery, Pathology, Paediatrics, Medicine and Ophthalmology. The process was also very fortunate to benefit from the direct input and involvement of cancer survivors who added a human face to the Strategy.

Many thanks go to Ministry of Health and Child Care officials who were also involved and provided excellent support in the development of this Strategy. These include the Radiotherapy Centres at Parirenyatwa Group of Hospitals and Mpilo Central Hospital, the Non-Communicable Diseases Unit, Reproductive Health Unit, AIDS and TB Unit, Directorate of Pharmacy Services, the Rehabilitation Unit and the Oral Health Department. Special thanks to Mr Tonderai Kadzere, Strategy and Policy Development Officer, in the Policy and Planning Directorate for the support and guidance in the initial processes of the development of the Strategy, and for guiding its finalisation and Mr Chenjerai Sisimayi for guidance and leadership for the M&E framework development.

The Ministry is also profoundly grateful to Dr Anna Miller for editing and to Savanna Pharmaceuticals for their financial assistance towards the costs of production and launching of this Strategy.

Acronyms

CT	Computerised Tomography
CIN	Cervical Intraepithelial Neoplasia
BMI	Body Mass Index
EBRT	External Beam Radiotherapy
FCTC	Framework Convention for Tobacco Control
HIV	Human Immune Deficiency Virus
HOSPAZ	Hospice Association of Zimbabwe
HPV	Human Papilloma Virus
IARC	International Agency for Research on Cancer
IAEA	International Atomic Energy Agency
INCTR	International Network for Cancer Treatment and Research
JRMO	Junior Resident Medical Officer
KS	Kaposi Sarcoma
KIDZCAN	Children Can Survive Cancer Zimbabwe
KRA	Key Result Areas
LEEP	Loop electrosurgical excision procedure
MCAZ	Medicines Control Authority of Zimbabwe
MOHCW	Ministry of Health and Child Welfare
MRI	Magnetic Resonance Imaging
MUGA	Multiple Gated Acquisitions
NCCP	National Cancer Control Programme
NCD	Non Communicable Diseases
NTD	Neglected Tropical Diseases
OI Clinic	Opportunistic Infections clinic
PC	Palliative care
PSA	Prostatic Specific Antigen
PET	Positron Emission Tomography
RT	Radiotherapy
RTPS	Radiotherapy Treatment Planning System
SIRDC	Scientific and Industrial Research Development Centre
SPECT	Single Positron Emission Tomography
SRMO	Senior Resident Medical officer
STI	Sexually Transmitted Infections
UNFPA	United Nations Population Fund
UZ	University of Zimbabwe
UZ-UCSF	University of Zimbabwe and University of California & San Francisco collaboration
VIA	Visual Inspection with Acetic Acid
VIAC	Visual Inspection with Acetic Acid and Cervicography
VILI	Visual Inspection with Lugol's iodine
WHO	World Health Organisation
WHO AFRO	World Health Organisation Africa Regional Office
ZNCR	Zimbabwe National Cancer Registry

Executive Summary

Cancer is emerging as a major public health concern in sub-Saharan Africa and is expected to double in the next twenty years. Cervical cancer, though preventable and curable in its early stages, is the leading cause of cancer deaths in this region.

In Zimbabwe, cancer is a major cause of morbidity and mortality with over 5000 new diagnoses and over 1500 deaths per year. The number of people developing cancer is expected to increase due to HIV & AIDS and other infections, unhealthy lifestyle choices and an ageing population. Most of the common cancers in Zimbabwe are infection associated.

The Prevention and Control of Cancer Committee in Zimbabwe (PCCZ) established in 1992, oversaw the development of a ten year plan for the National Cancer Control Programme for Zimbabwe (1994-2004). However, the programme was not fully implemented, or adequately monitored and several key gaps in cancer prevention and control have been noted. Cancer Prevention and Control Programmes are grossly underfunded due to competing priorities. Coordination of the various stakeholders involved in the prevention and control of cancer services is limited, resulting in duplication, fragmentation and inequity in service provision. Despite the high prevalence of HIV associated cancers and other infection related cancers, there is no integration of HIV & AIDS, STI and cancer control programmes. There are on-going programmes training health workers in cancer prevention and control, but the numbers trained fall far short of meeting the country's requirements. In addition, there are no specialist oncology nurses, clinical haematologists or paediatric oncologists and no local training programmes for such cadres. The situation is compounded by the absence of a national cancer policy, action plan, standardised cancer management guidelines and a functional referral system. This has resulted in challenges in cancer prevention and control including late diagnosis, delay in instituting appropriate treatment and lack of standardised approaches to cancer management.

A coordinated, sustained communication programme is envisaged to complement the current existing efforts through advocacy and social mobilization to effect behaviour change. This strategy is the first for Zimbabwe, and seeks to address the gaps in cancer prevention and control described below.

Cancer Primary Prevention: Prevention is the most cost-effective intervention especially in resource constrained environments such as in Zimbabwe. Thirty to forty percent of cancers are preventable by avoiding certain known risk factors. The main factors contributing to the increasing incidence of cancer in the African region include infectious agents, increasing tobacco use, harmful alcohol use, unhealthy diets, physical inactivity and environmental factors. A comprehensive Cancer Communication strategy focusing on cancer risk factors needs to be formulated and implemented as a matter of urgency.

Cancer Early Detection: The majority of cancers present at an advanced stage when management is more costly and treatment outcomes are poorer. This is mainly due to lack of access to early detection (screening and diagnosis) compounded by human and material resource constraints and general lack of awareness. Factors resulting in delays in early detection of cancers need to be addressed to improve outcomes.

Cancer Diagnosis and Treatment: There are only two functional public health centres offering diagnostic and treatment facilities for cancer in Zimbabwe. The centres have no formal accommodation for patients seeking services. Limited availability of resources, including chemotherapy medicines, opioid analgesics and cancer control skilled manpower further compromise patient care in the country. Very limited clinical research also limits availability of local evidence to guide policy and cancer management guidelines. Although most pediatric tumours are potentially curable, there are limitations in diagnosis and treatment again leading to poor outcomes.

Cancer Palliative Care and Rehabilitation: A draft Palliative Care Policy for Zimbabwe is in place, awaiting final approval by the Ministry of Health and Child Welfare. The policy seeks to address pain management and the psycho-social and cultural needs of all people living with cancer. There is need to improve access to palliative care country-wide through essential medicine provision, training of service providers, research and integrated teamwork.

Cancer Surveillance and Research: The Zimbabwe National Cancer Registry is a population-based registry mainly for Harare. The registry provides annual reports on cancer incidence and mortality and is recognised globally. It currently provides technical support to other registries in the region. Inadequate resources (both human and financial) hamper efforts to expand the cancer registry services to all provinces, as well as limit the scope of cancer research being conducted. Unfortunately there is also sub-optimal collaboration between the relevant stakeholders involved in cancer research resulting in fragmented research efforts. These gaps need to be addressed.

The vision for this strategy is '*A cancer free Zimbabwe*' and the mission is '*to increase awareness on all cancer related issues and create an enabling environment for adoption and practice of evidence based cancer prevention, early detection, diagnosis, treatment, palliative care, rehabilitation, surveillance and research leading to reduction in cancer related morbidity and mortality*'. This will be achieved through implementation in six strategic areas addressing the key gaps, including: programme strengthening; cancer primary prevention; cancer early detection; cancer diagnosis and treatment; palliative care and rehabilitation; and cancer surveillance and research.

The key activities to be implemented under this strategy include the development of policies, plans and guidelines to standardise case identification, referral and management at various levels. Training of health workers in developed guidelines and protocols will be prioritised to address the identified skills gap. The implementation of cancer control, prevention and management by health workers will be complemented by national level awareness of communities through campaigns. Service delivery will be assessed by evidence from operations research throughout the programme cycle.

It is envisaged that these activities will lead to results which may be witnessed in the short, medium and long term as described in the accompanying monitoring and evaluation framework. Improvements in knowledge and skills in cancer prevention and management and the actual provision of these services are expected in the short term. It is hoped that this will also match the anticipated increase in utilisation of the available services due to raised awareness. Improved access to quality cancer control, prevention and management services are expected in the short to medium and long term.

Thinking Ahead:

This National Cancer Prevention and Control Strategy is the first to be developed, and will lead to the development of a cancer control policy action plan.

Planning must address the education, human resources needs, technology trends, developments and evolution of workplace roles in service delivery models.

There is need to develop a national cancer control workforce plan to support the operational planning needs for the cancer control programme.

Vision:

A Cancer Free Zimbabwe!

Mission:

Increase awareness on all cancer related issues and create an enabling environment for adoption and practice of evidence based cancer prevention, early detection, diagnosis, treatment, palliative care, rehabilitation, surveillance and research.

Part One

Context for Strategy



Zimbabwe National Cancer Strategy

1. CANCER BURDEN

1.1 Global Cancer Burden

Globally cancer is the third leading cause of death and 12 million new cancer cases and 7.6 million cancer related deaths were recorded worldwide in 2008. These figures are projected to increase to 26 million cases and 17 million deaths annually by 2030 .

The projected increase is due to:

- Growth and aging of populations
- Entrenchment of modifiable risk factors or behaviours such as unhealthy diets, physical inactivity, tobacco use and harmful use of alcohol
- Slower decline in cancers related to cancer causing infections: HIV, HPV, and HBV among others, particularly in low resource countries

Developing countries bear the heaviest burden of cancer. About 70% of all cancer deaths in 2008 occurred in low- and middle-income countries. In sub-Saharan Africa, cancer is emerging as a major public health concern. In 2008 there were 715,000 new cases and 542,000 cancer deaths. Cervical cancer is the leading cause of cancer deaths in this region. Both cancer cases and deaths are expected to double in the next twenty years.

1.2 Cancer Burden In Zimbabwe

The World Health Organization has projected an increase in cancer particularly in developing nations and Zimbabwe is not

spared. A total of 3,519 new cancer cases were recorded among Zimbabweans in 2009, comprising 1,427 (40.6%) males and 2,092 (59.4%) females.

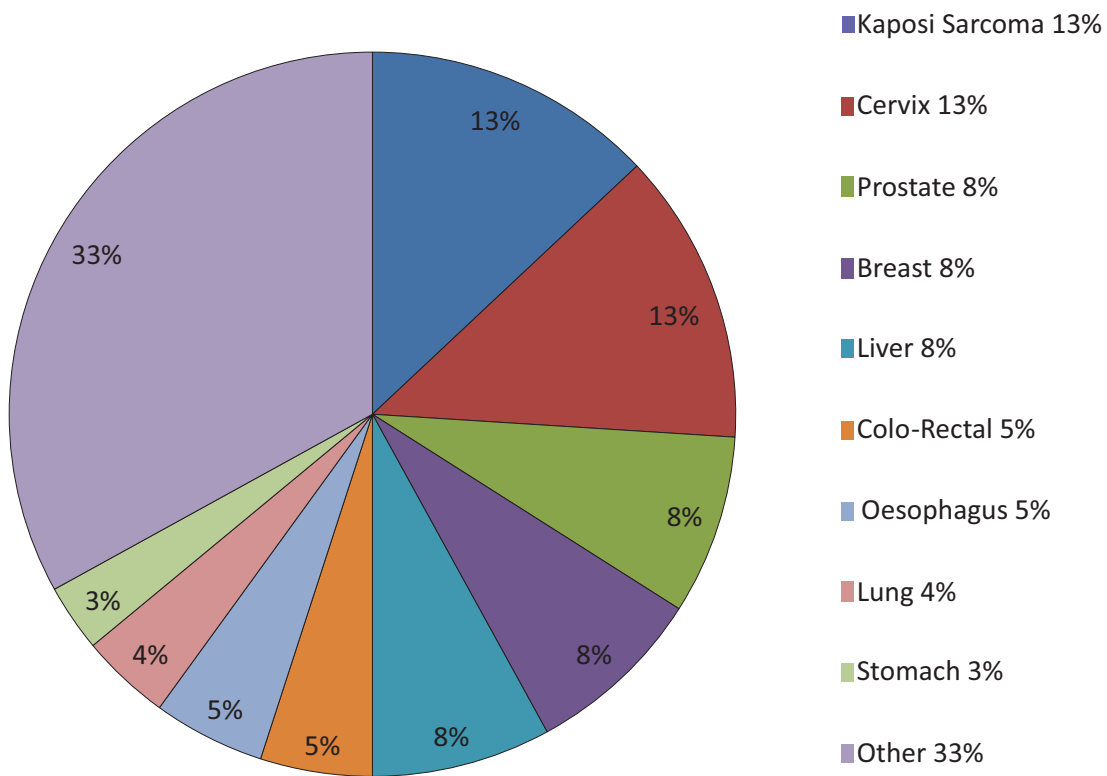
According to the Zimbabwe National Cancer Registry (ZNCR) 2009 annual report, the five leading causes of cancer among black Zimbabwean men were: Kaposi sarcoma (20.8%), prostate (13.7%), oesophagus (6.3%), non-Hodgkin's lymphoma (6.2%) and liver (5.7%). The five most common cancers among Zimbabwean black women were cervical cancer (33.5%), breast (11.7%), Kaposi sarcoma (8.9%), eye (6.5%) and non-Hodgkin lymphoma (4.9%).

In non-black men the most frequent cancer was non-melanoma skin cancer (50.7%). This was followed by prostate (10.8%), colon (6.9%), melanoma skin cancer (5.4%) and lung (4.9%). In non-black women the most common cancers were: non-melanoma skin cancer (35.4%), breast (17.7%), cervical cancer (7.4%), non-Hodgkin's lymphoma (5.1%) and colon (3.4%).

Of the 157 childhood cancers (age 0-14 years) recorded in 2009, 79 were in boys (50.3%) and 78 were in girls (49.7%). The most frequently occurring cancers in boys were Kaposi sarcoma (20.3%), retinoblastoma (16.5%), leukemia (11.4%), Wilm's tumor (10.1%) and connective and soft tissue (7.6%). The commonest cancers in girls were Wilm's tumor (21.8%), retinoblastoma (16.7%), Kaposi sarcoma (12.8%), connective and soft tissue (10.3%) and brain nervous system (3.8%). It is worth noting that most pediatric cancers are curable, especially if detected and treated early. Cancer mortality in Zimbabwe is high mainly

due to late presentation of disease, intercurrent disease including HIV and limited access to early detection and treatment services. The main causes of cancer mortality are shown in figure 1 below:

Figure 1: Mortality from specific cancers as a proportion of all cancer deaths in Zimbabwe 2009



Source: Zimbabwe National Cancer Registry, 2009

2. CANCER PROGRAMME IN ZIMBABWE

2.1 National Cancer Control Programme for Zimbabwe (NCCP)

In 1994, the Ministry of Health and Child Welfare and other stakeholders developed the National Cancer Control Action Plan for Zimbabwe (NCCP). The overall aim was to formulate, plan and implement a coordinated program for the prevention and control of cancer in Zimbabwe. However, a number of challenges and gaps related to this plan were identified, including:

- Many health professionals did not have access to the plan
- The plan was not fully implemented or adequately monitored
- It did not highlight childhood cancers and the association between cancer and HIV & AIDS

The National Health Strategy (2009 – 2013) for Zimbabwe incorporates cancer prevention and control. However, many elements of cancer prevention and control are yet to be implemented. A draft Non Communicable Diseases (NCDs) policy is also in place, but it needs to be reviewed by all relevant stakeholders and partners then operationalised.

2.2 Funding Constraints

In Zimbabwe where competition for limited funds is high, cancer has remained low on the agenda. Diseases like cholera, HIV & AIDS and malaria have been major priorities for the government and are receiving significant funding while non-communicable diseases like cancer are left with limited funding. The Cancer Prevention and Control Programme is grossly underfunded and as yet few partnerships exist to support the

programme, with the exception of screening for cancer of the cervix which is supported by partners. Lack of resources makes it difficult to attract and retain health care providers it and also results in shortages of essential chemotherapy pain control medicines, cancer diagnostic and treatment equipment. All of these factors combined increase the morbidity and mortality caused by cancer.

2.3 Integration and coordination of cancer control efforts

Cancer control services are provided by the MOHCW and partners but no mechanism is in place for coordination, resulting in fragmented service provision. Evidence is available on HIV as a risk factor for cancer. In 2005 the Zimbabwe National Cancer Registry Annual report indicated that 60% of cancers in Zimbabwe were HIV related, yet no mechanism is in place for integration of HIV and cancer control programmes. Additionally, unsafe sex promotes transmission of Human Papilloma Virus (HPV) contributing significantly to cancer of the cervix (70%) and other cancers, but again there is no integration of cancer control with the Sexually Transmitted Infections (STI) programme.

The referral system is not fully functional with inadequate skilled personnel and experts in cancer management at district, provincial and central level, resulting in centralised cancer services. It is therefore difficult for the majority of patients to access cancer services.

The Cancer Prevention and Control Committee was re-established in 2009 and has been the main body advocating for support of cancer issues. The committee started lobbying for the introduction of the HPV Vaccine in November 2009, and more partnerships are required to meet the goal of a cancer free Zimbabwe.

Although some new programmes and services may arise from the recommendations of the

comprehensive cancer control planning committee, it is not only about creating new programs and services, but also coordinating and integrating what already exists. Zimbabwe is fortunate to have many resources, workgroups and subcommittees to draw upon in moving implementation of this strategy forward.

2.4 Training

Health care professionals are the critical link in ensuring that people obtain timely cancer screening and reduce their risk of developing cancer. Currently the University of Zimbabwe offers an undergraduate programme for Radiography training and a post graduate programme on Radiation Oncology. There has been ongoing training of Radiographers at diploma level by the School of Radiography which is now an associate college of the University of Zimbabwe. The Radiotherapy Centre has been recognised for internship rotations of newly qualified doctors before deployment to the districts since 2010. Post graduate students in paediatrics do rotations in the paediatric oncology unit as part of the requirements for paediatrics training.

At the moment there are no facilities in Zimbabwe to train Nuclear Medicine personnel. The personnel currently available were trained abroad through technical co-operation programmes with the International Atomic Energy Agency (IAEA). There is also currently no training of oncology nurses, which is a critical area in the overall management of cancer.

2.5 Standard Treatment Guidelines for Cancer

In order to deliver high quality health care and support services, there should be evidence-based consensus among specialists about the management of specific cancers. Clinical guidelines outline a multi-disciplinary approach to cancer treatment and enable some uniformity in the evaluation, treatment and follow-up care of cancer patients. A more detailed approach to patient management includes the development of clinical pathways that define specific medical interventions such as doses of medications to be administered, chemotherapy regimens and imaging studies.

The guideline for cancer management “Oncology in Zimbabwe” is long outdated having been formulated and published in 1992, therefore management of cancer is not standardised with differing management protocols and guidelines at different levels of the service delivery system. There is therefore need for different disciplines to agree upon cancer management protocols and standardise cancer management based on the current available evidence.

2.6 Communications for Cancer Control

Health literacy is essential to effect behaviour change. However, there is currently no coordinated, sustained communication programme. One NGO, the Cancer Association of Zimbabwe (CAZ), provides free health education materials in two languages. In addition to brochures and reference books, videos can also be viewed at the centre. The centre invites community groups and individuals to give presentations about various health topics,

including disease prevention and overall well-being. However, cancer health promotion programmes must be rapidly scaled up if success is to be achieved. Strategies include advocacy, social mobilisation and programme communication which will involve mass communication activities (electronic, print and interpersonal).

2.6.1 Advocacy and social mobilisation

Advocacy for health refers to a combination of individual and social actions, designed to get positive commitment, policy support, social acceptance and systems support for a particular health goal, programme or intervention. Advocacy may be carried out through lobbying, social marketing, community mobilisation and other approaches. Social mobilisation is a process by which relevant stakeholders and partners of a society are engaged in a dialogue for co-ordinated actions as in the cancer prevention programme. Various players including health workers need to be appropriately oriented for cancer control. Both advocacy and social mobilisation rely heavily on programme communication. Programme communication seeks to inform and motivate specific groups of people to accept and use unfamiliar ideas and practices to change harmful habits using different communication strategies and approaches.

2.6.2 Health literacy

Health literacy refers to the people's ability to obtain, interpret and understand basic health information and health services, and to use such information and services in ways that promote their health. Guided by the Health Literacy/Promotion Taskforce the programme will aim to increase the proportion of Zimbabweans who are cancer literate to 80% by 2017. The strategy will involve education

and raising awareness in various communities on cancer prevention. Documented best practices will be adopted and used.

2.6.3 Protection against chronic infections

Control of cancers induced by biological agents requires combating of the infections concerned. Personal and environmental measures, such as eliminating intermediate hosts of parasites will be promoted to reduce human exposure. These measures will augment essential measures including education to minimise the transmission of infection. Examples include: teaching people to avoid infected water, unsafe sexual behaviour, injection drug use, sharing of used needles, and urination/defecation in water. Effective vaccines will be the most potent weapons against the viruses estimated to cause up to 15% of all cancers. Vaccination is currently available only against the hepatitis B virus. Hepatitis B Virus vaccination of infants in areas of high prevalence is being promoted by WHO's Expanded Programme on Immunisation as a means of preventing chronic hepatitis. The effect of such vaccination on the incidence of liver cancer should become apparent in about 30 years' time. The strategy will also not be complete without the much awaited roll out of the HPV vaccination programme.

2.7 Areas For Action in Strengthening Programme

- Lack of standardised cancer management guidelines, lack of NCDs/ Cancer Policy and Action plans result in non-standardised service provision, late diagnosis or delay in taking prompt appropriate action particularly at peripheral health facility level
- Lack of programme coordination mechanisms results in either service duplication or inequity in service provision

- Under-funding of cancer control activities
- Absence of a fully functional referral system
- No integration of cancer control services with HIV & AIDS and STI services
- Limited advocacy with parliamentarians and policy makers on importance of prevention and control of chronic infections to improve cancer control.

A CANCER FREE ZIMBABWE



3 CANCER PREVENTION IN ZIMBABWE

3.1 Background to Cancer Prevention

The development of cancer is generally linked to personal habits, lifestyles and environmental conditions. The main factors contributing to the increasing incidence of cancer in the African region include infectious agents, increasing tobacco use and harmful alcohol use, unhealthy diets, physical inactivity and environmental factors.

To a lesser extent, inherited genetic factors also increase the risk of cancer (5–10%). Social and economic factors are major determinants of increased cancer risk. Cancer risk factors are highest in groups with the least education and lower socio-economic classes. Knowledge of many of these factors can serve as the basis of cancer control. Prevention means eliminating or minimising exposure to the causes of cancer, and includes reducing individual susceptibility to the effect of such causes.

Prevention not only focuses on the risks associated with the particular illness or problem but also on protective factors. Vaccination against Human Papilloma Virus (HPV) and Hepatitis B Virus (HBV), for instance, can protect against cervical and liver cancers respectively. This approach offers the greatest public health potential and the most cost-effective long-term method of cancer control and provides clear evidence that public health actions by governments and the promotion of healthy lifestyles could prevent as many as a third of cancers worldwide.

Cancer prevention is a key element in the cancer prevention and control programme. However, Zimbabwe has not yet fully formulated a national cancer prevention

strategy. Awareness programmes by the CAZ and partners have been conducted in a few isolated places, mainly in Harare and Bulawayo. There is an urgent need for the introduction of comprehensive educational programmes that address areas such as control of cancer causing infections, harmful substance abuse, nutritional and physical education issues.

3.2 Risk Factors

Major risk factors vary according to the level of economic development. In Zimbabwe the major risk factors include infections, nutrition and tobacco use.

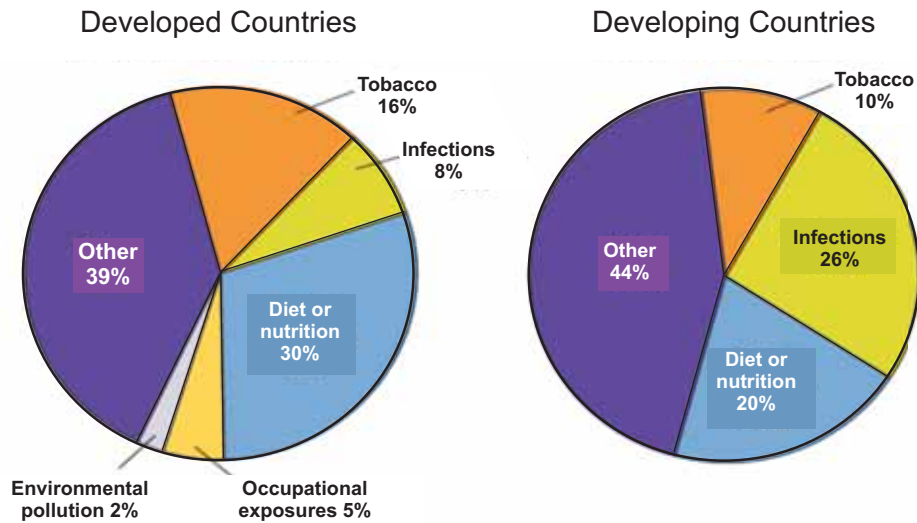
3.2.1 Infections

While cancer is not itself infectious, there are a number of infections that either directly cause or increase the risk of cancer. In fact according to WHO (2008) estimates, almost 22% of cancer deaths in the developing world and 6% in industrialised countries are caused by chronic infections. Major cancer causing infectious agents in Zimbabwe include Human Immunodeficiency Virus (HIV), Human Papilloma virus (HPV), hepatitis B and hepatitis C viruses, Epstein-Barr virus and *Helicobacter pylori*. Interventions such as immunisation, treatment of infections and behavioural change can reduce exposure to specific risk factors. Vaccines for prevention of hepatitis B and HPV infections are now available as described below.

3.2.1.1 Human Immunodeficiency Virus (HIV)

According to the Zimbabwe National Cancer Registry 2005 Annual Report, 60% of cancers were associated with HIV infections. The impact of HIV is reflected in the high incidence rates of Kaposi sarcoma and other HIV associated cancers which include cervical cancer, squamous cell carcinoma of the conjunctiva and non-Hodgkin's lymphoma.

Figure 2: Proportion of Cancer Causes by Major Risk Factors and Level of Economic Development



Source: Cancer Atlas, 2006

Controlling HIV prevalence will have a big impact on the epidemiology of cancer in Zimbabwe. The principal objective in HIV and AIDS control is reduction in HIV transmission through promotion of general behavior change, condom use, access to treatment and prevention of mother-to-child transmission (PMTCT) using anti-retroviral medicines and safer infant feeding practices. Focus should therefore be directed at integrating HIV and Cancer prevention services as controlling HIV will assist in controlling cancer.

3.2.1.2 Human Papilloma Virus (HPV)

The sexually transmitted HPV (especially subtypes 16 and 18) is now recognised as the principal cause of cancer of the uterine cervix. Infection with these viruses is prevalent in young women, but the factors that cause these infections to persist and in some cases result in the development of invasive cancer are still being researched.

Worldwide, HPV-16 and 18 contribute to over 70% of all cervical cancer cases, 41 - 67% of high-grade cervical lesions and 16-32% of low-grade cervical lesions. Zimbabwe has a population of 3.96 million women aged 15 years and older who are at risk of developing cervical cancer. Cervical cancer ranks as the most common cancer in women in Zimbabwe. About 35% of women in the general population are estimated to harbor cervical HPV infection at a given time, and 79.6% of invasive cervical cancers in Zimbabwe are attributed to HPV subtypes 16 or 18. Both the bivalent and quadrivalent HPV vaccines are potentially effective against about 70% of cervical cancer. In Zimbabwe, HPV vaccination was approved in 2009. Support from the Global Alliance on Vaccines and Immunisations (GAVI) requires showing ability to vaccinate an adolescent population. Zimbabwe is yet to implement HPV Vaccine demonstration projects before launch and roll out of the vaccine.

3.2.1.3 Hepatitis B and C

Chronic infection with Hepatitis B or C Virus (HBV or HCV) is the main risk factor for cancer of the

liver. Incidence is particularly high in sub-Saharan Africa and Eastern Asia where viral Hepatitis (HBV) is transmitted at the time of birth or during early childhood. Research in Zimbabwe has confirmed that the majority of infections are acquired between the ages of 6 months and 5 years. In 1999, MOHCW in collaboration with WHO re-introduced HBV vaccination targeting children less than five years of age. Vaccination had been suspended due to inadequate funding in 1995. Since 2007, HBV vaccine has been administered in combination with Diphtheria, Pertussis, Tetanus and Haemophilus influenza Type B as a five-in-one vaccine (Pentavalent Vaccine). The coverage of this vaccine is good and in 2010 it was 87%.

3.2.1.4 Schistosomiasis and other parasitic infections

Schistosomiasis is one of the most widespread human parasitic infections. The causative organism, schistosoma, spends part of its life cycle in snails that inhabit shallow waters and is then released into the water, infecting humans by penetrating the skin. Passing of urine or faeces into the water by infected people promotes spread of schistosomiasis, thereby sustaining the life cycle. There are still areas in Zimbabwe where the prevalence of schistosomiasis is very high. Patients who are chronically infected with schistosomiasis have an increased risk of developing bladder cancer. Controlling this disease will therefore have a positive impact on the incidence of bladder cancer.

3.2.1.5 Bacterial infections

Infection of the stomach lining by a bacterium, *Helicobacter pylori*, known to cause of peptic ulcer disease and gastritis, can also cause stomach cancer. Infection with this bacterium can be eradicated with antibiotic therapy, and it is possible that some of the reduction in stomach cancer in many countries during the 20th century was a result of such therapy.

3.2.2 Tobacco

Worldwide, tobacco use is the single largest causative agent of cancer, accounting for 30% of all cancer deaths in developed countries. Tobacco smoking is also responsible for a large amount of chronic lung disease and contributes heavily to cardiovascular disease.

Tobacco smoke contains approximately 4,000 chemical substances, of which at least 438 can lead to cancer. The most dangerous substances in tobacco are nicotine, tobacco tar, and carbon monoxide which contain the carcinogenic polyaromatic hydrocarbon and nitroso compounds. In addition to lung cancer, tobacco consumption increases the risk of cancers of the oral cavity, larynx, oesophagus, pancreas, kidneys and bladder. Lung cancer risk is determined by the amount of daily consumption of tobacco, duration of smoking and depth of inhalation. For regular smokers, the relative risk for development of lung cancer is more than 20 times higher than that of non-smokers. Environmental tobacco smoke (passive smoking) is also carcinogenic but the risk is much less (1.15-1.2 times less) than that of regular smokers.

In Zimbabwe, tobacco is smoked or chewed in various forms. Tobacco is also consumed frequently as a mixture with other substances. However cigarette smoking is the most common form of tobacco use. Evidence suggests that people in Zimbabwe start smoking at a younger age, increasing the risk of developing cancer over the years. Young people usually encounter the practice among their peers and may then take up the habit themselves. Typically, tobacco use begins through social contacts, but the habit is reinforced by the development of psychological dependence derived from the nicotine content of tobacco. Cessation of smoking significantly reduces the risk of lung and other tobacco associated cancers even after many years of addiction. However, even ten or more years after stopping, the risk is greater than that of those who have never smoked. A study in Zimbabwe showed that tobacco consumption was six times more

prevalent in males than females. Unfortunately, there is no enforcement on people to smoke in designated areas. This exposes the general population to passive smoking and its adverse consequences. This same study showed that 24.7 % of youths in Zimbabwe were exposed to second hand smoke.

The Government policy on tobacco is directed towards individual and mass education against tobacco use. The powerful commercial interests involved in production and distribution of tobacco products exploit people's dependence on tobacco in order to maintain sales. Government action regarding land use, subsidies, taxes, and other leverage on prices has a profound influence on the spread of tobacco use. Although the International Framework Convention for Tobacco Control (FCTC) outlived its lifespan in 2012, it remains a blueprint for effective control of tobacco, outlining articles on protecting populations from exposure to tobacco smoke; implementing graphic warning labels on tobacco packaging; passing comprehensive bans on tobacco advertising, promotion, and sponsorship; and promoting cessation, among other issues. It will thus remain a reference document for this strategy.

It should be noted that:

- Zimbabwe has not yet ratified the Framework Convention for Tobacco Control
- Tobacco is a major cash crop in Zimbabwe
- Legislation on tobacco use exists in Zimbabwe but implementation lags behind. Action against tobacco now will reduce future problems associated with its use to a minimum.

A holistic approach under the Health literacy framework will be adopted to reduce population exposure to tobacco. The strategy will advocate for enabling legislation,

promotion of 'sin' taxes and an environment that promotes tobacco cessation. This will reduce the economic and social acceptability of tobacco use in line with the WHO recommended strategies.

3.2.3 Alcohol consumption

Heavy consumption of alcoholic beverages increases the risk of cancers of the oral cavity, pharynx, larynx, oesophagus and liver, and may increase the risk of breast and colorectal cancers. The risk is linearly related to the mean daily consumption. The carcinogenic effect of alcohol in relation to oral, pharyngeal, laryngeal and oesophageal cancer is exacerbated by tobacco use.

Apart from the increased risk of cancer, alcohol consumption also causes alcoholism (addiction), alcohol psychosis, chronic pancreatitis, liver cirrhosis, hypertension, haemorrhagic stroke and low birth weight to babies born to alcoholic mothers. Furthermore, inebriation associated with alcohol drinking is responsible for a high proportion of accidents and injuries (15-40%) including road traffic accidents.

The Zimbabwe STEPwise survey in 2005 revealed that current alcohol consumption is very high especially among males, with a prevalence of 58% in males and 13.5% in females. This was probably an underestimate due to under-reporting of alcohol consumption, especially in females, due to cultural factors.

Control of alcohol will therefore require taking into account the wide range of social forces that affect alcohol use. Efforts to reduce population exposure to alcohol will reflect concern about a range of diseases, as well as the domestic, social, and industrial problems that arise from alcohol use. Practical obstacles to the use of alcohol are required. The most

effective action a government can take to reduce individual alcohol consumption is to raise prices of alcohol through taxation. Other measures that have been tried with varying degrees of success include limiting the places and times at which alcohol is available, raising the minimum legal age at which alcohol may be purchased, and creating a government monopoly on alcohol sales. All of these efforts will complement the health literacy strategy.

3.2.4 Nutrition, obesity and physical activity

Up to 30% of cancers are related to diet and nutrition. Excess salt intake causes arterial hypertension and an elevated risk of stomach cancer. However, due to modern methods of food preservation, the incidence of stomach cancer is declining worldwide. A western diet (highly caloric food, rich in animal fat and protein) often combined with sedentary lifestyle and resulting energy imbalance, increase the risk of colon, breast, prostate, endometrial and other cancers. Physical activity, avoidance of obesity and frequent daily intake of fresh fruit and vegetables reduce the risk of oral cavity, lung, cervix uteri and other cancers.

Eating patterns in developing countries like Zimbabwe are shifting towards the Western lifestyles especially in urban areas, a situation that is termed the 'Nutrition Transition'. There has been a noted decrease in staple foods rich in starch, dietary fiber and plant protein sources. There has also been an increase in foods from animal origin which are rich in total fat and saturated fatty acids, and energy-dense snack foods, carbonated sweetened beverages, and alcoholic beverages. Red meat intake, especially of processed meats, has also been associated with certain cancers like prostate cancers.

Obesity is epidemic in many developed countries, and is increasingly becoming a concern in many developing countries including Zimbabwe. Studies have shown varying degrees of consistency that excess body mass is associated with an increased risk of cancer. There are links between obesity and the risk of breast cancer (in older women), endometrial cancer and cancers of the kidney, colon, and oesophagus. Not being physically active increases the risk of colorectal cancer. Together physical inactivity and obesity are linked to 30% of colon, endometrial, kidney and oesophageal cancers as well as 30% of breast cancers in older women. Losing weight and exercising (at least 30 minutes a day most days of the week) help reduce the risk of developing cancer.

3.2.5 Occupational and environmental exposure

Historically, exposure of chimney sweeps to soot and of other workers to certain types of mineral oil were found to cause cancer of the scrotum; metal mining gave rise to lung cancer, and chemicals used in dye works to bladder cancer. Identification of occupational factors in cancer etiology is hindered by the fact that as many as twenty to thirty years may elapse between exposure and disease. However, the concentration of exposure among relatively few workers has made it possible to pinpoint several occupational situations responsible for a variety of cancers. Risk is generally apparent from the age of about fifty years, but maximum risk may not be seen until the post-retirement years due to the long latent period for induction of many occupationally-induced cancers. Health protection measures include monitoring the use of potentially carcinogenic materials and processes in industry, providing public education, and enacting appropriate legislation to minimise occupational and environmental exposure to carcinogenic agents. There is existing legislation on

exposure to most occupational carcinogens in Zimbabwe. These include the following Acts of Parliament:

- Pneumoconiosis Act (minimise dust exposure to employees)
- Radiation Protection Act (minimise radiation exposure to workers)
- Environmental Management Act

3.2.5.1 Control of occupational exposure to carcinogens

Minimising occupational and environmental exposure to carcinogenic agents calls for the identification and assessment of existing or potential hazards. Zimbabwe has an excellent opportunity to learn from the experience of the industrialised countries, and to take steps to avoid the emergence or importation of cancer hazards in industry. Wherever occupational cancer hazards are found to exist (for instance among illegal gold panners), exposure standards must be set that will minimise the risk to workers. This typically requires the appropriate government, scientific, industrial, and labour organisations to review and discuss relevant data and then agree on controls. Once a quantitative standard is set, industrial processes must be modified to ensure that the agreed maximum exposure level is not exceeded. This may involve the mechanical redesign of a process, substitution of materials, or other significant adaptations. Personal protective clothing can also be utilised but it cannot always be relied upon as workers are not always compliant. However, surveillance of workers should be carried out wherever possible.

3.2.5.2 Radiation

Ultraviolet radiation which comes from natural sunlight, sunlamps and other sources can lead to skin cancers (melanoma, squamous cancers and basal cell cancers). These cancers occur more commonly in individuals who have little melanin pigment such as albinos and white skinned races. While some sun exposure is healthy, excessive exposure particularly during childhood or repeated exposure in adults, seems to increase the risk of skin cancer. Preventive measures include avoiding sun exposure during times of peak intensity especially between 10:00hrs and 16:00hrs, use of sun-screen lotions, wearing protective clothing and avoiding artificial UV exposure. Other sources of radiation such as medical sources, natural sources and nuclear fallout should be paid attention to through health promotion programmes and regulatory measures to control exposure levels.

3.3 Areas for Action in Prevention of Cancer

- 30-40% of cancers are preventable: prevention is the most cost-effective intervention especially in resource limited settings such as in Zimbabwe
- There is no integration of cancer and chronic infection control, yet most cancers in Zimbabwe are associated with infection
- A comprehensive Cancer Communication strategy focusing on cancer prevention should be formulated and implemented as a matter of urgency

4. EARLY DETECTION OF CANCER

4.1 Background to Early Detection of Cancer

The majority of cancer patients (80%) in Zimbabwe present late (3rd and 4th stage), resulting in increased premature deaths from cancer. Diagnosis of cancer at an earlier stage of the disease can enhance the chance of successful treatment outcome and greatly increase the chance of a successful cure. A major component of early detection is education of the population to promote early diagnosis and screening. Increased awareness of possible warning signs and symptoms of cancer among health professionals (nurses, doctors) and other health care providers and the general public will result in prompt action leading to early diagnosis and possible cure.

Screening programmes and early diagnosis can be effective in improving the success rate of treatment, and many cancers have the best chance of cure when they are detected at an early stage. They can save years of life and improve quality of life, while reducing the need for and costs of treatment of advanced disease. However, national cancer screening programmes in Zimbabwe are still at an early stage.

4.2 Availability of Screening Services for Early Detection of Cancer

Screening services for most cancers, including cervical cancer (PAP smears), breast cancer (mammogram and ultrasound scanning) are available in private institutions but the cost is prohibitive for the majority. Even among those who can afford screening, there have been insufficient awareness campaigns to encourage people to be screened for cancers. These services are generally centralised and

thus not available to the majority (rural) population. Most of the Medical Aid Societies do not provide cover for screening services, while there is co-sharing of the cost with the client by those that do cover screening. Only one Medical Aid Society provides screening for prostate cancer using Ultra Sound Scanning (USS).

Most government institutions do not offer screening for prostate, breast, cervical or colon cancers, as the key health professionals lack adequate information and skills to provide the services, coupled with lack of basic equipment. However, the Ministry of Health and Child Welfare has several sites (Mpilo, United Bulawayo Hospital, and Masvingo) providing cervical cancer screening services using visual inspection with acetic acid and cervicography (VIAC). Zimbabwe National Family Planning Council (Spilhaus), City of Harare Clinics and Newlands clinic (HIV and AIDS service organisation) also provide screening services. However, all of these services are centralised in urban areas. Additionally, screening programmes for paediatric cancers are not yet in place. Simple clinical screening tests such as looking for the white reflex in the eye for retinoblastoma and palpation of abdomen for masses should be integrated into basic primary health care services including growth monitoring of children less than 5 years.

Several non-governmental organisations including but not limited to the Cancer Association of Zimbabwe, KIDZCAN, National Cancer Alliance of Zimbabwe, Brain Tumour Association and Breast Cancer Alleviation of Zimbabwe are currently complementing government efforts in cancer prevention and early detection through their advocacy and health promotion efforts with the community. KIDZCAN also supports children with cancer financially by paying for investigations,

improving early diagnosis and facilitating early treatment. Unfortunately, most of the children present with advanced stage disease.

Local research institutions have carried out studies on cervical cancer screening. Visual Inspection with Acetic Acid (VIA) was pioneered by a team of researchers from the Department of Obstetrics and Gynecology, University of Zimbabwe, in collaboration with researchers from Johns Hopkins Programme for International Education in Gynecology and Obstetrics (JHPIEGO) in published material. University of Zimbabwe researchers demonstrated that cryotherapy was a reasonable option to treat cervical intraepithelial neoplasia (CIN) compared to Loop excision (LEEP) in a randomised control trial.

Zimbabwe MOHCW demonstration projects with VIA and treatment with cryotherapy were successfully launched by UZ researchers in Mutoko, Gwanda and Chiredzi. The VIA/cryotherapy screening and treatment programmes were based on the "see and treat" principle with high retention of screen positive cases who are immediately treated with cryotherapy. The Mutoko and Gwanda programmes stopped screening due to trained staff shortages that occurred across MOHCW at the height of the economic crisis, however the Chiredzi programme continued.

4.3 Areas for Action in Early Detection of Cancer

- Lack of access to early detection (screening and diagnosis) facilities
- Advanced stage presentation of patients with cancers, increasing the cost of management and leading to avoidable premature deaths
- Inadequate resources (human, equipment and technology) negatively impacting on cancer early diagnosis
- Lack of information on the need for regular cancer screening and reduced utilisation of those services that are available, both in the public and private sector
- Prohibitive costs of screening services
- Absence of an effective national mechanism to motivate, organise and co-ordinate cancer screening activities
- Provision of cancer early detection services (early diagnosis and screening) at all levels, accompanied by a sound referral system (referral centres with capacity to take up the referral case)
- Lack of formal assessment of the reasons for delays in early detection of cancers, focusing on who is affected and why
- Programmes to encourage earlier presentation of cancer, including training of primary care workers on cancer prevention, early diagnosis, early recognition of symptoms and signs of cancer (early warnings) and taking appropriate action – referral to next level for further management are yet to be developed

5. DIAGNOSIS AND TREATMENT

5.1 Background to Diagnosis and Treatment of Cancer

There has not been any reliable or consistent documentation of most elements of cancer diagnosis and treatment in Zimbabwe. This is a reflection of the low priority that cancer has so far been given. The diagnostic infrastructure for cancer in the country is limited. Important early diagnostic facilities like pathology are available only in Harare and Bulawayo. The performance of diagnostic tests and sending of specimens from patients in the district hospitals may take three or more weeks on average to complete, when available. The three major modalities of cancer treatment namely surgery, radiotherapy and chemotherapy are also inadequate in the country in terms of personnel, medicines and equipment. This has led to some people who can afford it to seek treatment outside the country.

There are two Radiotherapy Treatment Centres, one in Harare and the other in Bulawayo. To reach such facilities patients must spend huge amounts of money, frequently beyond their reach. Such constraints leave an un-estimated number of cancer cases in the population either without diagnosis or treatment. The central location of the treatment centres in the country make the stark reality of inequitable access obvious.

5.2 Diagnostic Radiology

General radiology is the basic fundamental imaging modality. Whilst this facility should be available at district, provincial and central hospitals most of these institutions are currently unable to provide this service. This

is due to non-functional old equipment and a serious human resources shortage. The private sector offers a reasonable service that covers all imaging modalities at a cost. There are a number of these centers in the major towns of the country, which somewhat relieves the pressure on the barely functional public sector.

The availability of diagnostic and treatment services for cancer in Zimbabwe can be summarized as follows:

- Plain X-rays can be taken at district, provincial and central hospitals
- Biopsy is done at provincial and central hospitals and a few mission hospitals
- Cytology is very limited but offered by private laboratories at a cost
- Computerised Tomography (CT) scanning is available in Harare and Bulawayo. The private sector offers a reasonable service at a cost. Public facilities for CT scanning are inadequate and non-functional most of the time
- Mammography is available at private institutions and recently one machine has been installed and commissioned in the government sector at Parirenyatwa Group of Hospitals
- Magnetic Resonance Imaging is available in private institutions but is very expensive
- Brachy therapy equipment for gynaecological cancers is available at Mpilo and Parirenyatwa Group of Hospitals
- Parirenyatwa and Mpilo Hospitals have their own pharmacies. However chemotherapy medicines are expensive and barely available there. Patients who are prescribed such medications must try to obtain them at private pharmacies. In paediatrics, chemotherapy medicines are mainly supplied by KIDZCAN.

5.3 Pathology

Basic laboratory services are available in the district hospitals, mission hospitals and some private centres. Histopathology services are however centralised to the towns of Harare and Bulawayo in both the private and public sectors.

Pathology services are seriously affected by skilled staff shortages at all levels. The ideal number of pathologists is one for every 250,000 of the population. Hence, Zimbabwe would ideally need 48 pathologists. However, there are only five pathologists for the whole country, four in Harare and one in Bulawayo. This major human resource gap has to be rectified for any successful cancer control effort.

5.4 Nuclear Medicine

Nuclear Medicine plays a pivotal role in the management of cancer patients, both diagnostic and therapeutic. The role of this modality is in staging of cancer by screening for the presence or absence of skeletal metastatic disease, especially in cancers such as breast and prostate cancer. The most sensitive and cost-effective method of screening for skeletal metastatic disease is whole body bone scanning. The other role is in the monitoring of cardiac function for those patients on chemotherapy medicines that are cardiotoxic. Such patients require measurement of cardiac ejection fraction for which the gold standard is radionuclide Multiple Gated Acquisitions (MUGA).

Sentinel Lymph node mapping and intra-operative use of a gamma probe have been used in localizing sentinel lymph nodes with success in malignant melanoma and breast cancer, enabling oncologists to make well-informed decisions in planning therapy for patients.

Therapeutic applications of nuclear medicine techniques include, but are not limited to, bone pain palliation, Meta-Iodo Benzyl Guanidine (MIBG) therapy for neuro endocrine tumours and Zevalin therapy for refractory or recurrent non-Hodgkin's Lymphoma.

There are two State-owned nuclear medicine facilities in Zimbabwe, one at Parirenyatwa Group of Hospitals with one non-functional Siemens E-cam gamma camera (installed in 2003) and another at Mpilo Central Hospital (with one obsolete Sophy Gamma camera installed in the 1990s). Until late 2010 when the gamma camera broke down, some nuclear medicine studies were available at Parirenyatwa Group of Hospitals while at Mpilo Hospital, the facility has been non-functional since early 2003. This implies that for a long time cancer patients (as well as other non-cancer patients) have not been receiving the optimal care due to non-availability of functioning nuclear medicine facilities.

The ideal equipment would comprise:

- Two Dual-Head SPECT-CT gamma cameras at each Centre (total of four)
- One PET-CT scanner at each centre (total of two)
- Two Dose calibrators at each centre (total of four)
- One Well counter at each centre (total of two)
- One Laminar flow unit at each centre (total of two)
- Two Gamma probes at each centre (total of four)

There is currently only one Nuclear Medicine Physician serving in Government attending to both Parirenyatwa and Mpilo Hospitals. There are two Nuclear medicine technologists, one at Parirenyatwa and the other at Mpilo Central Hospital with the latter having been recalled from retirement. There are no

medical physicists at the two nuclear medicine facilities, which is in contravention to recommendations from the International Atomic Energy Agency (IAEA) as medical physicists are responsible for radiation protection matters.

There are no facilities in Zimbabwe to train Nuclear Medicine personnel at the moment. The personnel currently available were trained abroad through technical co-operation programmes with the IAEA.

The ideal staffing complement would comprise:

- Three Nuclear Medicine Physicians at each Nuclear Medicine Centre (total of six)
- Six Nuclear Medicine radiographers/technologists at each centre (total of twelve)
- Two Medical Physicists at each centre (total of four)
- Three Nuclear Medicine Nurses at each centre (total of six)

5.5 Radiotherapy

The two National Radiotherapy Centres are located at Parirenyatwa Group of Hospitals in Harare and Mpilo Central Hospital in Bulawayo. All of the cancers are treated at the centres except for some Kaposi Sarcoma (KS) patients that are seen at the KS clinic at Parirenyatwa Group of Hospitals. Much like a community health centre, no cancer patient is denied service. The patients pay USD10 for consultation; this fee does not cover chemotherapy and radiotherapy. The centres provide treatment services on an outpatient basis. Whilst on treatment the patient may have to leave his or her family for several weeks in order to receive treatment. At Parirenyatwa Group of Hospitals, there are two oncology wards, one for adults and one for children to accommodate the very sick

patients. There is a hostel (Tariro Hostel situated at Harare Central Hospital grounds) that used to house people undergoing treatment not in need of admission, but it is currently not functioning.

Brachytherapy equipment for gynaecological cancers is available at Mpilo Hospital. New brachytherapy equipment capable of treating a number of cancers has recently been procured by Parirenyatwa Group of Hospitals.

The IAEA recommends a minimum of one machine for every 1 million of the population, the ideal being one machine for every 500,000 of the population. Zimbabwe therefore needs between 12-24 radiotherapy machines. However, for about a decade only one sub-optimally functioning radiotherapy machine has been serving the whole nation. The Mpilo radiotherapy facility has not offered any services since 2003.

The current equipment available for radiotherapy can be summarised as follows:

- Linear accelerators (two in Harare, one in Bulawayo). Old and in need of replacement
- Radiotherapy Treatment Planning System (RTPS)
- Two Brachytherapy units (Bulawayo one old and needing replacement, Harare unit awaiting commissioning)
- Two Simulators both needing replacement
- Dosimetry Equipment

The ideal equipment would comprise:

- At least 1 External Beam Radiotherapy (EBT) machine per million population
- 3 dimensional conformal radiotherapy Special Linear accelerator accessories for use when treating children
- Chemotherapy medicines at

reasonable cost or no charge to the patient

- Regular supply of strong pain medication such as morphine

The IAEA recommends that there should be one oncologist for every 500,000 people in a population. The current staff complement is well below this recommended ratio. Currently, the radiotherapy departments have seven qualified Radiation Oncologists (6 are in Harare), 4 Physicists, 16 Radiographers and 6 Nurses. There are no trained oncology nurses in the departments. Currently, the University Of Zimbabwe College Of Health Sciences offers an undergraduate Bachelor of Radiography programme for radiography training and a postgraduate Masters in Radiotherapy and Oncology programme for Radiation Oncology. There has been ongoing training of Radiographers at diploma level by the School of Radiography that is an Associate College of the University of Zimbabwe College of Health Sciences. However, there is still a need to train more professionals in the above fields. Training of oncology nurses is long overdue.

The Radiotherapy Centre is now recognised for internship rotations of newly qualified doctors (junior resident medical officers and senior house officers) before deployment to the districts.

5.6 Chemotherapy

Chemotherapy is administered at Parirenyatwa and Mpilo Hospitals and three other private institutions namely St Anne's Hospital, Avenues Clinic and Mater Dei Hospital. There is chronic unavailability of chemotherapy medicines in the public sector. Most patients in these institutions have to purchase chemotherapy medicines from the private pharmacies. The cost of these medicines is prohibitive. Even in the private

sector there are chemotherapy drug shortages, resulting in disruption to patients' treatment. Most of these medicines are not registered with Medicines Control Authority of Zimbabwe (MCAZ) due to issues around cost of registration.

Chemotherapy and other support medicines are expensive and are often not available at Parirenyatwa Group of Hospitals and Mpilo Central Hospital. Patients that need chemotherapy medicines get them from private pharmacies at a very high cost. Many patients cannot afford the medicines resulting in patients receiving the chemotherapy inconsistently or not finishing the course. This, coupled with late presentation of disease, leads to poor treatment outcomes. Funding is a major hindrance in the stocking of both Parirenyatwa Group of Hospitals and Mpilo Central Hospital Pharmacies.

5.7 Surgery

Biopsies can be performed at Provincial, Mission and Central hospitals. However there is a lack of standardisation of procedures carried out for the various cancers. There are no stand-alone surgical oncology units even at the tertiary level. This limits the uniformity of surgical cancer treatment across the board. Surgery is one of the most well-staffed and older disciplines in the country. Sub-specialisation has been well achieved in that field. It only remains for evidence based cancer surgery to be promoted and for surgical oncology units to be established. This is likely to be achieved through multi-disciplinary meetings and the availability of national treatment guidelines for cancer.

5.8 Paediatric Oncology Units

The Paediatric Oncology Unit is situated at Parirenyatwa Group of Hospitals in Harare

and is intended to cater for all children in the country. Medicines are sourced and supported by KIDZCAN. The paediatric surgical unit is located at Harare Hospital, and the separation of the two services can sometimes cause challenges accessing timely surgery. Children and their parents often travel very long distances to come to Harare, and have challenges with bus fares to keep returning for treatment. This can result in high defaulting rates.

5.9 Areas for Action in Diagnosis and Treatment of Cancer

- Most cancer patients present with late stage disease
- Increasing incidence of common cancers and anticipated further rise in incidence with the introduction of effective surveillance, early detection and screening measures
- Lack of current cancer treatment guidelines and resulting lack of standardisation of cancer management across institutions
- Few centralised functional diagnostic and treatment facilities
- Need for accommodation for patients on cancer treatment
- Shortage of essential diagnostic and treatment equipment and consumables
- Limited human resources and lack of incentives to retain skilled staff in cancer diagnosis and treatment
- Poor availability of cancer medicines, notably chemotherapy and opioid analgesics
- Limited clinical research, hence limited availability of a local evidence base
- Limitations in Paediatric cancer diagnosis and treatment

6. PALLIATIVE CARE AND REHABILITATION

6.1 Background to Palliative Care and Rehabilitation

Palliative care and rehabilitation are essential elements in the continuum of care for cancer patients. The World Health Organisation (2002) defines Palliative Care as “an approach that improves the quality of life of patients and their families facing problems associated with life-threatening illness, through the prevention and relief of suffering, the early identification and impeccable assessment and treatment of pain and other problems, physical, psycho-social and spiritual”.

Palliative Care Principles:

- Provides relief from pain and other distressing symptoms
- Enhances the quality of life, and will also positively influence the course of illness
- Integrates the psychological and spiritual aspects of patient care
- Offers a support system to help patients live as actively as possible until death
- Offers a support system to help the family cope during the patient's illness and in their bereavement
- Uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated
- Affirms life and regards dying as a normal process
- Intends neither to hasten nor postpone death
- Is applicable early in the course of illness, in conjunction with other therapies that are implemented to prolong life, such as chemotherapy or radiation therapy, and includes those

investigations needed to better understand and manage distressing clinical complications.

Palliative care for children represents a special, albeit closely related field to adult palliative care. WHO defines palliative care for children as, “ the active total care of the child's body, mind and spirit, and also involves giving support to the family. It begins when illness is diagnosed, and continues regardless of whether a child receives treatment directed at the disease.”

It is recommended that health providers must evaluate and alleviate a child's physical, psychological and social distress. Effective palliative care requires a broad multi-disciplinary approach that includes the family and makes use of available community resources. It can be successfully implemented even if resources are limited. Palliative care can be provided in tertiary care facilities, in community health centres, and even in children's homes (the child's own home, community home or institution).

While some elements of both adult and paediatric palliative care have been implemented as part of medical and household interventions for patients, palliative care was formally introduced in 1979 by Island Hospice Service in Zimbabwe. The goal of palliative care is to improve the quality of life for patients and family members facing the diagnosis of life-threatening or life-limiting illness. Palliative care provides the right of access to adequate pain control medication and health care which improves their quality of life. Palliative care is not limited to specific diseases, and the palliative care approach and palliative care principles apply to any life-threatening illness. For children the principles apply to paediatric chronic disorders.

Embedded in the WHO principles of palliative care is the emphasis on active living with statements of “quality of life”, “affirms life”, “to help patients live as actively as possible”.

Many health care professionals and people who could benefit from palliative care view palliative care as care of the dying. This restricts referral and access to palliative care for many people who could receive significant benefit from this care.

6.2 Palliative Care in Zimbabwe

Zimbabwe has a long history of providing palliative care, with Island Hospice Service being one of the first hospice organisations to provide hospice and palliative care not only in Zimbabwe but in Africa, since 1979. By 1997, 17 regional branches had been formed throughout the country and approximately 13 organisations were providing palliative care by 2004.

This growth in palliative care provision has been a result of several initiatives and factors that have necessitated and facilitated the provision of palliative care in Zimbabwe. Initially palliative care services were generally accessed by a small minority population and the disease focus was cancer. However, with the growth of the disease burden due to HIV and AIDS, palliative care provision has widened to include those living with and experiencing HIV and AIDS and other chronic illnesses.

The result was growth of community based services throughout the country provided by both hospice organisations and community home based care organisations. The community and home based care programme national review of 2006 noted that there was at least one community and home based care programme in each of the 62 districts of Zimbabwe.

Notable initiatives have facilitated palliative

care service provision in the country. In 1992, the MOHCW established the Prevention and Control of Cancer Committee in Zimbabwe that comprised relevant stakeholders and professionals. The committee oversaw the development of a ten year plan for the National Cancer Control Programme for Zimbabwe (1994-2004) with the overall aim to formulate, plan and implement a coordinated and cost effective programme for the prevention and control of cancer in Zimbabwe. Aspects of palliative care policy were incorporated in this plan.

Within this period the post of a Programme Officer for Cancer and Palliative Care was filled in 1994, funded by the World Health Organisation (WHO) demonstrating commitment from government. Palliative care training was established in the eight provinces and the two cities of Harare and Bulawayo during the same period. However, due to lack of funds coupled with the economic challenges, the programme was not sustained. The post of Programme Officer for Cancer and Palliative Care still exists but is not occupied. In 1999 a national Hospice and Palliative Care Association of Zimbabwe (HOSPAZ) was registered to support and promote palliative care services in collaboration with the MOHCW.

In 2004, through a pilot project in five African countries which included Zimbabwe, WHO estimated that a total of 208,600 people were dying from HIV and AIDS or cancer annually in Zimbabwe. The proportion of people needing palliative care was estimated at 1 in 60. Those dying from HIV and AIDS or cancer and suffering pain were estimated at 56,900. The report noted that the number actually needing palliative care was much higher, because it should also include those suffering from serious illnesses but not dying the same year, as well as those suffering from diseases other than cancer or HIV and AIDS. In addition,

palliative care is provided not only at the end of life. In light of these considerations, WHO estimated that at least 1% of the country's population will need palliative care. The WHO report noted the long tradition in provision of palliative care in Zimbabwe but noted the low level of integration of palliative care into the health system. In-country training at various levels was being provided by Island Hospice.

The review of Hospice and Palliative Care in Africa done in 2001 noted that Zimbabwe had thirteen hospice and palliative care organisations, six of which were branches of Island hospice, two provided in-patient provision at a hospice organisation and six in a hospital setting. All thirteen organisations were making outpatient service provisions while four had day care or clinics. In a subsequent review by African Palliative Care Association (APCA) in 2010, service provision had reduced to nine organisations offering palliative care services: three hospices and six home based care organisations that have integrated palliative care, and various Mission Hospitals.

During this review Zimbabwe was put in category 4 in terms of palliative care services provision. In this category countries were providing hospice and palliative services and were approaching wider integration with the public health system. The main characteristics of this category were:

- Availability of a critical mass of activists country wide
- A range of providers and service types
- Broad awareness of palliative care
- Some measure of integration with mainstream service providers
- Established education centres
- Research being undertaken
- A national association in existence

Palliative care provision is part of the National Health Strategy and Palliative Care Standards are already in use. The National Palliative Care Policy and National training curriculum are to be finalized in 2013. Analgesia is an important component of cancer care, particularly in an environment like Zimbabwe where patients tend to present with advanced stage disease. Shortage of opioid analgesia is very common leaving patients with uncontrolled pain.

Morphine which is an essential medicine in management of cancer pain has not been in stock at Mpilo for several years now. The morphine supply at Parirenyatwa Group of Hospitals has been erratic over the years.

6.3 Rehabilitation

Rehabilitation for cancer patients mainly includes teaching and advising on activities of daily living and pain management. Rehabilitation intervention is provided through physiotherapy, occupational therapy, prosthetic services, counselling, home based care and support depending on the client's needs.

Occupational Therapy has a key role in rehabilitation. Occupational therapy aims to improve quality of life, so that peoples' lives will be as comfortable, productive and independent as possible. This applies even if life expectancy is short because people living with cancer can experience very rapid changes in their illness and care setting. Occupational therapists working with these people need to be particularly responsive to changing needs, responding quickly and planning forward carefully to take account of deterioration.

Occupational therapists promote the well-being and independence of people with cancer in various settings such as:

- home or community
- hospital (acute or community)

- nursing or residential homes
- day care hospices
- in-patient hospices

As people move between home, hospitals and specialist care they should have access to occupational therapy services at any stage and in all sectors. An occupational therapist's starting point is always the experiences of the people they are working with (cancer patients and their family/carers). Their choices and priorities drive any interventions that take place. Partnership with people living with cancer helps them find new options to improve the quality of life of the patients and carers.

6.4 Areas for Action in Palliative and Rehabilitation Care

- Guidelines to assess and address the psychosocial and cultural needs of all people living with cancer are unavailable
- Opioid availability should be ensured at all times
- Access and effectiveness of palliative care need to be improved through training, research, essential palliative care medicines provision and integrated teamwork
- Palliative care providers at all levels, including the family, need to be supported with emotional and social support, information, adequate equipment, medicines and supplies to minimize burn-out
- Communities and employers need to become part of the system of support for cancer patients, including rehabilitation and palliative care services

7. CANCER SURVEILLANCE AND RESEARCH

7.1 The Zimbabwe National Cancer Registry

Zimbabwe has a well-established and productive population-based cancer registry, one of few such centers in Africa. It is currently providing technical support to other registries in the region on behalf of the International Agency for Research on Cancer (IARC), WHO/AFRO and the International Network for Cancer Treatment and Research (INCTR).

The Zimbabwe National Cancer Registry (ZNCR) was established in 1985 and achieved adequate population coverage for the population of Harare City by 1990. The history, surveillance methods, data quality and completeness of registration have been described in detail elsewhere. Briefly, the registry performs active and passive case finding based on public and private hospital in- and out-patient records, public and private histology reports, radiotherapy records and death certificates. Results from the Registry have been extensively published in medical journals and other scientific publications. The registry has provided data to important international publications including three successive volumes of the 'Cancer Incidence in Five Continents' series (Volumes VII, VIII and IX) published by the International Agency for Research on Cancer and the International Association of Cancer Registries, the 'International Incidence of Childhood Cancer' - Volume II (1998) published by the IARC, 'Cancer in Africa, Epidemiology and Prevention'(2003) published by the IARC and 'Cancer Survival in Africa, Asia, the Caribbean and Central America' (2011) published by the IARC.

Bulawayo had the first Cancer Registry established in Zimbabwe in 1963 which was very active and data was successfully collected over the years (1963-1977). The Registry was closed in 1977 during the war of independence. It was revived in the 1990s and provided data to the ZNCR until 2006 when operations were suspended due to economic challenges facing the country. The registry has lost experienced staff over the years. This has impacted negatively on its operations. Efforts are at an advanced stage to revive the historic Bulawayo Cancer Registry, a development which will help to improve national coverage and ascertain the true burden of cancer in the country.

7.2 Other Data Sources

There are other sources of data related to cancer in Zimbabwe including the National Surveillance Systems (T5 & T9) and hospital based surveillance system, that capture cancer data among other diseases within the integrated disease surveillance system. Special surveys also capture critical cancer data, for example the Zimbabwe STEPS surveillance studies sponsored by WHO which capture data on risk factors for cancer and other non-communicable diseases. The most recent published survey was in 2005.

7.3 Research Needs

Of the 16 million cases of cancers predicted to occur annually worldwide by 2020, 70% of these will be in developing countries. In sub-Saharan Africa, research has been dedicated to agriculture and infectious diseases as well as HIV and AIDS at the expense of non-communicable diseases such as cancer. Therefore, there is need to address this gap in research and answer many questions for the Zimbabwean setting.

Suggested Research Priority Areas:

- New medicines and prevention measures
- Vaccine introduction e.g. generation of validation data for HPV strains endemic to local populations
- Effective ways to improve access to quality cancer health care services e.g. ways to decrease healthcare costs associated with cancer prevention and treatment, and the feasibility of introducing a cancer levy
- Effectiveness of medicinal plants, indigenous herbs and traditional treatments and ways of integrating them into the conventional healthcare system
- Effective ways of servicing, expanding and maintaining the existing cancer registry (most of the data available is hospital based and therefore may not capture all cases)
- Effectiveness (impact assessment) of

the awareness campaigns for prevention and treatment of cancers

- Develop innovations e.g. screening of cancers, early diagnosis and treatment

7.4 Areas for Action in Cancer Surveillance and Research

- Inadequate skilled human resources to expand cancer registry services to all provinces due to brain drain and limited funding to train personnel
- Inadequate funding for cancer research, due to low investment in research (low priority for cancer research as resources are channeled towards communicable diseases)
- Sub-optimal collaboration between the relevant stakeholders involved in cancer research resulting in fragmented research efforts
- Absence of up-to-date cancer registries

Part Two

Strategic Approach



Zimbabwe National Cancer Strategy

Strategic Framework



Guiding Principles:

1. Equity, fair and non-discriminatory access to cancer services
2. Effectiveness, treatment and management that improves the patient's quality of life
3. Confidentiality, shared personal information including diagnosis is not revealed to anyone else without the permission of the patient.
4. Holistic, cancer services assess and support the physical, emotional, social and spiritual needs of the patients and their families
5. Accountability, service providers, organisations and government are held responsible for upholding sound and ethical practice
6. Dignity, patients are treated with respect throughout the course of illness including death and dying
7. Compassion, cancer services are provided with genuine care and empathy for the patients and their families

Overall Goal:

Reduction of cancer morbidity and mortality through implementation of evidence based cost-effective prevention and control interventions and providing palliative care to improve quality of life of people living with cancer and their families by 2018.

Goal Areas:

- 1) **Programme Strengthening:**
Standardisation of practice of National Cancer Prevention and Control services in all organisations providing cancer services
- 2) **Cancer Primary Prevention:**
Promote appropriate behaviours and provide an enabling environment for the prevention and control of cancer in 60% of the targeted audience by 2018
- 3) **Cancer Early Detection:**
Reduce late presentation (3rd and 4th stage) of selected cancers (cervical ,breast, prostate and oral in adults; Wilm's tumour, retinoblastoma, Kaposi Sarcoma, leukaemia and non-Hodgkins lymphoma in children) from 80% to 50% by 2018
- 4) **Cancer Diagnosis and Treatment:**
Increase the proportion of people accessing comprehensive cancer diagnostic and therapeutic services in line with Standard National Cancer Management guidelines
- 5) **Cancer Palliative Care and Rehabilitation:**
All cancer patients and their families who require palliative care and rehabilitation have access to these services
- 6) **Cancer Surveillance and Research:**
Ensure nationwide comprehensive cancer surveillance data by 2018:
Strengthen evidence based policy development and decision making for cancer prevention and control

1. PROGRAMME STRENGTHENING

Goal 1: Standardisation of practice of national cancer prevention and control service in all organisations providing cancer services.			
Objective:	Strategy:	Indicators	Target
1.1 To strengthen the cancer prevention and control programme by 2018	Development of comprehensive NCDs policy and national cancer control three year rolling plan	Existence of comprehensive national NCDs Policy and cancer control three year rolling plans	2014
1.2 To provide leadership for cancer control by 2018	Establishment of national cancer prevention and control forum	Existence of a national cancer forum	2015
1.3 To mobilise resources for cancer prevention and control	Partnership development both locally and internationally	Percentage contribution of partnerships to cancer and budget	Ongoing
	Advocacy and communication for resource mobilisation	Percentage of health budget and disbursement allocated for cancer prevention and control	2015
	Lobby for channeling of 'sin taxes' towards NCDs prevention and control	Percentage of 'sin taxes' channeled to the health sector	80% of 'sin taxes' channeled to MoHCW by 2018
1.4 To standardise cancer early detection and management at all levels by 2015	Development of guidelines	Availability of cancer early detection and management guidelines	2015
	Strengthen referral system	Availability of referral guidelines	2015
1.5 To improve partner / stakeholder coordination in cancer prevention and control	Development of coordination mechanisms	Existence of functional coordination mechanisms	2015
1.6 To integrate cancer control and HIV & AIDS/STI services by 2016	Development of integrated Cancer/HIV & AIDS/STI management guidelines	Existence of Integrated Cancer /HIV & AIDS/STI management guidelines	Guideline at all institutions by 2016
	Integration of cancer /HIV & AIDS/STI early detection and management services	Percentage of facilities providing HIV & AIDS /STI and Cancer integrated services	100% by 2018
	Human Resource Development	Level of integration of Cancer early detection with HIV & AIDS/STI services	100% by 2018
		Percentage of clients accessing Integrated HIV & AIDS/STI and Cancer services	100% by 2018
		Number of staff trained in integrated Cancer/HIV & AIDS/STI early detection and management services	100% by 2018

2. CANCER PREVENTION IN ZIMBABWE

Goal 2: Promotion of appropriate behaviours and provision of an enabling environment for the control and prevention of cancer in 60% of the targeted audience by 2018

Objective:	Strategy:	Indicators:	Target	
2.1 To increase the proportion of Zimbabweans who are cancer literate to 80% by 2018	Mass media communication	Existence of a functional communication strategy encompassing radio programs, magazines/bulletins, song and drama programmes	- Monthly radio programmes on cancer - Annual magazine - 5 songs on cancer by 2018 - 1 TV Drama centered on cancer by 2015 5 IEC messages by 2016	
	Lobby for the review and strengthening of school health programme	Existence of cancer education in the schools health programme	100% Integration of cancer education by 2018	
	Healthy lifestyles (including safer sex) promotion campaigns	Number of campaigns held	- 1 national launch - 10 provincial campaigns by 2018	
	Integration of cancer and other selected NCDs in the school curriculum	Number of schools with integrated NCDs in curriculum	100% by 2018	
	Integration of cancer and other selected NCDs education into workplace wellness programs		Number of company-clinics implementing cancer wellness programs by 2018	50% of registered companies with clinics by 2018
			Percentage of registered companies/ institutions implementing annual cancer prevention programmes by 2018	100% of registered companies/institutions by 2018
2.2 To provide protection against chronic infections (HPV, hepatitis B on-going, Schistosomiasis by 2018)	Introduction of HPV vaccination for the girl child aged 9-13 years.	HPV vaccination coverage	85% by 2018	
	Maintaining high HB vaccination coverage in the under 1 year olds	HB vaccination coverage	100% by 2016	
	Strengthening schistosomiasis control measures in all endemic districts		Schistosomiasis control coverage in endemic districts	100% by 2018
Schistosomiasis case management coverage			100% by 2018	
Schistosomiasis Vector control coverage			100% by 2018	

Goal 2: Promotion of appropriate behaviours and provision of an enabling environment for the control and prevention of cancer in 60% of the targeted audience by 2018

Objective:	Strategy:	Indicators:	Target
2.3 To empower patients, family members and the public to exercise their legal rights to health and health care by 2018	Educate patients, family members and the public on existing laws that protect their legal rights with support from Ministry of Labour and Social Welfare, NSSA and other stakeholders	Knowledge levels of existing laws and legal rights	80% of the population knowledgeable by 2018
2.4 To reduce population exposure to tobacco	Lobby for increased taxes levied on tobacco sales	Prevalence of people smoking tobacco by 2018	Tobacco smoking reduced by 5% by 2018
	Lobby for enforcement of existing tobacco control legislation	Percentage of institutions or facilities adhering to tobacco control legislation	Ongoing
	Creating an enabling environment for tobacco cessation	Existence of facilities providing tobacco cessation services	One centre per province by 2015
	Lobby for the ratification of the framework convention on tobacco control (FCTC)	Accession of the FCTC	Accession of FCTC by 2016
	Lobby for banning of tobacco advertisement	Existence of a ban on tobacco advertisement	0% Advertising by 2018
2.5 To reduce population exposure to alcohol	Lobby for increased taxation on alcohol	Prevalence of individuals who engage in harmful use of alcohol	Reduction by 5% by 2018
	Lobby for enforcement of existing alcohol control legislation	Percentage of institutions or facilities adhering to alcohol control	100% adherence by 2018
	Finalisation of the alcohol control policy	Existence of alcohol control policy	Policy in place by 2014
	Reduction of harmful use of alcohol	Number of psycho-social support groups in place	1 per district by 2018
			Number of alcohol rehabilitation facilities

Goal 2: Promotion of appropriate behaviours and provision of an enabling environment for the control and prevention of cancer in 60% of the targeted audience by 2018

Objective:	Strategy:	Indicators:	Target
2.6 To minimise occupational and environmental exposure to carcinogenic agents by 2018	Lobby for increased exposure monitoring of personnel working with radiation	Percentage of institutions dealing with known radioactive substances registered or licensed	100% by 2018
		Number of institutions complying	100% by 2018
	Lobby for licensing and inspection of institutions dealing with known carcinogenic substances	Proportion of institutions registered	100% by 2018
		Proportion of institutions complying	100% by 2018
	Workplace education on reducing risk of exposure	Proportion of institutions complying	100% coverage by 2018
		Proportion of employees reporting awareness	100% coverage by 2018
	Lobby for consistent environmental assessment and monitoring for carcinogenic substances	Existence of monitoring system in place for institutions dealing with known carcinogenic substance	In place by 2015
		Percentage of institutions dealing with known carcinogenic substances inspected at least once per year	100% by 2018
	Lobby for provision of protection against UV rays for at risk groups – e.g. Albinos	Percentage of at risk individuals receiving sunscreens (creams)	100% by 2018
	Lobby for consistent UV intensity monitoring and reporting	Quality reporting on the UV index	Weekly reports by 2015

3. CANCER EARLY DETECTION (EARLY DIAGNOSIS AND SCREENING)

Goal 3: Reduction of late presentation (3rd and 4th stage) of selected cancers (KS, Cervical, breast and prostate) in adults and KS, Wilms Tumour and Retinoblastoma leukemia and non-Hodgkins in children)

Objectives:	Strategies	Indicator:	Target
3.1 To equip primary health facilities, district, provincial and central hospitals staff with skills in cancer early detection by 2018.	Development of early detection and referral (early warning signs) guidelines	Availability of cancer detection and management guidelines or protocols Provision of early detection services in the system	100% of facilities with guidelines / protocols All levels of the system providing early detection services by 2018
	Strengthen institutional (District and Provincial hospitals) capacity for cancer early diagnosis (biopsy and laboratory)	Percentage of district, provincial and central hospitals providing early cancer diagnosis services	100% of District, Provincial and Central hospitals by 2016
	Integration of routine screening with HIV & AIDS and STI services	Percentage of OI / STI /OPD/ MCH Clinics providing routine, integrated screening services in district, provincial and central hospitals	100% by 2016
		Number of health personnel trained in integrated screening services	20% trained per facility by 2018
3.2: To establish routine selected cancer screening services at Central, Provincial and District hospitals by 2018	Capacity building for routine screening for selected cancers (adult - oral, breast and prostate, cervical and childhood - retinoblastoma, Wilms tumour, KS)	Percentage of district, provincial and central hospitals providing routine screening services for selected cancers	100% of district, provincial and central hospitals by 2016
	Strengthen referral system	Existence of functional referral system	In place 2018
		Existence of referral guidelines	In place 2018
	Promotion and utilisation of early detection services	Percentage of cervical cancer screening sites with HPV DNA testing	Existence of HPV DNA testing by 2018
		Proportion of women aged 25 to 59 examined at least once for cancer of the cervix	25% by 2018
Number of (individuals) men and women screened for cancer (by type of cancer) at a health institution	10% coverage		
3.3: To increase access to comprehensive cancer screening services	Institutional capacity building for cervical cancer and HIV & AIDS and STI screening	Percentage of health facilities providing intergrated cervical cancer/ HIV and AIDS/ STI screening Number of staff trained in integrated cervical (VIAC), breast cancer screening HIV & AIDS and STI service per facility	60% by 2016 100% provincial and district hospitals by 2016 100% primary health care facilities by 2018

4. CANCER DIAGNOSIS AND TREATMENT

Goal 4: Increasing the proportion of people accessing comprehensive cancer diagnostic and therapeutic services in line with Standard National Cancer Management Guidelines.

Objectives:	Strategies:	Indicator:	Target
4.1 To increase the proportion of patients that have timeous access to standardised cancer diagnostic and therapeutic services by 30% and 50% respectively by 2018	Review of national cancer management guidelines	Existence of reviewed national cancer management guidelines	All existing guidelines reviewed by 2015
	Training of health workers (all levels) on new cancer management guidelines	Percentage of health workers trained and providing cancer management services	50% institution and 20% of workforce by 2018
	Rehabilitate cancer therapy services at Mpilo Central Hospital and Parirenyatwa Hospital	Existence of functional radiotherapy services at Mpilo Central Hospital and Parirenyatwa Hospital	100% Functionality by 2018
	Establishment of one additional centre that offers cancer diagnostic and treatment services	Existence of new functional diagnostic and therapeutic centre	Ongoing
		Number of functional diagnostic and therapeutic centers	Increase by 1 centre by 2018
	Increase and retain human resource base for cancer control	Availability of adequate human resources for cancer control	70% staffing level by 2018
	Increase availability of functional medical equipment and technology for diagnosis and treatment at all levels of the health delivery system	Number of centres with functional diagnostic and therapeutic cancer control equipment	3 centres by 2018
	Increase cancer medicine availability in all treatment facilities from (10% essential to 80%) in line with National Medicines Policy	Availability of essential cancer management medicines	80% by 2018
	Lobby for availability of essential cancer medicine at NatPharm to reduce cost of medicines to the patient	Availability of affordable essential cancer management medicines from NatPharm	80% availability by 2018

5. CANCER PALLIATIVE CARE AND REHABILITATION

Goal 5: Improving access to palliative care and rehabilitation services to cancer patients and their families

Objectives:	Strategies	Indicator:	Target
5.1 To increase availability of essential pain medication as per WHO recommendations by 40%, as measured by reports of morphine used (3 step analgesic ladder) to all patients in pain by 2018	Lobbying to allow all palliative care trained nurses to initiate opioid prescription	Ability of palliative care trained nurses to prescribe opioids	100% of trained nurses prescribing opioids by 2018
	Strengthen the supply chain of all pain medication in the country by engaging Natpharm as per WHO recommendations	Percentage of Health Institutions (at relevant levels) with zero morphine stock-outs	No stock out by 2018
		Percentage of reported morphine usage	100% (i.e. all patients in need prescribed)
5.2 To provide holistic care (spiritual, emotional, social and physical) to all cancer patients and families by 2018	Develop multi disciplinary teams at all levels of health delivery system (institutional and community)	Proportion of health institutions with palliative care multidisciplinary teams	20% by 2016
5.3 To develop and implement oncology and palliative care training programmes for all levels of health workers by 2018	Develop relevant national curricula in oncology and palliative care for all health workers (Training of Trainers, Certificates, Diplomas, Degrees)	Proportion of relevant health care workers trained in palliative care and oncology	20% by 2018
5.4 To increase rehabilitation access for cancer patients, survivors and their families by 2018	Supply Central, Provincial and District hospitals with resources and equipment for cancer rehabilitation	Proportion of district hospitals with adequate equipment for cancer rehabilitation	100% by 2018
	Provision of prostheses and other assistive devices	Availability of prostheses and other assistive devices	100% by 2018
5.5 To increase support services for cancer patients, survivors and their families by 2018	Increase awareness of rehabilitation services to cancer patients in communities, workplace and among health providers	Number of cancer patients referred for rehabilitation services	40% increase from 2010 level by 2018
	Establish and support psychosocial support groups	Number of functional support groups	At least 1 per district by 2018
	Development of supportive material for cancer rehabilitation in the appropriate language	Number of appropriate IEC materials produced	1 message per year
Number of institutions with IEC materials		100% by 2018	

Goal 5: Improving access to palliative care and rehabilitation services to cancer patients and their families

Objectives:	Strategies	Indicator:	Target
5.6 To increase the proportion of patients that have timely access to palliative care and rehabilitation services by 2018	Develop national cancer related palliative and rehabilitation care standards and guidelines	Availability of cancer related palliative and rehabilitation care standards and guidelines	Standards and guidelines in place by 2018
	Disseminate standards, utilise and practice palliative care according to National Palliative Care Standards (2009)	Proportion of health care providers practising palliative care according to National Palliative Care Standards (2009)	100% by 2018

6. CANCER SURVEILLANCE AND RESEARCH

Goal 6:

Ensuring nationwide comprehensive cancer surveillance data by 2018, and strengthened evidence based policy development and decision making for Cancer Prevention and Control by 2018

Objective	Strategies	Indicator	Target
6.1 To ensure complete national cancer surveillance by 2018	Expand Cancer Registry services to all provinces by 2018	Provincial coverage of Cancer Registry	100% by 2018
	Lobby for legislation to make cancer a notifiable disease	Cancer notification status	Cancer classified as notifiable disease by 2018
6.2 To strengthen evidence based policy development and decision making for cancer prevention and control	Development of cancer research agenda	Availability of cancer research agenda by 2015	Agenda available by 2015
	Promotion and support of operational research on cancer related issues at all levels	Increased funding of cancer research	50% increase by 2018
	Strengthen collaboration with National Institute of Health research and other research institutes	Number of research studies (collaborative) conducted and disseminated	3 by 2018

Annex 1

Monitoring and Evaluation Framework



Zimbabwe National Cancer Strategy

ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

THE NATIONAL CANCER STRATEGY SUMMARY RESULTS CHAIN (THEORY OF CHANGE)

INPUTS	
x	Strategy
x	Finances, Personnel
x	Medicines, equipment and other material



MONITORING AND EVALUATION

PROCESSES (Activities undertaken in line with the strategies)	
x	Development of policies, plans
x	Development of guidelines and protocols
x	Training of health professionals
x	Awareness campaigns
x	Provision of medicines and supply/rehabilitation of equipment
x	Provision of cancer control & prevention services
x	Development of databases, M&E and surveillance Systems
x	Conducting of research, monitoring and evaluation



OUTPUTS (Results obtained in the immediate/short term: 0-2 years)	
x	Policies, legal frameworks and plans developed and enforced, Guidelines and protocols developed
x	Local and international partnerships developed
x	Improved awareness of cancer prevention and control
x	Cancer education integrated: School curricula, workplace
x	Improved knowledge amongst health professionals
x	Integrated services for cancer, HIV & AIDS and STI screening
x	Increase availability of medicines and functional medical equipment and technology
x	Clinical research in cancer diagnosis, treatment and palliative care conducted, M&E Systems developed
x	Increase in number of health professionals eligible to prescribe morphine for pain control
x	Improved availability of essential PC medications and rehabilitation equipment/supplies
x	Multi-disciplinary palliative care units established in health facilities
x	Functional inclusive Cancer Registry in all provinces



OUTCOMES (Results realised in the medium term: 2 to 5 years)	
x	Improved quality of cancer control and prevention service
x	Improved coverage of HPV, HB and Schistosomiasis control coverage
x	Improved knowledge of cancer control and prevention in the population
x	Reduction in population exposed to risk factors
x	Reduction in late presentation of selected cancers
x	Improved coverage of screening services in health institutions
x	Improved uptake of cancer screening services
x	Improved access to comprehensive cancer diagnostic and therapeutic services
x	Improved access to palliative care and rehabilitative services by cancer patients and their families
x	Improved quality of palliative care and rehabilitation services provided by health care providers
x	Evidence based cancer control and prevention programming and clinical practice



IMPACT (Broad results realised in the long term 5+ years)	
x	Reduction in national cancer morbidity and mortality

ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

FRAMEWORK

KRA 1:	Programme Strengthening							
GOAL:	Standardise practice of National Cancer Prevention and Control service in all organisations providing cancer services							
OBJECTIVE 1:	To strengthen cancer prevention and Control programme by 2018							
OBJECTIVE 2:	To provide leadership for cancer control by 2015							
OBJECTIVE 3:	To mobilise resources for cancer prevention and Control							
OBJECTIVE 4:	To provide standardised cancer detection and management guidelines for all levels of the system by 2015							
OBJECTIVE 5:	To improve partner / stakeholder coordination in cancer prevention and control							
OBJECTIVE 6:	To integrate cancer control and HIV & AIDS & STI services by 2016							
IMPACT:	Reduction in national cancer morbidity and mortality							
Impact Indicator (s)		Performance Target	Source/Means of Verification	Responsibility	Frequency			
Incidence of cancer by type of cancer		Cervical (↓ by █%) KS & Breast (↓ by █%) Prostate & Non Non Melanoma Skin (↓2%)	Cancer Registry, ZDHS	Cancer Registry, NCCP	Annual			
Cancer mortality rates		Cervical ↓ 5%	Cancer Registry	Cancer Registry, NCCP	Annual			
Outcome 1:	Improved quality of cancer prevention and control service							
Outcome Indicator (s)		Performance Target	Source/Means of Verification	Responsibility	Frequency			
% of health institutions providing standardised cancer control and prevention services according to set guidelines and protocols		50% of Institutions per province	Activity Reports, Quality of Care (QoC) Assessments ¹	NCCP	Annually			
% of facilities offering integrated cancer control with HIV and AIDS and STI programme.		100%	Activity Reports, Quality of Care (QoC) Assessments	NCCP	Annually			
Output 1:	A comprehensive NCDs Policy and National Cancer Control Three Year Rolling Plan							
Output 2:	A National Cancer Prevention and Control Forum							

¹This may take the form of the National Integrated Health Facility Assessments (NIHFA) as a component of assessment

ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

Output Indicator (s)	Performance Target	Source/Means of Verification	Responsibility	Frequency
Output 3:	Local and international partnerships developed			
Output 4:	Cancer early detection and management guidelines developed			
Output 5:	Early detection and referral protocols developed and disseminated			
Output 6:	Establishment of Cancer Database			
Output 7:	Functional coordination mechanisms in place			
Output 8:	Sustainable funding for national cancer prevention and control services			
Existence of a comprehensive National NCDs Policy and Cancer Control Three Year Rolling Plan	In place by 2014	Activity Reports	NCCP	Quarterly
Existence of a National Cancer Forum (<i>Appointed by the Minister</i>)	In place by 2015	Activity Reports	NCCP	Quarterly
Availability of Cancer Detection and Management Guidelines	2015	Activity Reports	NCCP	Quarterly
Existence of a functional referral system at all levels	2015	Activity Reports	NCCP	Quarterly
Availability of a functional Cancer Data Base	2015	Activity Reports	NCCP	Quarterly
Availability of functional Coordination Mechanisms	2015	Activity Reports	NCCP	Quarterly
% amount of health budget and disbursement allocated for Cancer Prevention and Control	2015	Health Budget	NCCP	Quarterly
% contribution of partnerships to Cancer Prevention and Control budget.	2015	Health Budget/Activity Reports	NCCP	Quarterly

ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

KRA 2: Cancer Prevention				
GOAL:	To promote appropriate behaviours and provide an enabling environment for the control and prevention of cancer in 60% of the targeted audience by 2018			
OBJECTIVE 1:	To increase the proportion of Zimbabweans who are cancer literate to 80% by 2018			
OBJECTIVE 2:	To provide protection against chronic infections (HPV, hepatitis B, schistosomiasis)			
OBJECTIVE 3:	To reduce population exposure to tobacco			
OBJECTIVE 4:	To reduce harmful use of alcohol			
OBJECTIVE 5:	To minimise occupational and environmental exposure to carcinogenic agents			
OBJECTIVE 6:	To monitor and evaluate the implementation of cancer prevention and control activities at all levels by 2018			
IMPACT:	Reduction in national cancer morbidity and mortality			
Impact Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
Incidence of cancer	Cervical (↓by 5%) KS & Breast (↓by 2%) Prostate & Non Melanoma Skin (↓by 2%)	Cancer Registry, ZDHS	Cancer Registry, NCCP	Annual
Cancer mortality rates	Cervical ↓ 5%	Cancer Registry	Cancer Registry, NCCP	Annual
Outcome 1:	Improved coverage of HPV, HB and Schistosomiasis control measures			
Outcome Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
HPV vaccination coverage	85% by 2016	National Health Surveillance	NCCP	Annual
HB vaccination coverage	Above 90%	National Health Surveillance	NCCP	Annual
Schistosomiasis control coverage, endemic districts	100% by 2016	National Health Surveillance	NCCP	Annual
Schistosomiasis case management coverage	100% by 2016	National Health Surveillance	NCCP	Annual
Schistosomiasis vector control coverage	80% on-going	National Health Surveillance	NCCP	Annual
Outcome 2:	Improved knowledge of cancer control and prevention in the population			
Outcome Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency

ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

Proportion of Zimbabweans who are cancer literate	80% by 2018	Surveys/ZDHS	NCCP	(Mid Term, Post Strategy)
Outcome 3: Reduction in population exposed to cancer risk factors				
Outcome Indicator (s)	Performance Target	Source/Means of Verification	Responsibility	Frequency
Prevalence of smoking amongst men and women	5% reduction by 2018	Surveys/ZDHS	NCCP	Biennial
Prevalence of individuals who engage in harmful use of alcohol among men and women	Reduction by 5% 2018	Surveys/ZDHS	NCCP	Biennial
Proportion of facilities (restaurants, bars etc.) and institutions adhering to tobacco control legislation	100% by 2018	Surveys	NCCP	Biennial
Proportion of institutions complying with legal framework for radiation exposure and management of carcinogenic substances	100% by 2018	Environmental assessments and surveillance monitoring for carcinogenic substances	NCCP	Biennial
Proportion of individuals at risk of UV rays (e.g. albinos) with access to protective measures	100% by 2018	Surveys/ZDHS	NCCP	Biennial
Output 1: Improved awareness of cancer prevention and control				
Output 2: Cancer education integrated in school health programme and workplace wellness programmes				
Output 3: Policy and legal frameworks for cancer control and prevention established and enforced				
Output 4: A results based Cancer Monitoring and Evaluation system including registration, surveillance ² and operations research established and implemented				
Output Indicator (s)	Performance Target	Source/Means of Verification	Responsibility	Frequency
Existence of a functional Cancer Communication Strategy encompassing radio programmes, magazines/bulletins, song and drama programmes	Cancer Communication strategy in place by 2015	Activity Reports	NCCP	Quarterly
Existence of cancer education in the school health programme	In place by 2015	Activity Reports	NCCP	Quarterly
No. of company- clinics implementing cancer wellness programmes by 2017	100%	Activity Reports	NCCP	Quarterly

²Includes quality reporting for the UV Index


ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

% of registered companies/institutions implementing annual cancer prevention programmes by 2018 (Include informal sector)	50%	Activity Reports	NCCP	Quarterly
Number of community based focal persons trained in cancer education	100/ province	Activity Reports	NCCP	Quarterly
Cancer awareness campaign coverage	Target Campaigns (1 national launch, 10 annual provincial campaigns)	Activity Reports	NCCP	Quarterly
No. of facilities providing tobacco cessation programmes	10 by 2015	Activity Reports	NCCP	Quarterly
Accession of the FCTC	Accession by 2014	Activity Reports	NCCP	Quarterly
Existence of Alcohol Control Policy	Policy in place by 2014	Activity Reports	NCCP	Quarterly
No. of facilities providing alcohol cessation programmes	10 by 2015	Activity Reports	NCCP	Quarterly
No. of psycho-social support groups for cancer wellness in place by 2018	1 per District	Activity Reports	NCCP	Quarterly
% of institutions dealing with known carcinogenic substances registered/licensed	100%	Activity Reports	EMA, RPAZ	Quarterly
Availability of a functional system for environmental assessment and monitoring for carcinogenic substances	In place by 2015	Activity Reports	EMA, RPAZ	Quarterly

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KRA 3:	Cancer Early Detection (Early Diagnosis and Screening)			
GOAL:	Reduce late presentation of selected cancers (cervical, breast, prostate in adults; Wilm's tumour, Retinoblastoma, KS, and non Hodgkins lymphoma in children) by 20%			
OBJECTIVE 1:	To equip primary health facilities, district, provincial and central hospitals staff with skills in cancer early detection by 2018			
OBJECTIVE 2:	To establish selected cancer (cervix, breast, prostate, oral) screening services at Central, Provincial and District hospitals by 2018			
OBJECTIVE 3:	To roll out integrated cervical and breast cancer screening (VIAC) to district and provincial hospitals by 2015 and all primary health care facilities by 2018.			
IMPACT:	Reduction in national cancer morbidity and mortality			
Impact Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
Incidence of cancer	Cervical (↓ by 5%) KS & Breast (↓ by 2%) Prostate & Non Melanoma Skin(↓ by 2%)	Cancer Registry, ZDHS	Cancer Registry, NCCP	Annual
Cancer mortality rates	Cervical ↓ 5%	Cancer Registry	Cancer Registry, NCCP	Annual
Outcome 1:	Reduction in late presentation of selected cancers by 20% by 2018			
Outcome Indicator	Performance Target	Source/Mean of Verification	Responsibility	Frequency

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Proportion of cancer cases presenting late (3rd and 4th stage) for selected cancers	 20% (2018)	Cancer Registry	NCCP	Annually
Outcome 2: Improved coverage of screening services in health institutions				
Outcome Indicator	Performance Target	Source/Mean of Verification	Responsibility	Frequency
% of district, provincial and central hospitals providing early detection services	100% by 2018	Activity Reports	NCCP	Quarterly
% of OI Clinics providing screening services	100% by 2018	Activity Reports	NCCP	Quarterly
% of health facilities providing integrated cervical, HIV & AIDS and STI screening	100% by 2016	NHIS (National Health Information System)	NCCP	Quarterly
% of district, provincial and central hospitals providing routine screening services	100% by 2016	Activity Reports	NCCP	Quarterly
Outcome 3: Improved uptake of cancer screening services				
Outcome Indicator	Performance Target	Source/Mean of Verification	Responsibility	Frequency
% of women aged 25-59 years examined at least once for cancer of the cervix	25% (WHO) by 2018	Survey Reports, ZDHS	NCCP	Biennial
No. of individuals (men and women) screened for cancer (by type of cancer) at a health institution	10% annual increase	NHIS (National Health Information System)	NCCP	Quarterly
Output 1: Health professionals trained in routine screening for selected cancers at provincial and district hospitals				
Output 2: Early detection and referral protocols developed and disseminated				
Output 3: Integrated service provision for cancer, HIV and STI screening				
Output 4: Improved awareness of cancer early detection services				
Output Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
No. of health professionals trained in cancer early diagnosis and routine screening	100% by 2016	Activity Reports	NCCP	Quarterly
No. of health professionals trained in integrated cancer screening, HIV & AIDS and STI screening	20% per facility	Activity Reports	NCCP	Quarterly
Availability of a clear and documented referral system for use	In place by 2015	Activity Reports	NCCP	Quarterly

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KRA 4:	Cancer Diagnosis and Treatment															
GOAL:	Increase the proportion of people accessing comprehensive cancer diagnostic and therapeutic services in line with Standard National Cancer Management Guidelines.															
OBJECTIVE 1:	To increase the proportion of patients that have timeous access to standardised cancer diagnostic and therapeutic services by 30% and 50% respectively by 2018															
OBJECTIVE 2:	To promote utilisation of evidence-based methods in cancer management.															
IMPACT:	Reduction in national cancer morbidity and mortality															
Impact Indicator (s)	<table border="1"> <thead> <tr> <th></th> <th>Performance Target</th> <th>Source/Mean of Verification</th> <th>Responsibility</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Incidence of cancer by type of cancer</td> <td>Cervical (↓ by 5%) KS & Breast (↓ by 2%) Prostate & Non Melanoma (↓ by 2%)</td> <td>Cancer Registry, ZDHS</td> <td>Cancer Registry, NCCP</td> <td>Annual</td> </tr> <tr> <td>Cancer related mortality</td> <td>Cervical ↓ 5%</td> <td>Cancer Registry</td> <td>Cancer Registry, NCCP</td> <td>Annual</td> </tr> </tbody> </table>		Performance Target	Source/Mean of Verification	Responsibility	Frequency	Incidence of cancer by type of cancer	Cervical (↓ by 5%) KS & Breast (↓ by 2%) Prostate & Non Melanoma (↓ by 2%)	Cancer Registry, ZDHS	Cancer Registry, NCCP	Annual	Cancer related mortality	Cervical ↓ 5%	Cancer Registry	Cancer Registry, NCCP	Annual
	Performance Target	Source/Mean of Verification	Responsibility	Frequency												
Incidence of cancer by type of cancer	Cervical (↓ by 5%) KS & Breast (↓ by 2%) Prostate & Non Melanoma (↓ by 2%)	Cancer Registry, ZDHS	Cancer Registry, NCCP	Annual												
Cancer related mortality	Cervical ↓ 5%	Cancer Registry	Cancer Registry, NCCP	Annual												
Outcome 1:	Improved access to comprehensive cancer diagnostic and therapeutic services															
Outcome Indicator	<table border="1"> <thead> <tr> <th></th> <th>Performance Target</th> <th>Source/Mean of Verification</th> <th>Responsibility</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Performance Target	Source/Mean of Verification	Responsibility	Frequency										
	Performance Target	Source/Mean of Verification	Responsibility	Frequency												

ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

% of suspected referred cases who receive comprehensive diagnostic services.	Increase by 30% From 20009 level	Activity Reports	NCCP	Quarterly
% of diagnosed patients who receive therapeutic services	Increase by 50% From 2009 level	Activity Reports	NCCP	Quarterly
Output 1: National Cancer Management Guidelines developed				
Output 2: Improved knowledge on use of National Cancer Management Guidelines by health workers				
Output 3: Improved coverage of centers offering cancer diagnostic and treatment services				
Output 4: An adequate human resource base for cancer control established and retained				
Output 5: Increase availability of medicines and functional medical equipment and technology for diagnosis and treatment at all levels of the health delivery system.				
Output 6: Clinical research in cancer diagnosis and treatment conducted				
Output Indicator (s)	Performance Target	Source/Means of Verification	Responsibility	Frequency
Availability of National Cancer Management (NCM) Guidelines	2015	Activity Reports	NCCP	Quarterly
% of health workers trained in NCM Guidelines and available.	50% by 2018	Activity Reports	NCCP	Quarterly
Number of centres offering cancer diagnostic and treatment services	Increase by 1	Activity Reports	NCCP	Quarterly
Functionality of Radiotherapy Centres at Mpilo Central Hospital (MCH) and Parirenyatwa Group of Hospitals	MCH and PGH functional by 2014 and continuous	Activity Reports	NCCP	Quarterly
Proportion of health workers trained in cancer management providing cancer control services	100% of trained	Activity Reports	NCCP	Quarterly
Number of centres with functional diagnostic and therapeutic cancer control equipment.	3	Activity Reports	NCCP	Quarterly
% of health institutions at (DPC)providing zero stock out of essential cancer management medications	100%	Activity Reports	NCCP	Quarterly
Availability of affordable essential cancer management medicines from NatPharm	100% by 2018	Activity Reports	NCCP	Quarterly

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KRA 5:	Cancer Palliative Care and Rehabilitation		
GOAL:	To improve access to palliative and rehabilitation care by cancer patients and their families		
OBJECTIVE 1:	To increase availability of essential pain medications as per WHO recommendations by 40%		
OBJECTIVE 2:	To provide holistic care (spiritual, emotional, social and physical) to all cancer patients and families by 2018		
OBJECTIVE 3:	Develop and implement oncology and palliative care training programmes for all levels of health workers by 2018		
OBJECTIVE 4:	Increase rehabilitation access for cancer patients, survivors and their families by 2018		
OBJECTIVE 5:	Increase support services for cancer patients, survivors and their families by 2018		
OBJECTIVE 6:	To facilitate evidence based palliative care and rehabilitation practices by 2018		
OBJECTIVE 7:	To empower patients to exercise their legal rights by 2018		
IMPACT:	Reduction in national cancer morbidity and mortality		
Impact Indicator (s)	Performance Target	Source/Means of Verification	Responsibility
Incidence of cancer by type of cancer	Cervical (↓ by 5%) KS & Breast (↓ by 2%) Prostate & Non Melanoma Skin (↓ by 2%)	Cancer Registry, ZDHS	Cancer Registry, NCCP
			Annual

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Cancer mortality rates	(Cervical ↓ by 5%)	Cancer Registry	Cancer Registry, NCCP	Annual
Outcome 1:	Improved access to palliative care and rehabilitative services by cancer patients and their families			
Outcome Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
Proportion of cancer patients (and families) referred for palliative care and rehabilitation services receiving services	100%	Activity Reports/ National PC Register, Surveys	NCCP, HOSPAPZ	Annually
Outcome 2:	Improved quality of palliative care and rehabilitation services provided by health care providers			
Outcome Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
Proportion of health care providers practicing palliative care according to National Palliative Care Standards (2009)	100%	Activity Reports, Annual Quality of Care Assessments	NCCP, HOSPAPZ	Annually
Proportion of health care providers providing rehabilitation services according to National Rehabilitation Standards and Guidelines	100%	Activity Reports, Annual Quality of Care Assessments	NCCP, HOSPAPZ	Annually
% of relevant health care workers demonstrating appropriate morphine use	100%	Quality of Care Assessments	NCCP	Annually
Output 1:	Increase in number of health professionals (including nurses) eligible to prescribe morphine for pain control			
Output 2:	Improved availability of essential palliative care medications (include pain medications) and rehabilitation equipment/supplies			
Output 3:	Multi-disciplinary palliative care units established in health facilities			
Output 4:	National curricula in oncology and palliative care for all health workers developed			
Output 5:	Improved awareness of the population of available palliative care and rehabilitation services and the legal rights to access			
Output 6:	National monitoring and evaluation system for rehabilitation and palliative care services established			
Output 7:	National Rehabilitation Standards or Guidelines developed			
Output Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
% of practicing PC trained nurses eligible to prescribe morphine	100% by 2018	Activity Reports	NCCP	Quarterly

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% of health institutions (at relevant levels) with zero morphine stock-outs	100% by 2015	Activity Reports Health Facility Assessments	NCCP	Quarterly, Annually
% of district hospitals with adequate equipment for cancer rehabilitation (prosthesis + assistive devices)	100% by 2018	Activity Reports Health Facility Assessments	NCCP	Quarterly, Annually
%of health institutions with PC multidisciplinary teams	20%	Health Facility Assessments	NCCP	Annually
% of health care workers trained in palliative care and oncology	20% by 2018	Activity Reports	NCCP	Quarterly
No. of cancer patients referred for rehabilitation services.	40% by 2018	Activity Reports	NCCP	Quarterly
Number of functional integrated cancer and HIV & AIDS psycho social support groups.	At least 1 per District	Activity Reports	NCCP	Quarterly
Availability of a national monitoring and evaluation system for rehabilitation and palliative care services	In place by 2014	Activity Reports	NCCP	Quarterly
Availability of National Rehabilitation Standards and Guidelines	2015	Activity Reports	NCCP	Quarterly

KRA 6:	Cancer Surveillance and Research			
GOAL:	To strengthen cancer surveillance and research by 2018			
OBJECTIVE 1:	To expand Cancer Registry services to all provinces by 2018.			
OBJECTIVE 2:	To facilitate complete national cancer surveillance by 2018			
OBJECTIVE 3:	To provide evidence-based data on cancer control and prevention programme by 2016.			
OBJECTIVE 4:	To strengthen evidence based policy development and decision making for cancer prevention and control.			
IMPACT:	Reduction in national cancer morbidity and mortality			
Impact Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency

ZIMBABWE NATIONAL CANCER STRATEGY MONITORING AND EVALUATION FRAMEWORK

Incidence of cancer by type of cancer	Cervical (■ 5%) KS & Breast (■ 2%) Prostate & Non Melanoma Stan (by 2%) Insert target	Cancer Registry, ZDHS	Cancer Registry, NCCP	Annual
Cancer mortality rates	Insert target	Cancer Registry	Cancer Registry, NCCP	Annual
Outcome 1: Evidence based cancer control and prevention programme and clinical practice				
Outcome Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
Availability of policy briefs and/or recommendations for programming and/or clinical practices based on surveillance data and research/surveys conducted	At least 3 policy briefs or recommendation papers drafted by 2018	Policy Briefs, Annual and Survey Reports	NCCP	Annually
Evidence of programme review and adjustments based on surveillance data and research by 2018	100% of recommendations have clear actions undertaken	Policy Briefs, Annual Reports	NCCP	Annually
Outcome 2: Accurate, complete and timely reporting of data on cancer epidemiology, control and prevention activities				
Outcome Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
Accuracy, completeness (national coverage) and timeliness rates for surveillance data	100%	National Health Surveillance System, HMIS	Cancer Registry, HMIS	Monthly
Output 1:	Research agenda developed			
Output 2:	Cancer classified as a notifiable disease			
Output 3:	An all-inclusive (includes private sector data) National Surveillance System			
Output 4:	Functional Cancer Registry in all provinces			
Output 4:	Operations and clinical research conducted regularly directly and through collaborations			
Output 5:	Continuous programme learning through regular performance reviews and evaluations			
Output Indicator (s)	Performance Target	Source/Mean of Verification	Responsibility	Frequency
Provincial coverage of the Cancer Registry	100% by 2015	NCCP	Quarterly	Activity Reports

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Cancer notification status	Cancer classified as a notifiable disease by 2018	NCCP	Quarterly	Activity Reports
Existence of a National Cancer Research Agenda	Available end 2015	NCCP	Quarterly	Activity Reports
No. of research studies (+collaboratively) conducted and disseminated	3 by 2018	NCCP	Quarterly	Activity Reports
Availability of Baseline cancer epidemiological data	Baseline epidemiological report by 2015	Activity Reports	NCCP	Quarterly
Availability of report on key risk factor trends	In place by 2015	Activity Reports	NCCP	Quarterly
Integration of the cancer registry into the national health information programme	In place by 2014	Activity Reports	NCCP	Quarterly

Annex 2

Contributors to Strategy Development



Zimbabwe National Cancer Strategy

Following on from the stakeholders meeting, a National Cancer Prevention and Control Strategy Development Committee was formed, chaired by Dr N Ndlovu and facilitated by the NCDs Unit. Sub-Committees were established to work on specific sections of the strategy as follows:

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