



National Cancer Strategic Framework for South Africa 2017 – 2022



health

Department:
Health
REPUBLIC OF SOUTH AFRICA



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FOREWORD BY MINISTER OF HEALTH:



The National Cancer Strategic Framework 2017 – 2022 reflects the country’s commitment to reduce the burden of cancer among all our people. This commitment is made amidst many competing demands from both health and developmental contexts, including our quadruple burden of disease and the high impact of social determinants of health. Many people continue to experience inequities in accessing health services and this Strategy is the platform to improve access to all components of cancer prevention and control, on an equitable basis.

The increasing burden of cancer both internationally and in South Africa is worrying. I am especially concerned about the manner in which the disease impacts on our lives, especially on those who are most vulnerable. I am aware that increasing cancer incidence and mortality is a challenge to all; patients and families who are directly affected by the disease - especially those who have limited access to care; health professionals who are faced daily with the challenges of diagnosing and treating patients, and government officials who must plan and be accountable for effective and cost- efficient service delivery.

Important advances have been made in cancer prevention; such as our tobacco control programme and the inclusion of the Hepatitis B and HPV vaccinations in the Extended Programme of Immunisation. In spite of the country being non-GAVI eligible, our school-based HPV vaccination programme introduced in 2014 is recognised as best practice, globally.

I agree we must do more to improve our services. There is a need for an integrated, life course approach which includes prevention, education and awareness, screening and early detection, diagnosis and treatment as well as rehabilitation and palliative care. Central to all these interventions is recognising the complex needs of our people, as well as respecting the rights and dignity of patients and their families at all times.

The negative impact cancer has on health and development cannot be ignored. I have a responsibility toward the country meeting the Targets of the UN Resolution; *Transforming our world: the 2030 Agenda for Sustainable Development*. This challenge requires government, as a whole, to work with stakeholders toward achieving the best possible outcomes in our fight against cancer.

I am confident that this Strategy together with the recently approved Policies on Breast and Cervical Cancer, the National Policy Framework on Palliative Care as well as other related initiatives will collectively improve cancer prevention and control in the country.

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DR P A MOTSOLEDI, MP
MINISTER OF HEALTH
DATE:

MESSAGE BY THE DEPUTY MINISTER OF HEALTH:



The burden of cancer impacts on the lives of all people in the country irrespective of race or socio-economic status. Unfortunately, this burden is exacerbated among many communities who are also faced with poverty, disadvantage and inequitable access to services. In this context, children and adults alike often present at an advanced stage of disease with little hope of being treated or surviving the cancer. The patient voice is most important in this situation and I firmly believe that the National Cancer Strategic Framework of (NCSF) 2017-2022 represents a response on behalf of the Ministry of Health to that voice.

The Strategic Framework provides a platform for equitable access to cancer prevention and control. I am especially pleased to note its focus on establishing new approaches, strengthening existing and sustaining infra-structure and equipment to ensure timeous and appropriate access to diagnostic and treatment services. I agree that such services are expensive and cannot exist at all facilities, which appears to perpetuates disadvantage. I am pleased to note that the Strategic Framework guides such provinces to ensure patients are referred appropriately, which may also include care pathways within and across provinces. Depending on the situation in provinces, such services may also be provided through partnerships which are regulated and serve in the best interests of patients and the Department as a whole.

The Strategic Framework offers many opportunities for enhanced and accessible cancer prevention and control to all and most importantly, I believe it responds to the patient voice!

A handwritten signature in black ink, appearing to be 'J. Phahla', written over a horizontal line.

DR J PHAAHLA
DEPUTY MINISTER OF HEALTH
DATE:

ACKNOWLEDGEMENTS BY THE DIRECTOR-GENERAL



A diagnosis of cancer continues to be viewed as a death sentence among many communities. This unfortunate view is associated with many factors, including stigma and the lack of public awareness and education on cancer as well challenges in accessing cancer prevention and treatment services.

The National Department of Health has a responsibility to respond to the major cancers experienced by children, women and men by providing evidence-based strategies to reduce the burden of cancer in South Africa. The Strategy guides the Department as a whole on making informed decisions to create equitable access to cancer prevention and control services for all who need them.

The Department of Health notes the contributions made by many sectors and dedicated stakeholders in developing the Strategy, including the Ministerial Advisory Committee on Cancer (MACC), civil society, academics, researchers, experts in the field of oncology from both the public and private sectors, the National Cancer Registry and Clinton Health Access International (CHAI).

In particular, I am pleased to acknowledge Ms K Asante- Shongwe, Dr J Geel, Dr E Singh, Dr C Blanchard, Ms L Greef, Ms S A Singh, Prof P Ruff, Prof J Mahlangu, Mr J Tillus and Prof V Sewram for their participation as members of the Strategy Writing Team; as well as Ms J R Hunter, Dr Y Pillay and Mr I Setlhare for their support of the Team during proceedings.

A handwritten signature in black ink, appearing to read 'Matsoso', written over a horizontal line.

MS MP MATSOSO
DIRECTOR- GENERAL: HEALTH
DATE:

**MESSAGE BY THE CHAIRPERSON OF THE MINISTERIAL
ADVISORY COMMITTEE ON CANCER**



The Ministerial Advisory Committee on Cancer Prevention and Control (MACC) would like to congratulate the Ministry of Health and the National Department of Health on the finalization of the National Cancer Strategic Framework (NCSF).

We trust that it will serve as a roadmap for the effective, equitable and timely implementation of cancer interventions throughout the Republic. And we urge that no patient or person affected by cancer should be denied access to regular and evidence-based cancer education, diagnostic, treatment or psycho-social support services because of their geographic location, level of education or financial means.

The successful provision of equitable and universal access to cancer services and treatments will depend on unflinching political commitment, availability of adequate human and financial resources, and the Republic's sustained execution of the commitments contained in this National Cancer Strategic Framework.

MACC trusts that all key cancer stakeholders will join hands to realize the right to health entitlements of people living with cancer.

A handwritten signature in black ink, appearing to read 'K Asante-Shongwe'.

**K ASANTE-SHONGWE
CHAIRPERSON OF THE MINISTERIAL ADVISORY COMMITTEE ON THE PREVENTION AND CONTROL OF
CANCER (MACC)**

DATE:

ACRONYMS AND ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ASR	age-standardised (incidence) rate
BMI	body mass index
CBE	community-based education
CBO	community-based organisation
CHC	community health centre
CRC	colorectal cancer
CT	computerised tomography
DALY	disability-adjusted life year
DNA	deoxyribonucleic acid
EBV	Epstein Barr virus
EML	essential medicines list
EPI	Expanded Programme on Immunisation
EU	European Union
GLOBOCAN	Global Burden of Cancer Study
HIC	high income countries
HIV	human immunodeficiency virus
HBV	hepatitis B virus
HPV	human papilloma virus
HR	human resources
IARC	International Agency for Research on Cancer
KS	Kaposi sarcoma
KSHV	Kaposi sarcoma-associated herpes virus
LMIC	low- and middle-income countries
MACC	Ministerial Advisory Committee on the Prevention and Control of Cancer
MRC	Medical research Council
MCWH	Maternal, Child and Women's Health
NCD	non-communicable diseases
NCR	National Cancer Registry
NCSP	National Cancer Survivor Care Plan
NDoH	National Department of Health
NDP	National Development Plan
NEMLC	National EML Committee
NGO (NPO)	non-governmental organisation (non-profit organisation), public benefit organisation
NHI	National Health Insurance
NHL	non-Hodgkin lymphoma
NCP	National Cancer Prevention and Control Plan
PBCR	population-based cancer registry
PC	palliative care
PHC	Primary Health Care
PPP	Private Public Partnership
SA	South Africa
SACCSG	South African Children's Cancer Study Group
SAHPRA	South African Health Products Regulatory Agency
SDG	Sustainable Development Goals
SLA	Service Level Agreement
STG	Standard Treatment Guidelines
UICC	Union for International Cancer Control
WHA	World Health Assembly
WHO	World Health Organisation

EXECUTIVE SUMMARY

This overarching, high-level and evidence-based National Cancer Strategic Framework (NCSF) provides an overview of cancer prevention and control initiatives for the major cancers affecting South Africans and is focused on the strategies to reduce the burden of cancer in South Africa. Taking into consideration the current health systems challenges, the regulatory and political contexts, the country's burden of disease profile as well as the high impact of the social determinants of health, these initiatives will allow the South African government to make informed decisions on creating equitable access to cancer prevention and control services for all who need them.

The NCSF builds on various measures to respond to cancer in South Africa reflecting on initiatives of governance, legislation as well as best practice in service delivery. To date, current Interventions implemented are numerous and have included efforts to curb smoking with the enactment of tobacco control legislation like the Tobacco Products Control Act 83 of 1993, the Tobacco Products Control Amendment Act No. 12 of 1999, the establishment of tax and regulatory measures and health promotion interventions. Hepatitis B vaccination was included in the Extended Program of Immunisation in 1999 and a highly successful, population based Human Papilloma Virus (HPV) vaccine program commenced in 2014. In responding to the high burden of disease among South African women, policies on breast cancer and cervical cancer were approved in 2017. The issuing of regulation 380 of the National Health Act of 2003 in 2011 formally established the National Cancer Registry (NCR) and made compulsory registration of confirmed cancer diagnosis in the country obligatory. This enabled significant improvements in the reporting on cancer through the NCR⁵². The Ministerial Advisory Committee on the Prevention and Control of Cancer (MACC) was established in 2013, and it has been pivotal in increasing liaison between various stakeholders in the cancer arena. These include non-profit organizations, research and academic institutions and private health companies. MACC has played a vital role in the development and finalisation of this NCSF.

South Africa recognises the negative impacts cancer has on health and development, and it readily supported the UN Resolution A/RES/70/1 entitled *Transforming our world: the 2030 agenda for Sustainable Development*. Successful implementation of the NCSF will help South Africa to reach these targets and help government to realise its right-to-health duties as enshrined in section 27 of the national constitution (Act 108 of 1996). This strategic framework will also enable South Africa to develop comprehensive cancer policies and services in compliance with the WHA Resolution EB114.R2 on Cancer Prevention and Control which was adopted in Geneva. The WHA Cancer Resolution requires state parties "to address inequity in access to early detection, timely and appropriate treatment, including pain relief and palliative care."

The NCSF is intended to guide the development, implementation, monitoring and coordination of Cancer Policies, related Strategies and other cancer related activities. It prioritises the five most common cancers in women and men and conveys a commitment to develop specific policies on these, and a policy on childhood cancers including, adolescents and young adults.

This document outlines the process of cancer-care from surveillance to raising awareness, screening and diagnosis, treatment and supportive care and rehabilitation throughout the trajectory. It indicates the activities to take place throughout the health service delivery platform, as well as provides patient care pathways and packages of care for each patient at each level.

The NCSF goals and objectives have been developed based on the WHO health system building blocks. An implementation plan with targets has been outlined to guide both the National and Provincial Departments of Health in achieving the goals of this Strategic Framework.

This document demonstrates government's commitment to providing equitable and affordable access to cancer services and treatments. Success in this regard will be attained through partnerships and collaboration. The NCSF is intended for use by a variety of stakeholders including, but not limited to, the National and Provincial Departments of Health, Private Sector, Academia and Non-Profit Organisations.

INTRODUCTION

Cancer is a growing national health and socio-economic concern in South Africa. It has been recognised that the increasing cancer incidence, high death rate and the significant morbidity experienced by cancer survivors are issues that require urgent attention. Globally, it is reported that many cancer deaths are preventable through immunisation, changes in lifestyle, early detection as well as timely treatment, thereby relieving unnecessary suffering. While multiple initiatives have been put in place over the last two decades to decrease the risk of certain cancers, the beneficial effects will take time to manifest and will impact initially on incidence rates, and only later on mortality rates.

The overall aim of this Cancer Strategic Framework is to reduce the burden placed on the South African population by deaths, disability and financial strain due to cancer. In addition, it aims to preserve the dignity of people living with cancer, and their communities by decreasing suffering and distress. The NCSF is an overarching policy for cancer prevention and treatment. It is to be read in conjunction with the policies for specific cancers as well other relevant policies and strategy documents.

The NCSF will assist and guide our country in meeting the United Nations SDG target 3.4 and related targets of reducing premature mortality due to NCDs including cancer⁵⁰, as well as the global target of the WHO Global Action Plan for the Prevention and Control of NCDs of reducing mortality due to NCDs including cancer by 25% by 2025⁵¹. Central to the NCSF is the equitable access to cancer-care throughout the country in line with the National Development Plan 2030.

Noting the existing situation in SA, the NCSF will prioritise health system's gaps related to equitable access to diagnostics and treatments.

LEGISLATIVE AND POLICY FRAMEWORK

The NCSF incorporates cancer and related provisions found in Global and National directives as reflected in Appendix 1

BURDEN OF CANCER: GLOBAL AND SOUTH AFRICA

Cancer is a leading cause of death globally, with increasing numbers of people dying of cancer-related causes. The WHO estimates that 8.8 million people died of cancer in 2015, up from 7.6 million in 2005². In 2013 there were approximately 14.9 million incident cancer cases and 196.3 million DALYs attributable to cancers globally³. Seventy per cent of all cancer deaths (approximately 5.7 million) and 40% of all new cancers worldwide occurred in low- and middle-income countries (LMICs)². In these contexts, resources available for prevention, diagnosis and treatment of cancer are often limited or non-existent. In South Africa, deaths due to cancer represent approximately 9% of all-cause mortality in adults¹, while in children and adolescents this data is unavailable.

SOCIO-ECONOMIC IMPACTS OF CANCER

Access to care continues to be associated with socio-economic status, insurance status and geographic location, with black Africans, poor, uninsured and rural residents experiencing the greatest barriers⁵. Efforts to restructure the public health sector post 1994, have yielded marked successes in achieving improved access to care, rationalising health systems, improved health outcome indicators and equitable health care expenditure⁶. In order to deliver effective and efficient cancer prevention and management services, health systems still require improvement including operational, quality of care and staffing improvements. South Africa's National Development Plan 2030 (NDP) recognises that health is not purely a medical issue and that a healthy population is essential for the success of the development agenda⁷.

Successful healthcare delivery requires strengthened health systems to deliver interventions on prevention and control of cancer. These interventions vary in terms of their development within provinces and throughout the country. A cancer death is a tragedy for both the family and for the community. The financial costs of a cancer diagnosis are not limited to the patient, but also impact on the family, community and the country as a whole⁸. Treatment costs are often unacceptably high, making many standard-of-care treatments unaffordable for partially insured or uninsured patients⁸. In addition, they undermine the state's ability to procure treatments for the approximately 85% of the population who are dependent on the public health sector.

South Africa recognises the negative impacts cancer has on health and development. The country readily supported the UN Resolution A/RES/70/1 entitled: *Transforming our world: the 2030 Agenda for Sustainable Development*, adopted during the United Nations Sustainable Development Summit held on 25 September 2015 at the United Nations Headquarters in New York. The 17 sustainable development goals commit parties to a vision of a world free of poverty, hunger, disease and want, where all life can thrive through meeting comprehensive, far-reaching and people-centred targets by 2030.

The Agenda 2030 for sustainable development puts cancer and other non-communicable diseases (NCDs) firmly on the health and developmental agendas⁹. The NCSF will assist with realising the targets of Goal 3 of the Sustainable Development Goals (SDGs) and achieving the Voluntary Global Targets of the World Health Organisation (WHO) Global Action Plan. Further it is noted that the 2017 WHA Cancer Resolution requires state parties "to address inequity in access to early detection, timely and appropriate treatment, including pain relief and palliative care in the context of an integrated approach."

EPIDEMIOLOGY

CANCER INCIDENCE

Figure 1 below depicts the age-standardised incidence rates (ASR) of the five most common cancers amongst women and men in South Africa by population group¹⁰ (NCR). It must be borne in mind that the NCR is a pathology-based registry, with the implication that certain malignancies that are diagnosed via radiological or clinical assessment are not recorded on this registry.

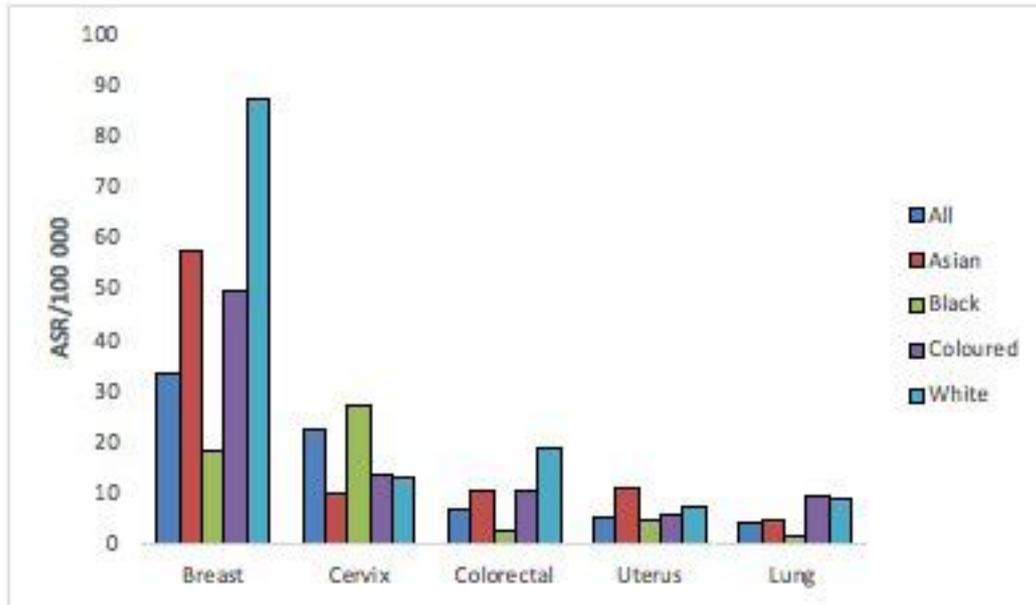


Figure 1: Most Common Cancers in Women in South Africa (2014)
Data from NHLS National Cancer Registry

There were 37 794 female cancers reported to the South African National Cancer Registry in 2014. The most common cancers were breast, cervix, colorectal, uterus and lung cancers (Figure 1).

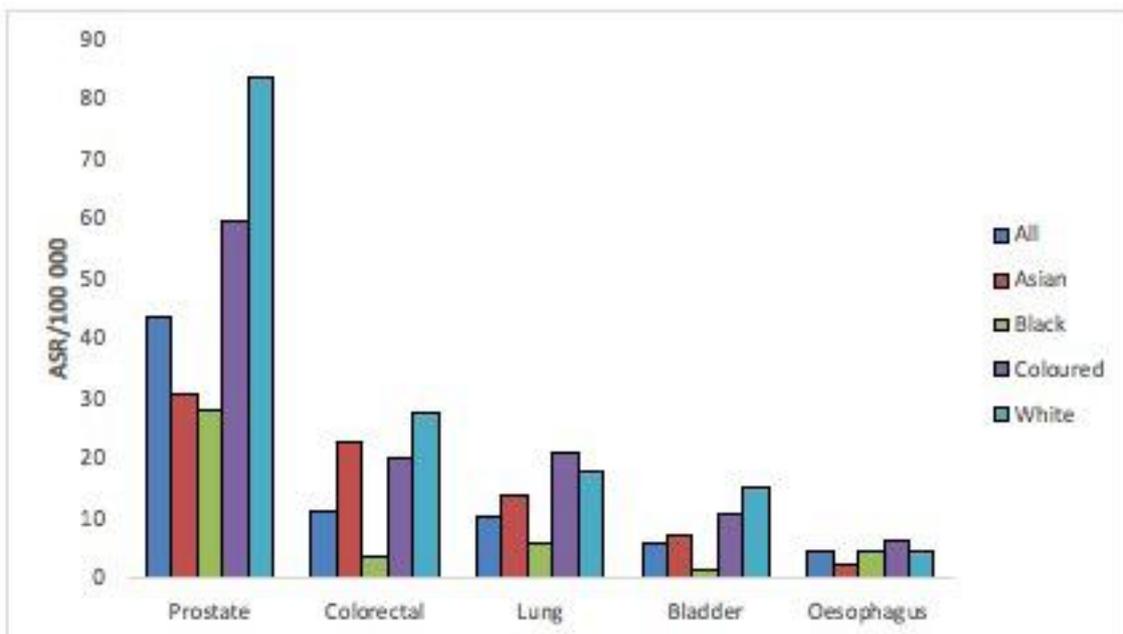


Figure 2: Most Common Cancers in Men in South Africa (2014)
Data from NHLS National Cancer Registry

There were 36 800 male cancers reported to the South African National Cancer Registry in 2014. The most common cancers in South African men of all population groups in 2014 ranked according to age-standardised incidence rates were prostate, colorectal, lung, bladder and oesophageal cancers (Figure 2).

The AIDS-defining malignancies: Kaposi sarcoma (KS) and non-Hodgkin lymphoma rank within the top ten cancers in black men and women. Since 2008, a downward trend in KS amongst black patients has been noted as a result of the introduction of accessible antiretroviral therapy¹¹.

However, the number of cases of all cancers is projected to rise in adults as a result of population ageing and the increase in malignancies associated with increasing development. It is predicted that 112 921 cases of cancer will be diagnosed in 2030 compared with just 77 440 in 2012¹² (IARC).

With regards to childhood cancer, the overall age-standardized incidence rate (ASR) for South Africa between 2000 and 2006 was 45.7 per million children¹³, far lower than the ASR of approximately 180 per million observed in high income countries such as the US¹⁴. A substantial difference was observed by racial group: ASRs tended to be 3–4-fold higher in South African white children compared to black children¹³. According to data from the South African Children’s Cancer Study Group Tumour Registry, between 800 and 1 000 children under the age of 15 years are estimated to be diagnosed with cancer each year. This figure represents less than 50% of the children estimated to have developed cancer in South Africa. Figure 3 represents the most common cancers in children.

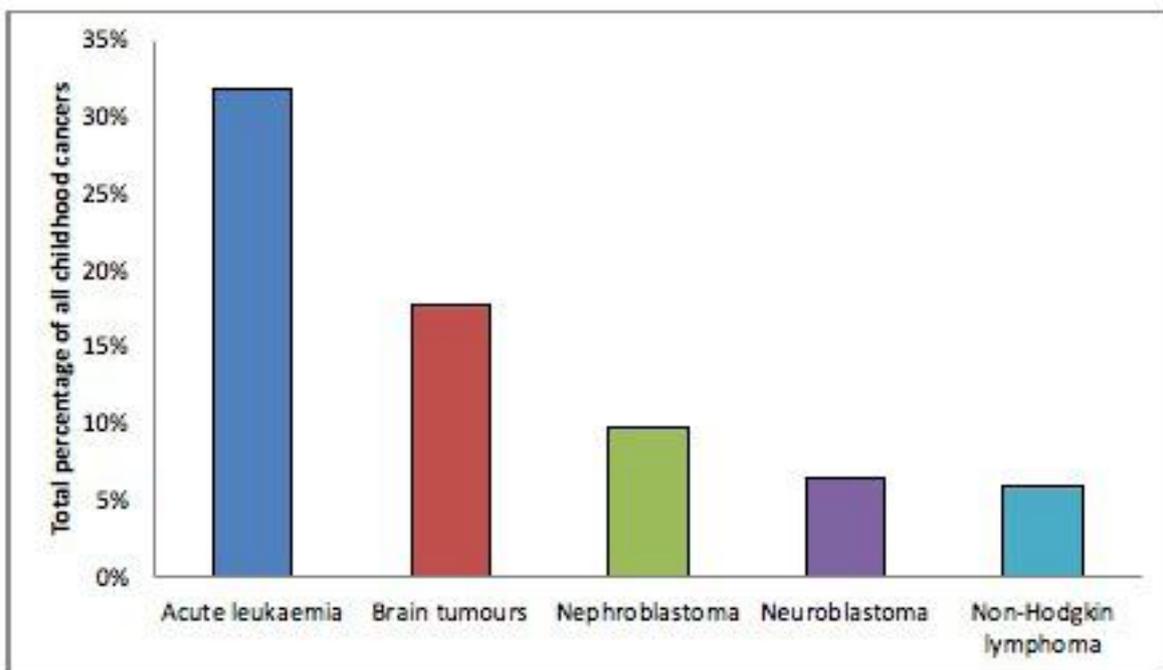


Figure 3. Most Common Cancers in Children, 2016
(Data from SACCSG Tumour Registry)

CANCER MORTALITY AND MORBIDITY

Statistics-South Africa reported that in 2015, neoplasms caused 41 799 deaths accounting for 9.1% of all adult deaths in South Africa¹. These figures are based on death certification, a methodology which may contain inaccuracies. South African mortality estimates are derived from the vital statistics database using death certification. Deaths per annum are recorded amongst prevalent and incidence cancer cases in the country for a year; therefore, there may be a higher number of deaths reported by Statistics-South Africa compared to incident cases reported by the NCR annually.

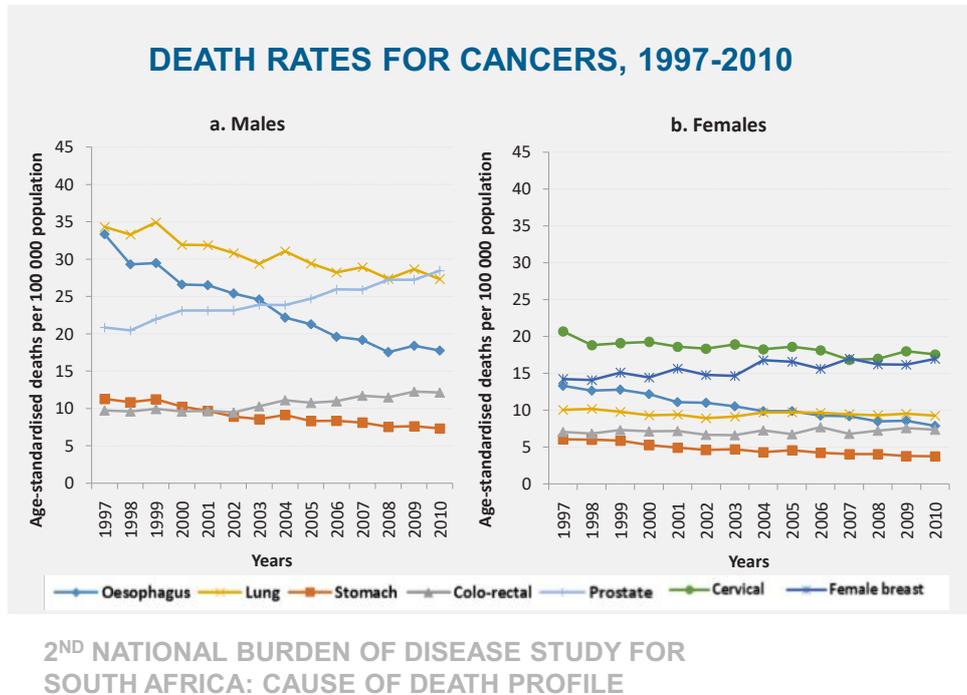


Figure 4. Top Five Causes of Cancer Mortality by Gender in South Africa (2013)

Mortality rates from cancer in women have remained stable (Figure 4) while those for prostate cancer in men have increased¹⁵, thought to be due to increased rates of diagnosis in the black population. Prostate cancer is known to behave more aggressively in black patients, and many patients present with an advanced stage of disease. There has been a decline in mortality rates from oesophageal and lung cancer in men, but the reasons have not been fully elucidated.

The equivalent data on cancer mortality is not available for the paediatric population, but published reports from South Africa demonstrate an overall survival rate of all cancers of approximately 50% in children.^{16,17} This rate is lower than those published from similar upper-middle-income settings such as parts of South America¹⁸, implying that paediatric cancer mortality South Africa may be underestimated.

Noting the cancer mortality, a diagnosis of cancer, also impacts negatively on the patient, his/her family and the community in various ways. Effects may include but are not limited to: stigma, limitations in function, impaired self-image and alterations in sexuality and fertility. Added burdens include financial losses due to the inevitable extra costs associated with a severe, often chronic illness and inability to participate in the workforce. Clinical services in South Africa are geared more towards surveillance for recurrence and are not well equipped to support survivorship through treatment, rehabilitation and palliative care.

RISK FACTORS

Risks for cancer may include genetic pre-disposition, infectious agents as well as environmental and behavioural factors.

Epidemiologic evidence demonstrates an association between malignancies¹⁹ and risk factors such as behavioural and environmental factors. A significant proportion of common cancers diagnosed in South Africa may be preventable and substantially reduced through mitigation of known risk factors (Table 1). Lifestyle changes are necessary to reduce modifiable risk factors including tobacco use, alcohol consumption, poor diet, lack of physical activity, obesity, and sun exposure. Other risk factors may be reduced through improved awareness of occupational exposure to environmental risk factors.

	Risk factor	Cancer type
LIFESTYLE	Excessive use of alcohol	Squamous carcinoma of head, neck and oro-pharyngeal region Oesophageal squamous carcinoma Hepatocellular carcinoma Colorectal carcinoma
	Tobacco use	Lung cancer (squamous carcinoma, adenocarcinoma, large and small cell carcinoma) Oesophageal squamous carcinoma Head and neck squamous cell carcinoma Colon adenocarcinoma Stomach adenocarcinoma Bladder transitional cell carcinoma Pancreatic carcinoma Prostate adenocarcinoma
	Obesity, physical inactivity and poor nutrition	Colon adenocarcinoma Oesophageal adenocarcinoma Kidney cancer Pancreas adenocarcinoma Endometrial adenocarcinoma Postmenopausal breast ductal adenocarcinoma
DIRECT INFECTIOUS CAUSES AND ASSOCIATIONS	Hepatitis B virus	Hepatocellular carcinoma
	Kaposi sarcoma-associated herpesvirus	Kaposi sarcoma
	Human papillomavirus	Cervical cancer Oropharyngeal cancers Anogenital cancers Head and neck cancers
INDIRECT INFECTIOUS CAUSES AND ASSOCIATIONS	Human immunodeficiency virus	Kaposi sarcoma Non Hodgkin lymphoma Hodgkin lymphoma Leiomyosarcoma
	Epstein Barr virus	Hodgkin lymphoma Burkitt lymphoma Nasopharyngeal carcinoma
OCCUPATIONAL EXPOSURES	Asbestos	Mesothelioma Lung adenocarcinoma
	Ionising radiation	Acute leukaemia
ENVIRONMENTAL EXPOSURES	Solar UV radiation (sun and tanning beds)	Malignant melanoma Basal cell carcinoma Squamous carcinoma
	Dietary carcinogens	Stomach adenocarcinoma Colorectal adenocarcinoma

Table 1. Direct and Indirect Aetiological Agents for the Development of Cancer in Adults

TOBACCO USE

Tobacco use, in particular smoking, is the single most common preventable cause of premature mortality worldwide and smoking contributes to approximately 30% of all cancers in upper income countries, causing the majority of lung cancers²⁰.

OVERWEIGHT

According to the 2016 South African Demographic and Health Survey Report, 68% of women and 31% of men are overweight or obese. Of major concern is the high prevalence of severe obesity among South Africa women; one in five women has a BMI ≥ 35.0 , placing her in the severely obese category²¹.

INFECTIOUS CAUSES AND ASSOCIATIONS

The most common direct and indirect viral aetiological agents of cancer in South Africa are HPV, HBV, KSV and HIV.

South Africa had an estimated 7.03 million people living with HIV in 2016¹. The HIV prevalence amongst the general population is approximately 18.2% , with an antenatal prevalence rate of 29.7%.²² People with HIV, especially those who are not receiving anti-retroviral therapy, are more likely to develop certain malignancies. HIV positive women consistently show higher prevalence of HPV infection, persistent infection with oncogenic HPV, infection with multiple types of HPV and higher prevalence of cervical cancer precursors^{23,24}. The incidence of Kaposi sarcoma and Non-Hodgkin lymphoma is dramatically increased in people of all ages with HIV²⁴. Hodgkin lymphoma incidence is increased in adults with HIV.

Chronic infection by hepatitis B virus (HBV) is one of the main causes of hepatocellular carcinoma. It is estimated that approximately 2.5 million South Africans are currently infected with chronic hepatitis B²⁵. Around 15–25% of infected patients may develop cirrhosis, liver failure or hepatocellular carcinoma.

PRIORITY CANCERS

Based on the National Cancer Registry (NCR) reports of national cancer incidences⁵⁴, these five cancer types in adults have been identified as priorities, namely:

- Lung cancer
- Colorectal cancer
- Cervical carcinoma
- Prostate cancer
- Breast cancer

In addition, cancers of childhood, adolescence and young adulthood have been added as a national priority.

However, it is noted that individual provinces may prioritise certain cancers based on their unique context.

Table 2 lists the most appropriate interventions and the potential impact on the outcomes of the five priority adult cancers and childhood cancers

Cancer	Prevention and public education, raising awareness	Applicability of Screening	Result of early detection and diagnosis	Result of timely treatment
Lung	Appropriate <i>Tobacco control</i>	Not appropriate	Improves quality of life	Improves quality of life
Colorectal	Appropriate <i>Healthy lifestyle</i>	Appropriate in high risk groups	Improves overall survival and improves quality of life	Improves overall survival and improves quality of life
Cervix	Appropriate <i>HPV vaccination</i> <i>Healthy lifestyle</i>	Appropriate	Improves overall survival and improves quality of life	Improves overall survival and improves quality of life
Prostate	Not appropriate	Appropriate in high risk groups (clinical examination and imaging)	Improves quality of life	Improves quality of life
Breast	<i>Healthy lifestyle</i>	Appropriate	Improves overall survival and improves quality of life	Improves overall survival and improves quality of life
Childhood, Adolescence and Young Adulthood Cancers	Not appropriate	Not appropriate	Improves overall survival and improves quality of life	Improves overall survival and improves quality of life

Table 2. Five priority adult cancers and childhood cancers: prevention, screening, and effects of early detection and treatment

CURRENT CANCER SERVICES IN SOUTH AFRICA

Curative services for people diagnosed with cancer are mainly situated in academic settings and consist of medical/paediatric oncology, clinical haematology, radiation oncology and specialised surgical services (Table 3) in a multidisciplinary team.

Infrastructure and capacity to treat adults with cancer are variable throughout the country. For example, screening for cervical cancer and treatment of pre-cancerous cells as well as education and awareness initiatives occur at a primary health care level and vary in terms of coverage and quality of care. Many tertiary specialist units are grossly understaffed and poorly equipped and are thus unable to provide holistic care for the majority of patients.

In order to understand the current situation regarding cancer treatment centres, the following facilities were audited for the following items (Table 3), to ascertain a baseline of service delivery. The baseline informs interventions required to strengthen current services and work has commenced on addressing such needs.

Province	Hospital	Clinical Oncology (Medical and Radiation Oncology) and Haematology (when explicitly stated) Permanent staff	Paediatric Oncology and Haematology permanent staff	Radiation equipment	Surgical equipment	Pharmacy	Waiting times from MDT or NP visit to start gynae in weeks ⁵⁵	Waiting times from MDT or NP visit to start prostate cancer in weeks ⁵⁵
Free State	National and Universitas Annex	4	1	Sufficient	Sufficient	Sufficient	10	12
Gauteng	CMIJAH	9	4	Insufficient, outdated, poor maintenance	Sufficient	Good	Wits: 12	Neoadjuvant hormone then RT due to waiting list
Gauteng	CHBAH	Medical: 0 Haema: 3 Radiation: N/A	3	N/A	Good	Sufficient		
Gauteng	George Mukhari	Unknown	1	Refer to SBAH	Refer to SBAH	Insufficient		
Gauteng	Nelson Mandela Children's Hospital	Under construction	Under construction	N/A	Under construction	Under construction		
Gauteng	SBAH	Clinical: 5 Haema: 2	3	Sufficient but poor maintenance	Sufficient	Good	16	16
KZN	Addington	Clinical: 0 Haema: 1	2	Non-operational	Sufficient	Sufficient	Unknown	Unknown
KZN	IALCH	0	0	Non-operational	Sufficient	Sufficient	Unknown	Unknown
KZN	Greys	4	1	Sufficient for adult service only	Sufficient	Sufficient	26	37
KZN	Ngwelezana	2 part-time. Service rendered by public-private partnership	Service rendered by public-private partnership	Service rendered by public-private partnership	Service rendered by public-private partnership	Service rendered by public-private partnership	Unknown	Unknown
North West	Klerksdorp	2	0	Sufficient	Sufficient	Sufficient	4	4
Mpumalanga	Mbombela	0	0	Insufficient	Insufficient	Insufficient	Unknown	Unknown
Northern Cape	Kimberley	2	1	Not available	Insufficient	Sufficient	Unknown	Unknown

Province	Hospital	Clinical Oncology (Medical and Radiation Oncology) and Haematology (when explicitly stated) Permanent staff	Paediatric Oncology and Haematology permanent staff	Radiation equipment	Surgical equipment	Pharmacy	Waiting times from MDT or NP visit to start gynae in weeks ⁵⁵	Waiting times from MDT or NP visit to start prostate cancer in weeks ⁵⁵
Eastern Cape	Frere	2	1	Sufficient	Sufficient	Sufficient	Unknown	Unknown
Eastern Cape	Livingston	2	1	Sufficient	Insufficient	Excellent	12	16
Eastern Cape	Nelson Mandela Central Hospital	Under construction	Under construction	Under construction	Under construction	Under construction	Unknown	Unknown
Limpopo	Polokwane	2	1	Insufficient	Insufficient	Insufficient	16	20
Western Cape	George	Service rendered by public-private partnership	Service rendered by public-private partnership	Service rendered by public-private partnership	Service rendered by public-private partnership	Service rendered by public-private partnership	Unknown	Unknown
Western Cape	Groote Schuur Hospital	9 + 12 Super-numerary	3 (Red Cross)	Sufficient	Sufficient	Good	8	12
Western Cape	Tygerberg	6	2	Sufficient	Sufficient	Sufficient	6	6

Table 3: Current Oncology Services (Adult and Paediatric) in the public sector

* These posts refer only to medical specialists. Numbers in brackets refer to total number posts which are available, according to the various heads of departments.

** Numbers in brackets refer to the ideal number of staff required to run a unit, based on a fixed ratio of consultant to new patients per year.

It is of concern that paediatric oncology services are limited around the country, in particular in the following provinces: Northern Cape, North West, Mpumalanga, Limpopo and KwaZulu Natal Provinces.

Noting the existing situation in SA, the NCSF will prioritise health systems gaps related to equitable access to diagnostics and treatments.

LIMITATIONS

Cancer services, like many other health services in South Africa, are inequitably distributed. Service delivery is mainly concentrated in the Western Cape and Gauteng. Certain provinces have no access to diagnostic, curative, rehabilitative, psycho-social or palliative services. In addition, there is a documented lack of awareness among both the general public and healthcare professionals of cancer, which impacts negatively on the number of people being diagnosed and those referred to appropriate services. Staffing ratios are not adequate, with this limitation being particularly severe in the more underserved centres. This adversely affects survival rates of those referred to these centres, as well as the quality of survivorship. There is a disproportionate emphasis on treatment and cure in the specialised centres, and understaffing results in a lack of holistic care across the continuum of care.

Unacceptable Waiting Times

Unacceptable waiting times exist from screening to initiation of treatment.

A recent survey⁵⁵ of waiting times for radiation treatment of gynaecological and prostate cancers revealed waiting times of 6 weeks at some centres to up to 37 weeks at others. Any delay of more than 12 weeks for treatment is potentially detrimental to patient outcomes. Waiting times for palliative radiation ranged from 1 week to 12 weeks.

Lack of Functional Radiation Equipment

Due to a lack of planning for maintenance and replacement, there is a shortage of equipment at some centres (severe shortage at some) while others may have equipment but it is not functional due to lack of maintenance. For some provinces, due to the lack of functional equipment, patients have to travel very far to access treatment centres with equipment, which may result in loss to follow up and breaks in continuity or completion of treatment.

Lack of adequate staffing at cancer treatment centres

There are reported staff shortages of every level of healthcare worker comprising the necessary multidisciplinary team at virtually every cancer treatment centre with some reporting critical staff shortages, resulting in no services being provided at all. Without adequate staffing, it is impossible to provide an adequate service.

As demand may increase with improved screening and detection it is imperative that the treatment centres are adequately staffed and equipped to manage the greater demand for services in addition to clearing up the backlog created by the current shortages.

It will be necessary to address all of these barriers for the successful implementation of the NCSF.

In general, the responsiveness of the health service to deliver optimal cancer prevention and control may be described in terms of the limitations in health systems as depicted in figure 5 below:



Figure 5: Limitations of current cancer services in South Africa

INTERVENTIONS IN RESPONSE TO CANCER IN SOUTH AFRICA

Various interventions in response to cancer in South Africa have been implemented and these reflect initiatives on governance, legislation as well as best practice in service delivery. South Africa has embarked on numerous efforts to curb smoking with the introduction of the Tobacco Products Control Act in 1993²⁶, the Tobacco Products Control Amendment Act No. 12 of 1999²⁷, establishment of tax and regulatory measures and health promotion interventions. The National Liquor Act No 59 of 2003²⁸ aimed, in part, to curb the socio-economic effect of alcohol abuse by regulating manufacture, supply and distribution.

Hepatitis B vaccination was included in the Extended Programme of Immunisation in 1999²⁹. The regulations introduced in 2011 on the compulsory registration (notification) of cancer have led to the marked increase in the numbers of patients reported to the National Cancer Registry³⁰. Vaccination against HPV was introduced to the EPI as a population-based initiative in 2014³⁰, while policies on breast cancer³¹ and cervical cancer³² were finalised in 2017.

The Ministerial Advisory Committee on the Prevention and Control of Cancer commenced activities in 2013³³, and increasing liaison has occurred with various stakeholders in the cancer arena. These include non-profit support and research bodies, academic institutions and pharmaceutical bodies.

CANCER-CARE CONTINUUM

Cancer-care starts in the community with awareness and education about prevention and early warning signs. Patients and families need to be able to access care at the appropriate level of services. Screening services should be available at all primary level health facilities with adequate care pathways through the health system providing timely diagnosis and access to treatment without unnecessary delays. Patients and families should be adequately supported to reduce loss to follow up and treatment. Supportive and rehabilitative services will also enhance the quality of survivorship ensuring a healthier population who are living with cancer while providing the best possible care for those who require palliative care should their cancer not be curable.

While South Africa has put in place a number of interventions for cancer care, there are still a number of barriers to adequate cancer-care with much that is still to be done (Figure 6). This NCSF will guide the relevant health departments in ensuring the implementation of effective cancer-care plans.

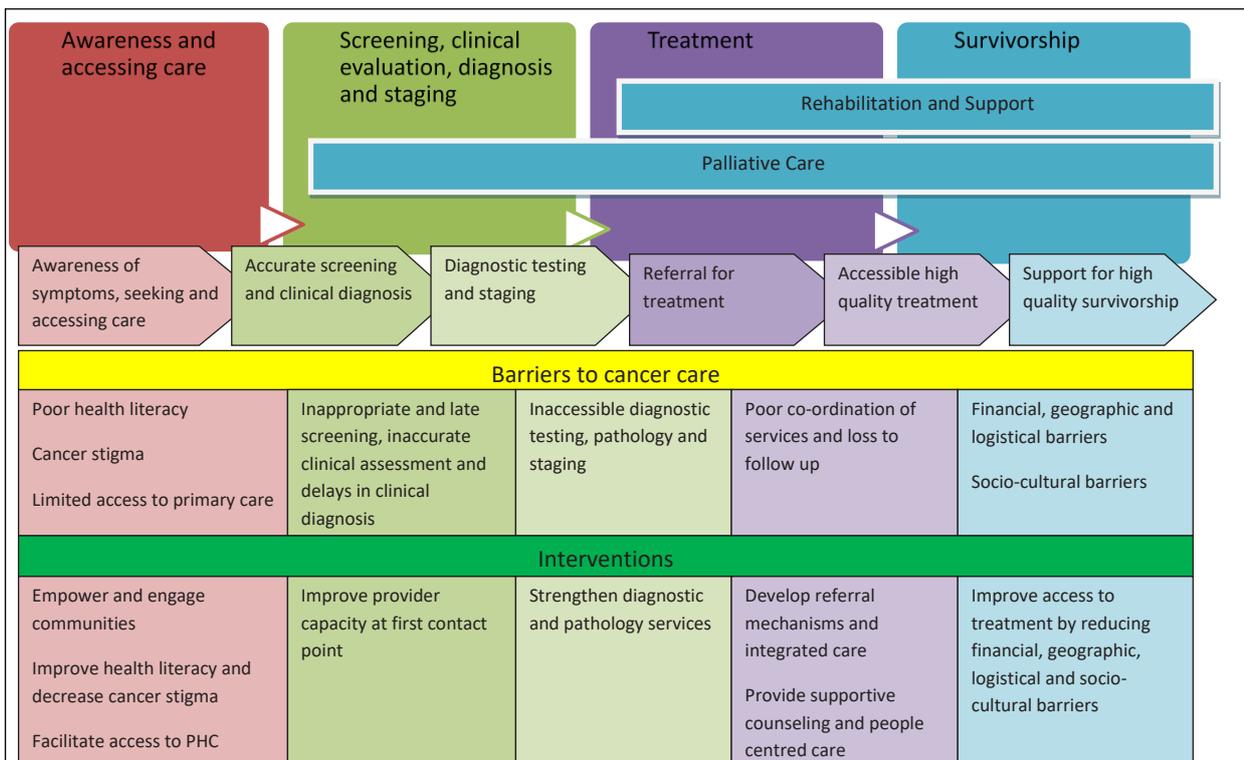


Figure 6. Cancer-care Continuum

SERVICE DELIVERY PLATFORM

Cancer prevention and control occurs along the life course and across the continuum of care. Interventions occur in the household, within communities as well as at District, Secondary, Tertiary, and Quaternary including Academic facilities (Figure 7).

Services will be delivered on existing, strengthened and new service platforms. Services will comprise prevention, early detection, diagnosis, treatment and palliative care, making the best use of available resources (Table 4).

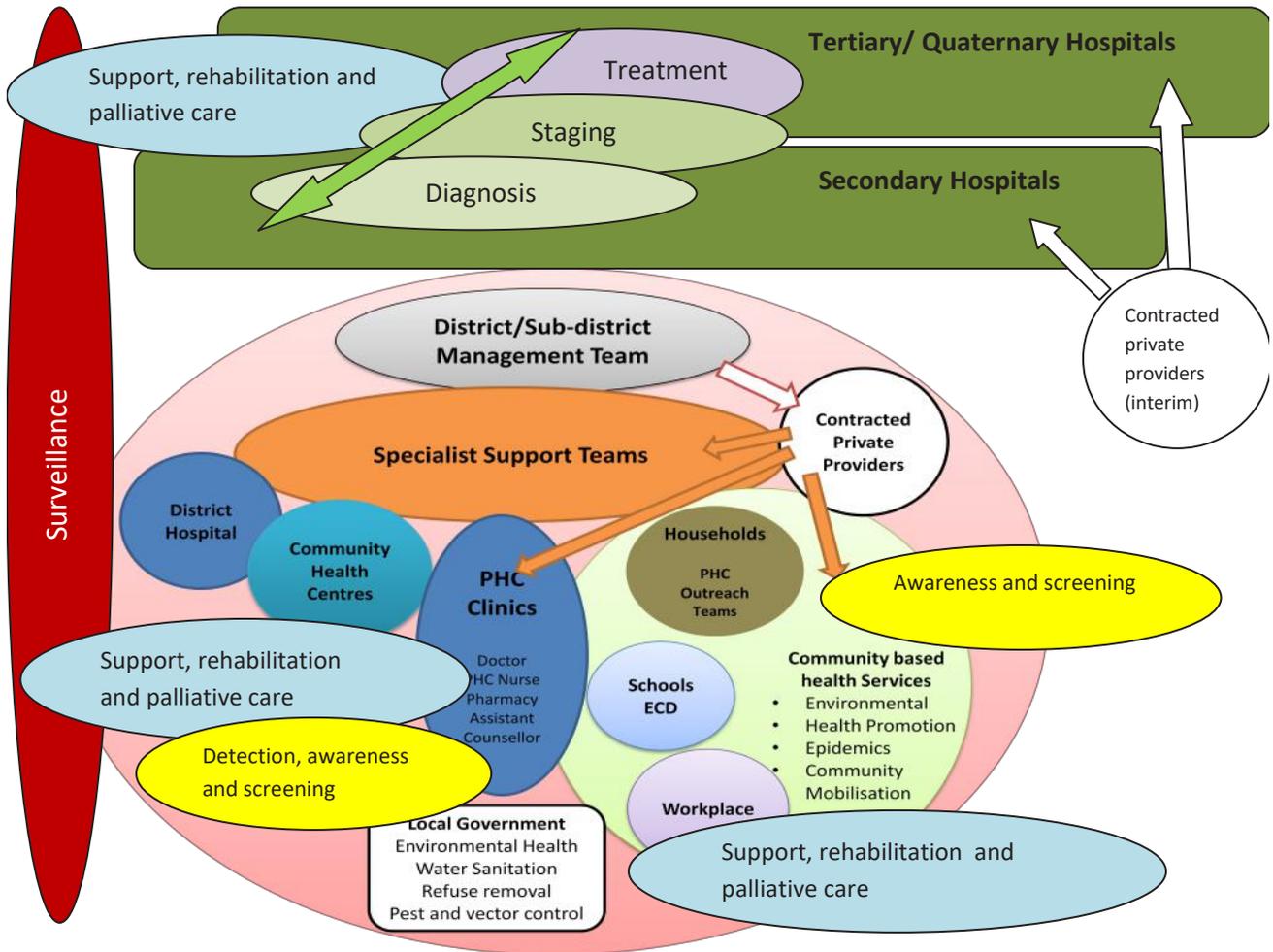


Figure 7: Cancer-care (prevention and control) at all levels of service delivery platform.

Components of Prevention and Control	Level of Care	Human Resources
PREVENTION	Community, all health facilities, traditional healers	Stakeholders, NPOs, educators, community level workers, health personnel, traditional healers, schools and social workers
SCREENING AND EARLY DETECTION	PHC facilities, CHCs and district hospitals, secondary level hospitals, traditional healers	Nurses, medical officers, pathologists, general practitioners, paediatricians, physicians, diagnostic radiographers and radiologists
DIAGNOSIS AND TREATMENT Diagnosis, supportive care (medical)	Secondary and Tertiary facilities	Medical oncologists, clinical haematologists, paediatric haematologists/ oncologists, radiation oncologists, dermatologists, plastic surgeons, ENT specialists, laboratory haematologists, pathologists, radiologists, pharmacists, surgeons, pain specialists, medical physicists, therapy radiographers, Nuclear Medicine Physicians and Radiographers, Radiobiologists, Mould room Radiation Technicians
PSYCHOSOCIAL, SUPPORTIVE CARE, FOLLOW UP AND REHABILITATION	Primary, secondary and tertiary centres	Social workers, psychologists, rehabilitation professionals, pharmacists
SURVIVORSHIP AND PALLIATIVE CARE	Community, traditional healers, PHC facilities, secondary and tertiary facilities, hospices, sub-acute facilities	NPOs, social workers, health workers, PHC nurses, pharmacists, social workers, psychologists, rehabilitation professionals, medical oncologists, clinical haematologists, paediatric haematologists/ oncologists, radiation oncologists, endocrinologists, neurodevelopmental specialists, neurologists
SURVEILLANCE AND EVIDENCE-BASED RESEARCH	Research facilities, population-based registries, tertiary centres	Clinician-researchers, epidemiologists, public health specialists, statisticians, data managers

Table 4: Service Delivery Platforms

Services are presently being provided and resources are in place to deliver selected interventions in certain facilities. Considering the principle of equitable access to care, it is important to create new services as well as to expand and sustain existing services to strengthen prevention and control as resources become available. Critical review of the existing problems in current services delivery need to be addressed urgently to ensure services levels improve and that adequate budget is made available to increase efficacy on all levels of cancer-care in South Africa.

A creative approach to filling the gaps in service delivery is required. Short term solutions may include clear referral pathways with inter-Provincial agreements for patients to access geographically appropriate cancer-care centres. Longer term plans for the establishment of more equitably accessible cancer-care centres need to be developed and implemented. Private Public Partnerships need to be considered with clear, fair agreements between the NDoH and private entities, with a view to increasing capacity in the public sector as required.

As reflected in Figure 7, activities and services related to the NCSF will be organised and implemented at all levels of care, from the Macro level (policies, legislation and guidelines) right through to tertiary levels of care. **Prevention** activities will be formulated and implemented at the Macro level, within the Immediate Environmental level (the community, schools, workplaces, recreational and travel environment) as well as at PHC level. **Early Detection and Screening** activities will be performed at the PHC level as well as the secondary health care level (district and provincial hospitals). **Diagnosis and Treatment** of cancers are to be performed at secondary and tertiary/quaternary levels of care. And **Palliative Care and Survivorship** activities will span the entire continuum of care and should be implemented at time of diagnosis.

1. CANCER SURVEILLANCE

Before any programs can be initiated, cancer surveillance is a vital activity to identify the need and scale of intervention required. In the long term it provides a vehicle for the monitoring and evaluation of the successes and shortfalls of the implementation of the cancer-care strategies.

Pathology – Based Registry

The South African pathology-based registry was established in 1986 as a *voluntary* reporting system from all pathology laboratories in the country. All cancers confirmed in private and public sector laboratories were reported to the NCR to calculate national cancer incidence. In 2011, the Regulation Related to Cancer (Regulation 380) was published making cancer a notifiable disease, obliging all laboratories to report to the NCR. The pathology-based registry is an important national asset as the infrastructure, relationships with partners and expertise for reporting have been established and maintained. In addition, the pathology-based registry is the only source currently, of complete national cancer incidence data for South Africa, from which the long term trends of cancer epidemiology can be determined. Limitations of a pathology-based surveillance system include under-estimation of cancers as a result of case definitions excluding clinically diagnosed, benign and pre-cancerous lesions. In addition, the processing of data using ICD-O3 codes is labour intensive resulting in a lag time in the production of cancer incidence reports.

Population-Based Cancer Registry

Regulation 380 of the National Health Act mandated the NCR to establish population-based cancer registration for the country. PBCR involves collection of all cases of cancer in a district including those diagnosed by clinical and radiological investigations. South African cancer incidence estimates are not accepted by WHO/IARC for international reporting, as these are not population-based. Therefore, to be in line with international standards, it is imperative for South Africa to establish sentinel sites for population-based cancer registration. For the SA population of 54 million people, the IARC recommends 4 sentinel sites be established for PBCR each site with a denominator population of 1.5 – 3.5 million residents. These sites will be selected so that together, they are representative of the heterogeneous South African population. From these sites, national cancer incidence can be modelled and reported to IARC. The population-based and pathology-based cancer registries will complement each other, enhancing the cancer incidence estimates derived for the country.

The purpose of cancer surveillance through registration is to determine the changes in national patterns of cancer as a result of changing risk factors and health care interventions, by examining long term trends. The following datasets will contribute additional information to describe to the immediate performance of the healthcare system with regards to cancer care.

Cancer Related Mortality from Statistics-SA

The cancer registration system does not have access to cancer mortality from Department of Home Affairs and Statistics-SA. Therefore, it is imperative that the appropriate organization routinely release cancer related mortality data into the public domain for highlighting the impact of cancer on life expectancy and assisting with the determination of priority cancers for intervention and research.

District Health Information System and Annual Performance Plans

The cancer related health indicators in the District Health Information System and Annual Performance Plans must be examined and interpreted to determine the performance of the health system on cancer related programs.

Risk Factors

Many data sets can contribute to insight of the changing cancer risk profile in the country. These include the HIV antenatal report, the South African National Health and Nutrition Examination Survey (SANHANES), tobacco consumption reports and data from HPV post-vaccination surveillance reports.

2. PREVENTION

Prevention of cancer, especially when integrated with prevention of non-communicable chronic diseases and other related areas of health care (such as reproductive health, hepatitis B and HPV immunization, HIV/AIDS or occupational health and environmental health), offers a potential long-term method of cancer control. Certain cancer types are preventable by modifying or reducing the vulnerability of persons exposed to these risk factors.¹⁹ CBO's, PHC caregivers and traditional healers³⁶ play a role in improving knowledge and creating awareness of modifiable risk factors.

2 (a) Risk behavior prevention and reduction

The risk factor reduction strategies have been outlined in the Strategic Plan for the Prevention and Control of Non-communicable diseases 2013-2017. In addition to the lifestyle related factors, additional measures shall be introduced as outlined below.

2 (b) Vaccination Program for Hepatitis B and Human Papillomavirus

Both hepatitis B and HPV are included in the Extended Immunization Program (EPI) of South Africa³⁷ (EPI).

3. SCREENING AND EARLY DETECTION

Early cancer detection increases the potential for cure of many cancers. Screening is effective in reducing morbidity and mortality. It is important to recognise and expand the role of CBOs in early detection, presentation at healthcare facilities for treatment and support during treatment to enhance adherence. Strategies should include engaging with communities to understand barriers to seeking early help with possible symptoms of cancer. Health care providers in the primary care setting (often the first point of contact) should be adequately trained to screen for and detect possible cancers.

3 (a) Screening Priorities

The following adult cancers will be prioritised and screening will take place as per the relevant policies:

- Breast
- Cervix
- Lung
- Colorectal
- Prostate

4. DIAGNOSIS AND TREATMENT

Patients can be cured or have significant prolongation of life, even in metastatic cancers that are responsive to treatment. Early diagnosis and treatment of cancer results in better outcomes for most cases. With effective treatment, most patients may be cured or experience significant prolongation and improved quality of life. Certain malignancies, such as lymphomas and germ cell tumours, may be cured even in patients with advanced disease at presentation.

Given that resources are limited, to be optimally effective a diagnosis and treatment programme should prioritise people with **curable cancers** and must be linked to early detection programmes and activities. It is

essential to provide programmes to raise awareness amongst people with cancer, cancer survivors and families and community members³⁸.

Basic diagnostic and treatment services should be located in facilities that are accessible to target groups at the district or primary care level. Specialised services should however be centralised at the secondary/regional and/or tertiary/quaternary level, where expertise and more sophisticated technologies are available. Diagnostic algorithms should be developed and co-ordinated between facilities so that diagnostic services are uniformly applied and that results are communicated timeously.

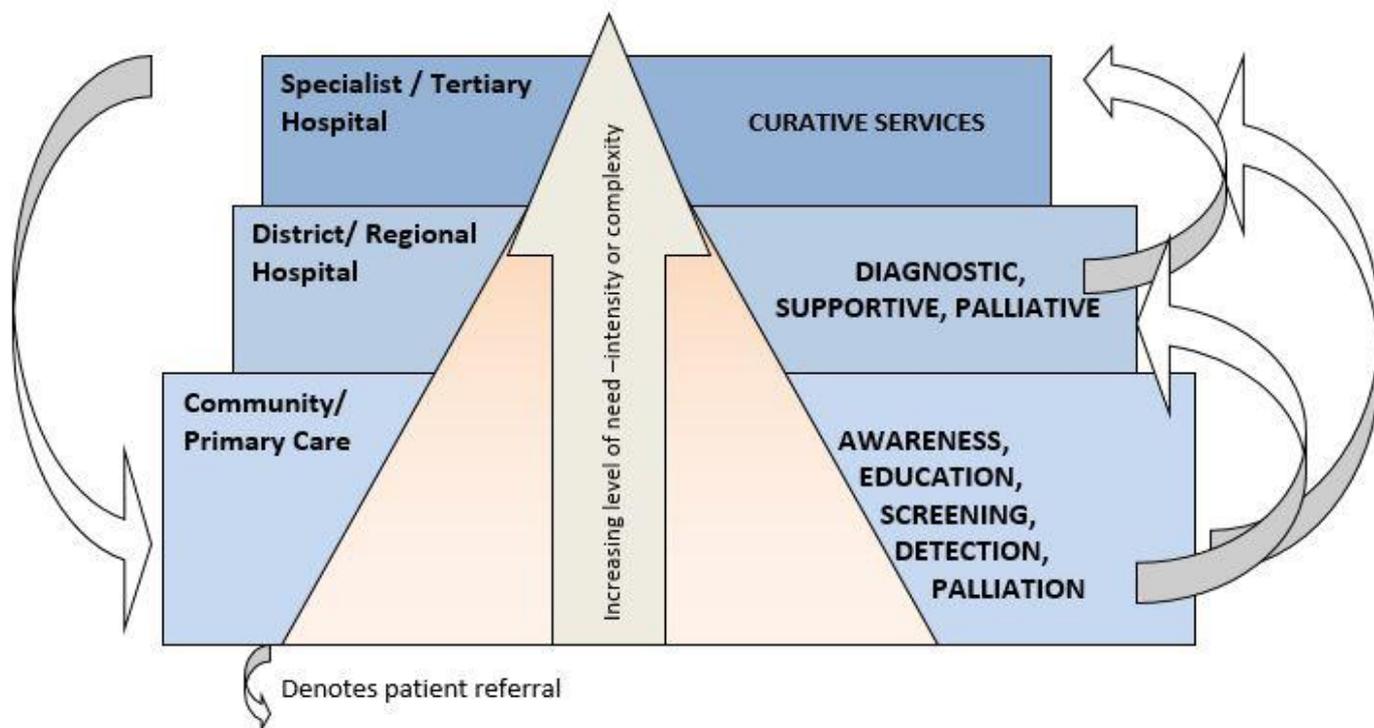


Figure 8: Level of service during the cancer journey

It is not necessary for all patients to be referred sequentially (Figure 8). For example, if a patient requires palliative or psycho-social services, they may be referred from the tertiary level to the primary level. If they have a malignancy detected in the primary level, they may be referred directly from the primary to the tertiary level to avoid delays, which may impact on survival or quality of survivorship.

Diagnosis

All malignancies must be diagnosed by the appropriate means: solid tumours should have a histological specimen taken; haematological malignancies may be diagnosed by biopsy or bone marrow aspirate and trephine biopsy; and brain tumours may be diagnosed using both ionising and non-ionising radiation based technologies such as X-rays, nuclear medicine and magnetic resonance imaging, if appropriate. Depending on the location of the tumour, the biopsy may be a simple or complex procedure. All patients with cancer also need imaging for staging purposes to determine prognosis and treatment.

Treatment

Treatment services aim to cure the disease or prolong life significantly, while ensuring a good quality of life. Palliative care begins at diagnosis and includes both definitive and supportive cancer treatments. Definitive (curative) cancer treatment is highly specialised and requires the involvement of various disciplines alone or in combination including surgery, radiotherapy, chemotherapy and immunotherapy. This must be carried out at facilities with appropriate diagnostic and therapeutic facilities staffed by oncology specialists (radiation, medical, haematological and paediatric) as well as specialist surgeons.

Access to adequate psychosocial support and rehabilitation facilities will greatly influence quality of life and the ability to cope for both the patient and the family. These facilities must also be adequately equipped with functional machinery and other resources required to provide all aspects of care. (Refer to the packages of care, table 5)

It is important to minimize delays and provide people centred treatment through the development of co-ordinated efficient referral pathways that facilitate access, improve communication and minimize unnecessary visits for the patient and family. Direct links between primary level and cancer-care centres for certain situations to facilitate direct transfers should be established by developing the necessary up- and down- referral pathways with adequate procedures for effective communication between health care providers at each level. Based on identification of points of inequity, it will be necessary to explore innovative models of care such as transport funded by community-based organisations, state-private partnerships, research grants etc.

4 (a) Multidisciplinary Teams

Members are responsible for implementing management protocols in accordance with national and international guidelines. Wherever possible all relevant health care professions should be represented in the multidisciplinary team, including radiation oncologists, surgeons, medical oncologists, paediatric oncologists, clinical haematologists, radiologists, medical physicists, nuclear medicine physicians and radiographers, radiobiologists, pathologists and oncology nurses, as well as psychosocial and rehabilitation staff.

4 (b) Managing Complications from Cancer Treatment and Care

Both the cancer and its management may cause a variety of adverse effects detrimental to the patient. Adverse effects each require specific management, and include fatigue, anaemia, infection, bleeding, appetite loss, constipation, fluid retention, hair loss, pain, laboratory aberrations, weight gain/loss and emesis. Pharmaco-vigilance is an important aspect of cancer care. All adverse events related to cancer medications should be documented. It is vital to be aware of and to plan for drug interactions between ARVs, TB medications and cancer chemotherapy agents.

4 (c) Access to Health Technologies, Medicines and Devices

In South Africa, access to care is still associated with socio-economic status, race, insurance status and urban-rural location, with black Africans, poor, uninsured and rural residents, experiencing greatest barriers⁴. From a clinical perspective, health technology is expected to reduce the risk of disease, cure or reduce duration of illness, and restore, or limit the decay of a person's quality of life. Technology is also expected to contain costs and improve interventional risk management through enhancement of service efficiency and productivity of health care professionals³⁹.

Access to medicines implies continuously available and affordable medicines at health facilities that are readily accessible to patients. Barriers to medicine access can be due to many factors including inadequate government financing, high-priced originator brands, patent protection, delays in generic registration, tender irregularities, deregistration of older medicines and inefficiencies in the supply and distribution chain by both the supplier and the health department. The high price of medicines is a key barrier to affordable essential medicines in South Africa. The launch of the WHO/Health Action International (HAI) Project on Medicine Prices and Availability aims to contribute to target 17 of the Sustainable Development Goals: "in cooperation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries"⁴⁰.

4 (d) Access to Essential Medicines

In recognition of the significance of the provision of access to essential medicines to all who need them, South African experts have developed Standard Treatment Guidelines (STG)⁴¹ and Essential Medicines Lists (EML)⁴² based on a strong body of evidence. Cancer medicines are evaluated based on clinical evidence for their use by the National Tertiary/Quaternary EML Committee and approved by the National EML Committee (NEMLC). The National EML Committee (NEMLC) drug choices are informed by the WHO EML for Oncology in LMICs⁴³. The STGs have been aligned with developments in clinical medicine and scientific advances. In addition, cost effectiveness, affordability, as well as practice implications were taken into consideration. The provision of regular and affordable essential medicines is highlighted as one of the pillars of the right to health in the World Health Organization Constitution⁴⁴ (WHO). In addition, all guidelines seek to contain national public health costs and to promote equitable and affordable access to essential medicines by government, patients and other users.

4 (e) Supportive Care and Rehabilitation

Supportive care should be provided throughout the entire trajectory of care, and involves both psychosocial and physical aspects. Physical aspects include in-hospital care such as management of acute complications, intensive care facilities and rehabilitation services.

Rehabilitation for people with cancer is an important means of supporting patients and their families, to maintain and improve patients' functioning in activities of daily living as well as their quality of life. This must include access to various services provided by a multidisciplinary team.

5. SURVIVORSHIP AND PALLIATIVE CARE

5 (a) Survivorship

Cancer survivorship can be defined in many ways. For the purposes of the NCSF, cancer survivorship will be considered as follows⁴⁵:

Extended survivorship begins at the end of initial cancer treatment and goes through the months after. The effects of cancer and treatment are the focus.

Permanent survivorship is the period when years have passed since cancer treatment ended and recurrence seems less likely. Long term effects of cancer and treatment are the focus.

South African cancer treatment centres currently do not offer comprehensive and evidence-based support services to cancer survivors. Follow-up consultations focus mainly on surveillance for recurrence while less attention is paid to the negative impacts of psycho-social, economic, socio-cultural and other challenges on the quality of life cancer survivors. To correct this, the NCSF recommends the development of a National Cancer Survivor Care Plan to better coordinate patients' diagnoses, capture their treatment histories, synchronise their surveillance schedules, identify health priorities related to both cancer therapy and general health, and to indicate how (by whom and in what setting follow-up care should be provided)⁴⁶. Modelled on the US Centre for Disease Control's Public Health Action Model for Cancer Survivorship, the National Cancer Survivor Care Plan's primary objective will be to improve outcomes for local cancer survivors and should be based on the Public Health Action Model for Cancer Survivorship model to provide the following benefits:

- To serve as a roadmap to guide efforts by cancer survivors and their families, health organisations, community advocates and programmers, public policy makers, and others⁴⁷. (CDC)
- To provide guidelines on how to improve survivors' mental and physical health.
- To enable public health organisations to develop approaches at multiple levels, from interventions for survivors to changes in health systems policy, to improve overall health and quality of life for cancer survivors and their families.

Cancer survivors often face high out-of-pocket medical costs. These extra costs can prevent or delay access to important medical care, including cancer screening tests. To remedy this, the state, the private health sector and other health providers should implement measures to minimise these financial challenges.

5 (b) Palliative Care

The National Policy Framework and Plan for Palliative Care⁴⁸ serves to provide guidance and a framework within which to plan for the strengthening and implementation of palliative care services in South Africa. The goals of the policy focus on:

- a) Strengthening palliative care services across all levels of the health system from the tertiary hospital to the patient in the home to provide integrated and equitable care.
- b) Ensuring adequate numbers of appropriately qualified health care providers to deliver palliative care at all levels of the health service.
- c) Establishing and maintaining systems for monitoring and evaluation of South Africa's palliative care program.
- d) Ensuring appropriate allocation of financial resources to strengthen and sustaining South Africa's palliative care program.
- e) Strengthening governance and leadership to support implementation of the policy.

Interventions outlined address priority cancers in women, men, children and adolescents. The implementation of the NCSF is supported by existing health legislation, policies and strategies including those on NCDs, palliative care, essential and affordable medicines. Additionally, the NCSF will inform clinical guidelines the treatment of priority cancers. The NCSF demonstrates the need for the integration of services with other health programmes across all levels of care and for the strengthening of health systems to achieve delivery of sustainable, appropriate and affordable care.

It is emphasised that all efforts should be made to decrease delays in diagnosis, thus patients may be referred from all levels of care to the appropriate referral centre without delay (see Figure 10). For example, traditional healers are encouraged to refer directly to a secondary level facility for diagnostic tests if a malignancy is suspected.

PACKAGES OF CARE

To inform the implementation plans for the provinces, suggested packages of care for patients at each level of the health care system have been developed. These include staffing, equipment, medicines and consumables, transport and laboratory requirements. Provinces will need to plan services according to the unique needs while ensuring equitable access to services for all.

Staffing	Equipment/Resources	Medicines	Consumables	Transport	Laboratory Services
Community Level – Awareness and screening, psychosocial support and palliative care					
Community level Workers - Home Based Care Community caregivers/Community health workers NGOs Accredited Traditional healers	Educational awareness resources Promotion of healthy lifestyles Awareness resources for risk factors Mobile phones	Distribution of PHC EML Ref CCMD (Chronic care medicines distribution)		Vehicle for teams (health workers) Transport for patients/families/caregiv ers	Point of care quality control services (for hand held devices for use in community)
Faith based organisations Ward Based Outreach Teams					
Primary Level – Clinics, PHCs, CHCs, GPs - Awareness, screening, clinical detection, biopsychosocial support and palliative care					
Professional Nurses Doctors Psycho-social services Including social workers, SAWs, lay counsellors Rehabilitation services Physiotherapy, occupational and speech therapists Pharmacists and pharmacy assistants	Screening equipment for cervical cancer Protocol for clinical breast examination Awareness resources Promotion of healthy lifestyles Awareness of risk factors	PHC EML	As required for cervical cancer screening Dressings Infection control	Planned patient transport Emergency transport	Medical technician/ technologist Basic haematology, chemistry and serology tests (to include HPV DNA testing in future, Regular and reliable transport of specimens
District hospitals – Clinical detection, biopsychosocial and palliative care					

Staffing	Equipment/Resources	Medicines	Consumables	Transport	Laboratory Services
Doctors	Basic radiology equipment (Xray, limited ultrasound) Screening equipment for cervical cancer Protocol for clinical breast examination Awareness resources -promotion of healthy lifestyles Awareness of risk factors	PHC EML		Planned patient transport Emergency transport	Basic laboratory services FBC + diff (automated) Basic tumour markers
Nurses					
Rehabilitation					
Social services					
Basic Radiology services					
Integrated School Health Programme - HPV vaccination program, education and awareness					
School health nurses	Vaccination protocols	Vaccinations – cold chain, storage,	Related to vaccination	Transport for teams	Nil
Teachers	Awareness of needs of children with cancer Including awareness of high risks for cancer				
Secondary Level – detection, diagnosis and basic treatment (moderately complex surgery, radiation and chemotherapy at some facilities), biopsychosocial support and palliative care					
Doctors (oncologists at selected hospitals)	Basic radiology, ultrasonography and CT scanners Equipment for tissue biopsy Emergency surgery for complications of cancer Radiation equipment (some hospitals)	EML Adult level EML Paediatric	Related to biopsy and treatment	Planned patient transport Emergency transport	Full laboratory services where applicable – including histology and cytology, cytogenetics, molecular, flow cytometry (all hours)
Nurses					
Rehabilitation					
Social services					
SANBS					
Hospital school services					
Tertiary Level – diagnosis and treatment (complex surgery, radiation treatment, chemotherapy), biopsychosocial support and palliative care of complicated cases					
Specialists (oncologists, surgeons, hematologists, physicians, gynaecologists, paediatricians, geneticists, molecular biologists, urologists, orthopaedic surgeons, mental	Specialist radiology equipment Radiation equipment (annexure) Specialist surgical equipment	EML Tertiary/Quaternary EML Paediatric Supportive care medicines, e.g. anti-	Related to diagnosis and treatment	Planned patient transport Emergency transport	Full laboratory services including histology and cytology, cytogenetics,

Staffing	Equipment/Resources	Medicines	Consumables	Transport	Laboratory Services
health, neurosurgeon, critical care, radiologists)	ICU/PICU	emetics, analgesics, antibiotics, growth factors			molecular, flow cytometry (all hours)
Nurses/specialists (oncology, palliative care)	Specialist rehabilitation equipment	Blood products			
Radiotherapists, nuclear physicists					
Pharmacists					
Rehabilitation					
Social services					
SANBS					
Hospital school services					

Table 5: Packages of care required at each level of the health or health related system.

REFERRAL PATHWAYS FOR CANCER

Patients may be identified in the community by any member of one of the community health services and referred to the clinic for further screening or a patient may present to a clinic with a concern. If the patient is identified as being at risk for having cancer, either at the clinic or in the district hospital, the patient must be referred to a diagnostic centre (designated secondary or tertiary level hospital) without unnecessary delay. At the diagnostic centre, a patient who is diagnosed as having cancer should be offered the most appropriate treatment as soon as possible.

The figures below show the relevant referral pathways. Figure 9 shows the overall pathways through the different levels of the health system. Figures 10 – 12 depict the more detailed process of referral from the community through to the tertiary treatment centres.

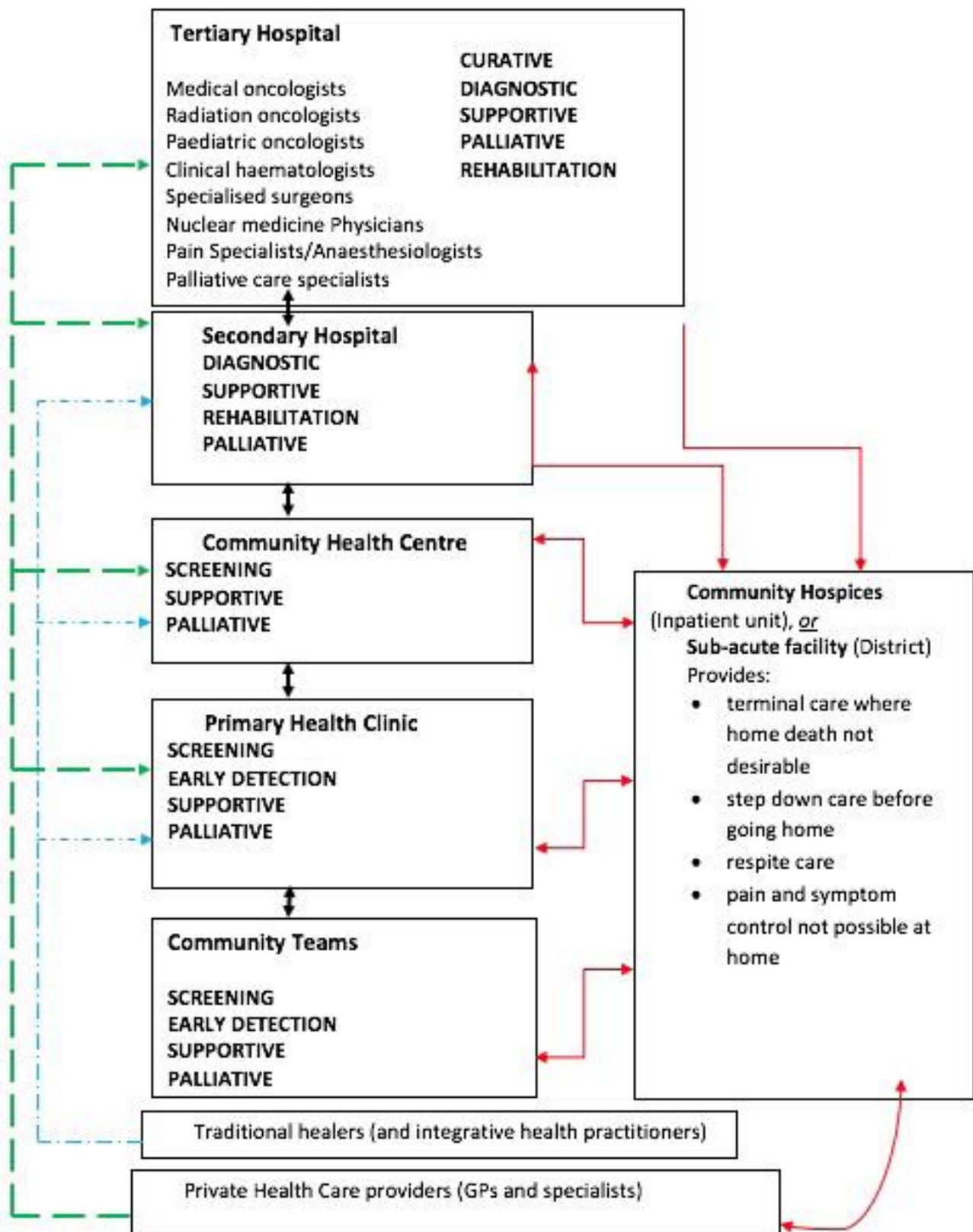


Figure 9. Referral pathways for patients with cancer

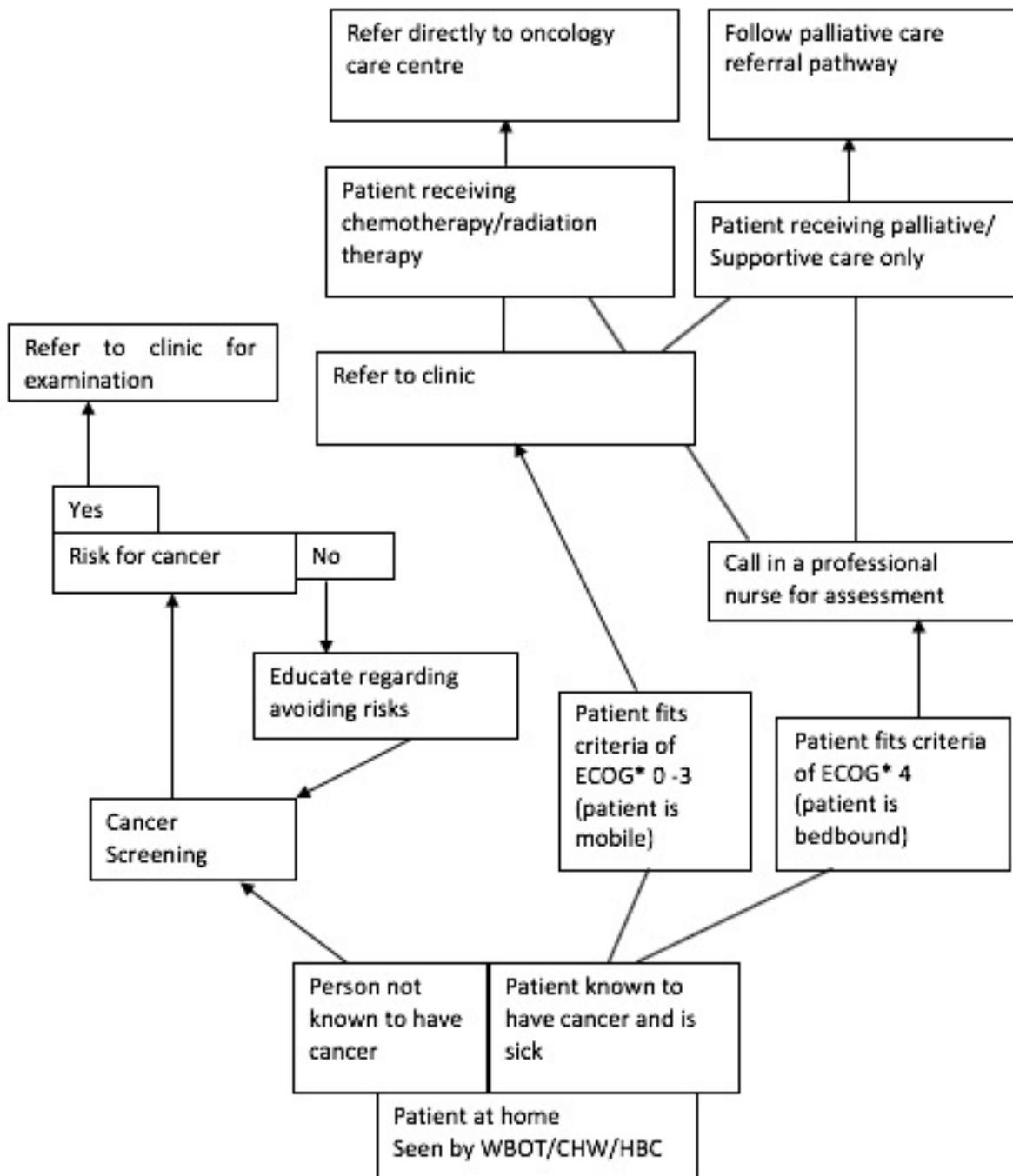


Figure 10. Referral pathways for patients from Community to the clinic

- ECOG (Eastern Co-operative Oncology Group) Performance Status (see Appendix 2)

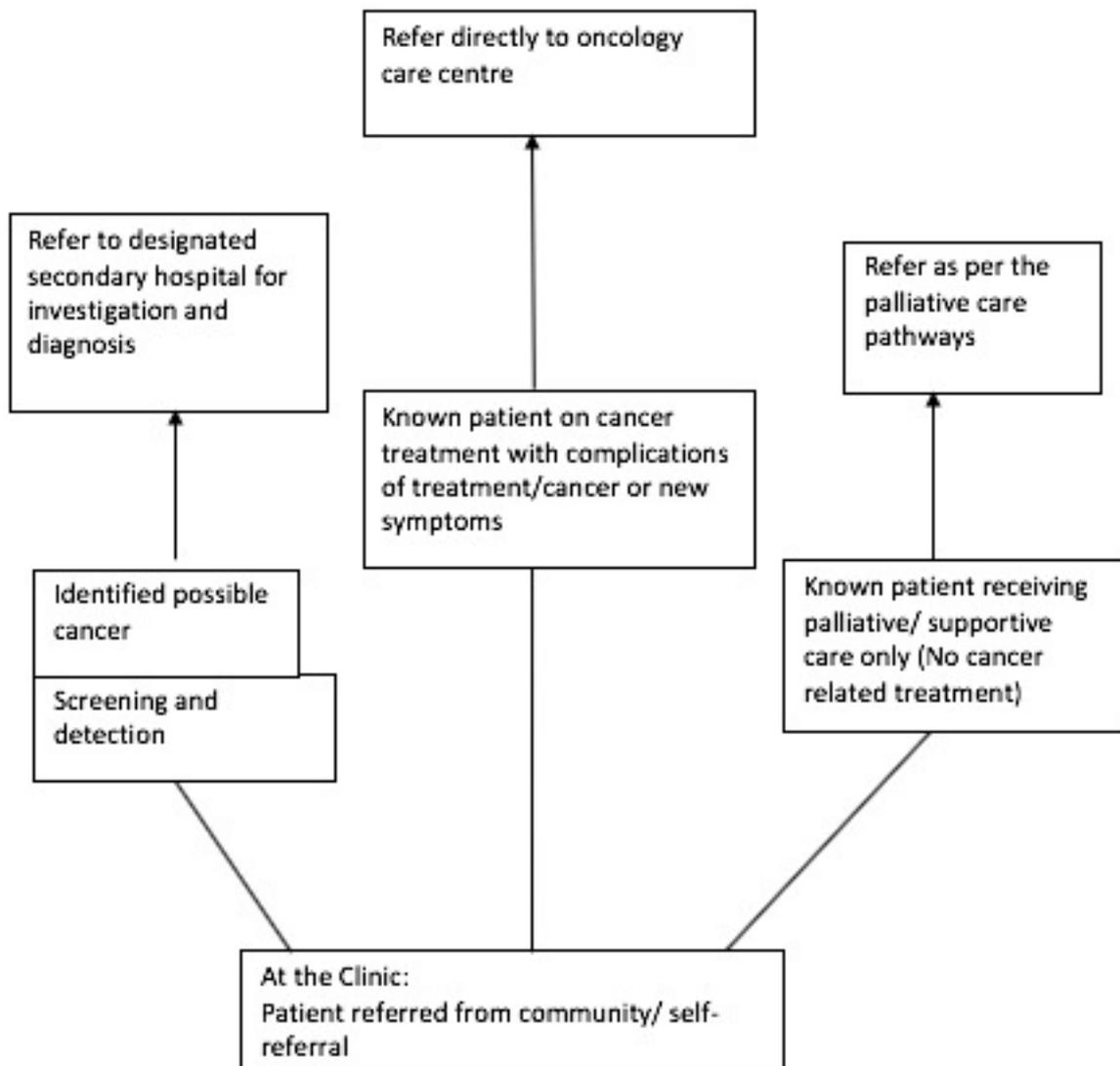


Figure 11. Referral pathways for patients from clinic/District Hospital

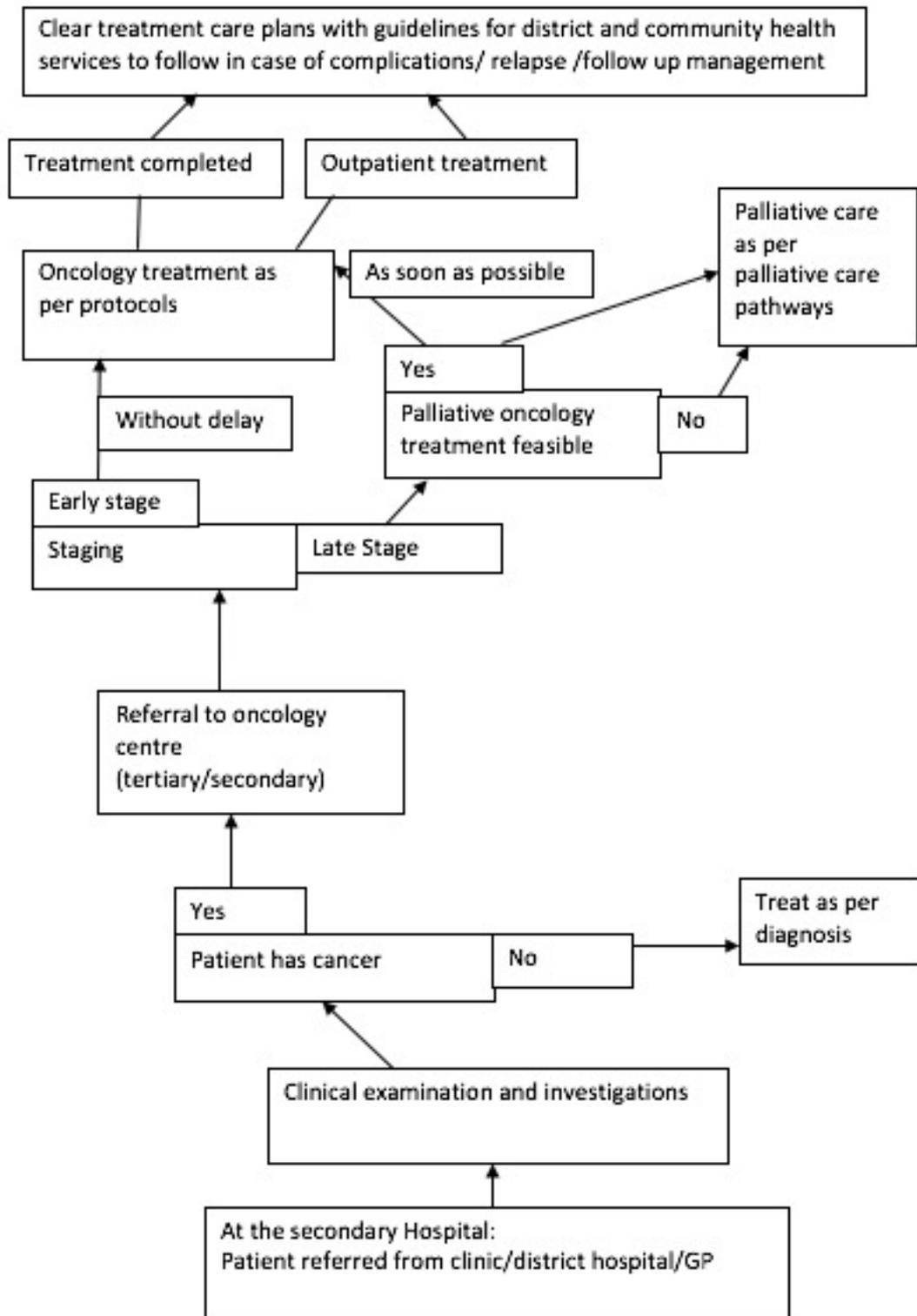


Figure 12. Referral pathways for patients from secondary hospital

POSITIONING THE NCSF

Implementation of the NCSF at National and Provincial levels is to be person centred and to be relevant for the unique context of each province. The NCSF supports and is supported by related policies and strategies and in particular supports the cancer specific policies and strategies. The NCSF is developed utilising the framework of the WHO Public Health Building Blocks and includes the ministerial non-negotiables for providing health care services in South Africa. The NCSF builds on the existing health service delivery platform and aims to provide seamless care pathways for the patient from the home in the community through the various levels of service delivery and back. These concepts of the positioning of the NCSF are illustrated in Figure 13.

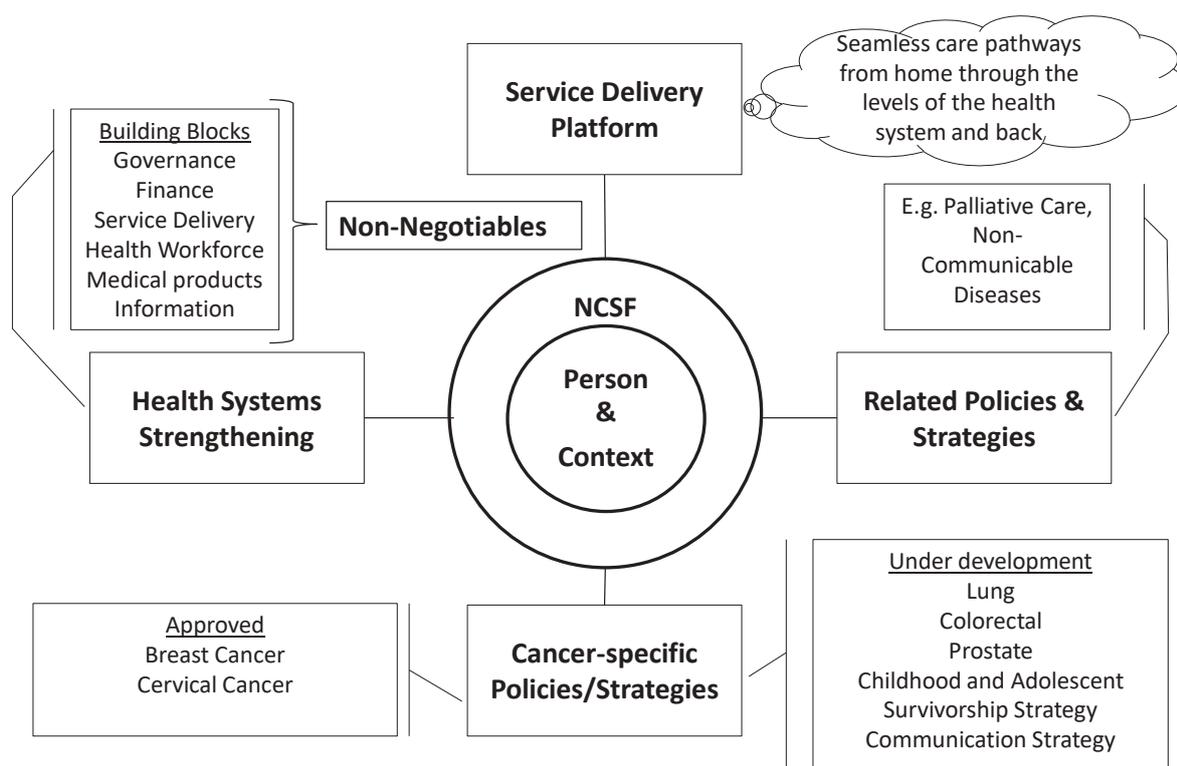


Figure 13: Positioning of the NCSF

STRATEGY

VISION

Equitable and comprehensive cancer prevention and control for all South Africans.

MISSION

To reduce cancer burden and promote patient-centered and human rights-based care through integrated and evidence-based programmes on cancer surveillance, prevention, early detection, screening diagnosis, treatment, rehabilitation and support and palliative care.

GUIDING PRINCIPLES OF THE NCSF

This Plan is aimed at strengthening cancer prevention and control efforts through health systems strengthening, controlling exposure to modifiable risk factors, enhancing the health workforce and providing an evidence-based approach to best practices. In doing so, the Plan is cognisant of the need for effective rollout to ensure its success based on the following principles:

- **Government is responsible for the implementation of the Plan in partnership with all relevant stakeholders**
- **Ownership, Governance, Leadership and Accountability** expressed at all levels and which impact on all matters relating to cancer prevention and control.
- **Equity, Fairness and Responsiveness** to local needs to overcome the cancer divide experienced, to ensure rights to access cancer prevention and control by the people of the country.
- **Partnerships, Innovation and Creativity** to achieve high health impact through cost effective interventions
- **Stakeholder engagement** to achieve common understanding and participation by all related sectors on matters related to cancer prevention and control.
- **Decision-making based on evidence** to achieve best practice.
- **Sustainable, Integrated and Systems-based** services to ensure seamless services across programmes, levels of care and which enable continuum of care across the life course as is depicted in Figure 8.
- **Monitoring and evaluation of intervention and impact**

GOALS

There are six overarching goals which seek to address the challenges in providing this care. The goals and objectives serve to develop and strengthen the health system as aligned to identified challenges and which consider the the World Health Organization (WHO) framework to decrease cancer morbidity and mortality i.e. Prevention, Screening and Early Detection, Diagnosis and Treatment, Survivorship and Palliative Care, Surveillance and Evidence-based research. The WHO Public Health Building Blocks (Figure 14) are used as a reference:

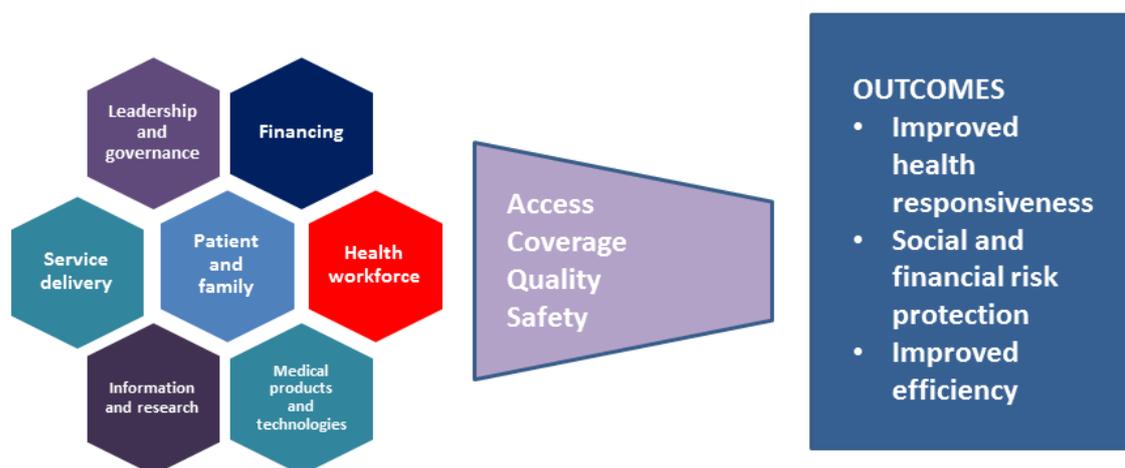


Figure 14. WHO building blocks of health systems³⁴

Table 6 provides a summary of the goals and objectives of the NCSF with proposed indicators to be used to monitor the progress of the implementation of the objectives.

Goal	Objectives (Summary)	Indicators to be considered
1. Strengthen governance and leadership on cancer prevention and control	Provide guidance and leadership on development implementation of cancer plans by provinces.	Cancer policies developed & approved Strategies developed & developed Breast and Cervical cancer policies implemented
2. Strengthen services for cancer prevention and control	Increase access to screening, detection, treatment and support for people with cancer through health system strengthening as aligned to Cancer Policies and related Strategies	Proportion of people screened as appropriate Proportion of people diagnosed in early stages Time from screening to diagnosis Turnaround time for lab test results Time from diagnosis to treatment Proportion of patients lost to follow up at every stage
3. Strengthen Human Resources for cancer prevention and control at all levels of the healthcare system.	Increase capacity in the health workforce to screen, detect and treat cancer and support patients and families	No of persons receiving in-service training for all levels No of undergraduate curricula which include cancer control No of filled posts at treatment centres
4. Strengthen technology, equipment, vaccines, medicines and infrastructure for cancer	Ensure availability of vaccines, medicines and other medical products as well as functioning machinery required to treat cancer including non-negotiables	Percentage of downtime of machines Turnaround time for maintenance/repair of machines Availability of appropriate equipment Availability of vaccines and medicines (no of stock out days)
5. Strengthen surveillance and research on cancer	Improve cancer surveillance, identify priority areas for research and monitor and evaluate the implementation of the NCSF	No of adequate reports from health care facilities No of adequate lab tests (proportion) Functional population based registries and pathology based registry
6. Explore and ensure sustainable financing for cancer prevention and control	Complete detailed costing, define criteria for PPPs for cancer-care and transversal contracts for equipment	Funding and service delivery models established to implement the NCSF

Table 6. Summary of Goals, objectives and proposed indicators

Goal 1: Strengthen governance and leadership on cancer prevention and control

The successful implementation of this plan requires strong leadership and coordination to engage with other relevant departments, civil society and the community as a whole to ensure the successful provision of quality cancer services to all. Coordination at the national, provincial and district levels is critical to ensure seamless movement of the patient within the health care system.

Objectives:

- Provide guidance, direction and leadership on implementation of cancer plans by provinces and districts.
- Strengthen functioning of the legislative mechanism which advises the Minister on all matters relating to cancer.
- Create a multisectoral, inter-programme, coordinated response to cancer prevention and control at national and provincial levels.
- Ensure an appropriate health service response to the most prevalent adult cancers and most prevalent childhood cancers through the development of Policies on adult and childhood cancers.

Goal 2: Strengthen services for cancer prevention and control

A lack of equitable access to cancer-care programs and facilities: from prevention due to lack of awareness, to treatment due to lack of facilities and long waiting times is unacceptable and needs to be addressed. Health systems need to be strengthened to improve access to cancer care.

Objectives:

- Educate the public and increase awareness of cancer prevention
- Increase primary prevention of cancers with known aetiologies and associations
- Increase early detection and screening of cancers
- Increase access to timeous diagnostic services
- Increase access to curative services in specialised units
- Increase access to rehabilitation and psychosocial services
- To increase quality of survivorship
- Increase access to palliative care services

Goal 3: Strengthen Human Resources for cancer prevention and control at all levels of the healthcare system.

The widespread lack of awareness among healthcare professionals of cancer prevention and prevalence is a major impediment to appropriate screening and diagnosis. There is also a concerning lack of knowledge of cancer-care amongst all levels of healthcare workers. It is important that all aspects of cancer-care are included in training of all cadres of health care workers at all levels including in-service as well as pre-service training, for generalists as well as specialists in cancer care.

Objectives:

- Develop the capacity of primary, secondary and tertiary healthcare workers to detect, screen for and refer patients with suspected cancers.
- Increase the number of healthcare professionals trained to diagnose and treat cancers within the public sector.

Goal 4: Strengthen technology, equipment, vaccines, medicines and infrastructure for cancer

Cancer services are available unevenly across the country and are largely positioned in major centres in Gauteng and the Western Cape. Transitions between the levels of care, e.g. specialist/tertiary hospitals, and across the care continuum, must be enabled and supported.

Objectives:

- Ensure availability of vaccines in line with relevant policies.
- Ensure availability of essential medicines for cancer management in line with Standard Treatment Guidelines.
- Ensure availability and maintenance of equipment and consumables for diagnosis and treatment.
- Engage private service providers in areas where infrastructure is insufficient to treat people with cancer adequately.

Goal 5: Strengthen surveillance and research on cancer

Adequate data on all facets of cancer-care services are not readily available. The continuous monitoring and periodic evaluation of the implementation of the NCSF requires that an appropriate information system is strengthened and where applicable, established to support planning and resource allocation. Existing datasets (epidemiological and routine operational indicators) must be interrogated to determine the gaps in data collection to provide a comprehensive overview of cancer epidemiology, cancer interventions and outcomes.

Objectives:

- Increase capacity to undertake cancer monitoring and surveillance through the National Pathology Based Registry, the SACCSG Tumour Registry and Population Based Cancer Registries.
- Identify national cancer research priorities and promote utilization of research findings.
- Improve collaboration with national and international research organisations to improve research capacity and outputs.
- Engage with other government centres such as iThemba LABS, Necsa involved in cancer diagnosis and therapy research.
- Implement a monitoring and evaluation plan to measure progress on implementation of the NCSF.

Goal 6: Explore and ensure sustainable financing for cancer prevention and control

Currently, cancer services are underfunded, leading to inconsistent implementation. This inconsistency leads to lower survival rates and lower quality of survivorship in underserved areas. Funding is required for universal access and sustainability.

Objectives:

- Complete detailed costing of optimal cancer prevention and control services for South Africa
- Incrementally increase the funding for cancer prevention and control through the phased implementation of the NCP
- Define criteria for and implement public-private partnerships (PPPs) to ensure transparent and responsible business practices
- Setting of a transversal contract for oncology equipment/or equivalently lease agreements in the form of PPP programmes depending on cost analysis

RESPONSIBILITIES OF THE NATIONAL DEPARTMENT OF HEALTH AND GUIDANCE FOR PROVINCIAL DEPARTMENTS FOR IMPLEMENTATION OF THE NCSF FOR SOUTH AFRICA

Based on the goals of the NCSF, Table 7 outlines the priority areas and targeted activities to be achieved by the National Department of Health for the period 2017-2023 to achieve the aim of more equitable access to cancer-care for all from prevention to treatment, with adequate surveillance to monitor the success of the implementation of the strategy.

Priority Area	Quarter 3 FY2017	Quarter 4 FY2017	Quarter 1 FY2018	Quarter 2 FY2018	Quarter 3 FY2018	Quarter 4 FY2018	Quarter 1 FY2019	Quarter 2 FY2019	Quarter 3 FY2019	Quarter 4 FY2019	Quarter 1 FY2020	Quarter 2 FY2020	Quarter 3 FY2020	Quarter 4 FY2020	Quarter 1 FY2021	Quarter 2 FY2021	Quarter 3 FY2021	Quarter 4 FY2021	Quarter 1 FY2022	Quarter 2 FY2022	Quarter 3 FY2022	
	Short-Term																					
Time-based activity costing (breast and cervix)																						
Development of clinical guidelines for breast cancer																						
Quantification and identify efficiencies in system by province																						
Published National Cancer Strategic Framework for South Africa																						
Medium-Term																						
Oncology tender launched																						
Define referral pathways																						
Launch of the palliative, breast, cervix, and national cancer strategy framework																						
Development of communication strategy																						
Development of a strategy on survivorship																						
Publish policies for remaining 4 priority cancers (maximum duration)																						
On-going and Long-Term																						
Develop and implement provincial plans to improve adult and children and adolescent oncology services to detect, diagnosis, and treat cancer																						
NCR capacitated on pathology-based and population-based cancer registries																						
Refine time-based activity based costing																						
Implementation of approved cancer and related policies as FY2017/18																						
Refine plan for multi-disciplinary oncology HR to strengthen services, training, and specialisation																						
Complete investment case and implementation plan for oncology services, in particular HR, medicines, and radiotherapy machines, by province																						

Table 7: Priority Areas and Activities for the period from 2017 - 2023

SPECIAL FOCUS ON STRENGTHENING TREATMENT FACILITIES

While it is important to strengthen services across the spectrum of cancer care, from awareness, prevention, screening and diagnosis, to treatment and support, this strategy also has a particular focus on the strengthening of the treatment facilities specifically in order to cope with existing unmet demand as well as increased demand created by the improved services at all levels.

With the current crisis in cancer treatment in some provinces, it is important to act quickly to implement immediate measures to address the needs of patients currently waiting for treatment who are at increased risk of unnecessary morbidity and mortality due to the shortages in resources. While these measures will assist with short term solutions, longer term, more sustainable solutions must be developed to provide an adequate, equitable service to all in South Africa. This NCSF provides a guide to the NDoH to implement a sustainable cancer-care plan which will result in the reduction in mortality due to cancer by the SDG target of 2030.

With regard to the designated treatment centres, it is proposed that activities to augment services at these facilities occur concurrently. It should be noted that the analyses presented in this document has been limited and/or undermined by a lack of health system data. Therefore, it should be followed up by verification to further define assumptions, validate caseload and revise the required expenditure/cost.

Categorising of the treatment centres into tiers (Tables 8 & 9) is required to determine the level of intervention required for each institution. While this is not based on any evidence-based practice, it is an attempt to assist with planning of an appropriate phased in approach of strengthening the cancer-care services.

Tier	Criteria	Timeline for Improvements
Tier 1 facilities	Hospitals with available HR capabilities (which may or may not be sufficient) and functioning equipment (with or with maintenance) that requires minimal capital investment in order to revamp the service	12 ~ 18 months
Tier 2 facilities	Hospitals with services that are currently functioning but require significant capital investment to meet minimal HR resource and equipment/maintenance requirements.	12 ~ 60 months
Tier 3 facilities	Hospitals failing to meet required oncology-related outcomes and/or no service present. Decision needs to be made whether to establish radiotherapy, leasing of services, or pursue PPP	36 ~ 60 months

Table 8: Tier Categorisation: Criteria

Province	Facility	Tier Classification
Limpopo	Polokwane Hospital	Tier 2 or 3
North West	Klerksdorp Hospital	Tier 1 or 2
Mpumalanga	Mbombela Hospital	Tier 3
Northern Cape	Kimberley Hospital	Tier 3
Eastern Cape	Frere Hospital	Tier 1
Eastern Cape	Livingston Hospital	Tier 2
Eastern Cape	Nelson Mandela Central Hospital (under construction)	N/A
Western Cape	George Hospital	
Western Cape	Groote Schuur Hospital	Tier 1
Western Cape	Tygerberg Hospital	Tier 1
Gauteng	Charlotte Maxeke Johannesburg Academic Hospital (3)	Tier 1 & 2
Gauteng	Chris Hani Baragwanath Academic Hospital	Tier 2 & 3
Gauteng	Steve Biko Pretoria Academic Hospital	Tier 1 & 2
Gauteng	George Mukhari Hospital	Tier 3
Gauteng	Nelson Mandela Children's Hospital	Tier 2
Free State	National and Universitas Hospital	Tier 1
KZN	Addington Hospital	Tier 2 & 3
KZN	Inkosi Albert Luthuli Central Hospital	Tier 2 & 3
KZN	Greys Hospital	Tier 1

Table 9: Tier Categorisation of Treatment Centres

Table 10 provides an implementation plan for the improvements to strengthen the treatment centres to manage the current backlog in treatment as well as the increased demand expected with improved awareness screening and diagnosis of cancers.

Priority Area	Quarter 3 FY2017	Quarter 4 FY2017	Quarter 1 FY2018	Quarter 2 FY2018	Quarter 3 FY2018	Quarter 4 FY2018	Quarter 1 FY2019	Quarter 2 FY2019	Quarter 3 FY2019	Quarter 4 FY2019	Quarter 1 FY2020	Quarter 2 FY2020	Quarter 3 FY2020	Quarter 4 FY2020	Quarter 1 FY2021	Quarter 2 FY2021	Quarter 3 FY2021	Quarter 4 FY2021	Quarter 1 FY2022	Quarter 2 FY2022	Quarter 3 FY2022	Quarter 4 FY2022	
Landscaping exercise to build on existing status of the situation and ascertain the backlogs for cancer diagnosis & treatment																							
Determine and costing of the HR needs and minimal upgrades to and maintenance for equipment																							
Tier 2: Re-define (if needed) and finalize the referral pathway with other facilities both within and between provinces																							
Tier 3: Decide on a model for provision of services																							
Create and finalize investment case for augmentations to current service delivery platform, e.g. HR, equipment, maintenance, consummables, medicines, to inform Treasury processes																							
Tier 2 & 3: Bulk/pool-procurement of equipment																							
Recruitment and retention as well as upskilling of staff																							
Incorporate reports from the pathology-based and population-based (under development) to inform planning and evaluation																							
Estimated cost: R 17M																							

Table 10: Implementation plan for improvements to treatment centres

Key to Colours

-  Tier 1, 2 & 3
-  Tier 2
-  Tier 3
-  Tier 2 & 3

APPENDICES

APPENDIX 1

Legislative and Policy Framework

Global

Resolutions

- WHA Resolution on Cancer prevention and control - May 2005
- WHA Resolution on Strengthening of Palliative Care as a Component of Comprehensive Care Throughout the Life Course - May 2014

Legislation/Supporting documentation:

- United Nation's Sustainable Development Goals - 2015
- WHO Global Action Plan for the Prevention and Control of Non-Communicable Diseases - 2013 - 2020
- 19th WHO Model List of Essential Medicines - April 2015
- WHO Framework Convention on Tobacco Control - 2005
- WHO Global Plan on Diet, Physical Activity and Health

National

Legislation: Constitutional Mandates

- Constitution of the Republic of South Africa - 1996
- National Development Plan – 2013
- National Health Act - 2004
- Tobacco Products Control Amendment Act - 2008
- National Public Health Institutes of South Africa (NAPHISA) Bill - 2017
- White Paper on the National Health Insurance for South Africa - 2015
- Medicines and Related Substances Act, 101 of 1965
- Hazardous Substances Act, 15 of 1973
- Regulations Relating to Cancer Registration - 2011
- Regulations Relating to the Reduction of Sodium in certain Foodstuffs and Related Matters - 2013
- Regulations relating to the Labelling, Advertising and Sale of Tobacco Products – 1995

The NCP will also incorporate cancer related provisions found in the following Global Directives;

1. United Nations Sustainable Development Goals; Agenda 2030
2. UN Political Declaration on NCDs (Resolution A/RES/66/2 of 2011)
3. WHO Global Framework for NCDs, including 9 voluntary targets (Adopted by WHA in 2013)
4. WHO Global NCD Action Plan 2013-2020, (Resolution WHA66.10 of 2013)
5. National Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013 – 2017;
6. WHA Palliative Care Resolution 67.19 (2014)
7. WHO Essential Medicines Lists (2014.) Include updated 2017 WHO EML (Issued 6 June. See who.int website)
8. UICC: World Cancer Declaration Targets by 2020 (Adopted in 2013)

APPENDIX 2

ECOG performance status*	
Grade 0	Fully active, able to carry on all pre-disease performance without restriction
Grade 1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work
Grade 2	Ambulatory and capable of all selfcare but unable to carry out any work activities, up and about more than 50% of waking hours
Grade 3	Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
Grade 4	Completely disabled, cannot carry on any selfcare, totally confined to bed or chair

*Oken MM, Creech RH, Tormey DC et-al. Toxicity and response criteria of the Eastern Cooperative Oncology Group. Am. J. Clin. Oncol. 1983;5 (6): 649-55.

APPENDIX 3

Due to the current tight economic conditions, Provincial Departments of Health have been instructed to protect a number of “non-negotiables” within their Goods and Services budget.

1. Non-Negotiable components (Ministerial Report: Non-Negotiables. Rationale and Monitoring)
 - 1) Infection Control and Cleaning
 - 2) Medical Supplies including dry dispensary
 - 3) Medicines
 - 4) Medical Waste
 - 5) Laboratory Services: National Health Laboratory Services (NHLS)
 - 6) Blood supply and services: South African National Blood Services (SANBS) or Western Province Blood Transfusion Services (WPBTS)
 - 7) Medical Gas
 - 8) Food Services and Relevant Supplies
 - 9) Security Services
 - 10) Laundry Services
 - 11) Essential Equipment and Maintenance of Equipment
 - 12) Infrastructure and Non-Infrastructure Maintenance
 - 13) Children’s Vaccines
 - 14) ARVs
2. AIDS Objective
3. TB Objective

REFERENCES

1. Mortality and causes of death in South Africa, 2014: Findings from death notification. <http://www.statssa.gov.za/publications/P03093/P030932014.pdf>
2. <http://www.who.int/mediacentre/factsheets/fs297/en/>
3. Global burden of disease cancer collaboration. *JAMA Oncol.* 2015 July 1; 1(4): 505–527. doi:10.1001/jamaoncol.2015.0735.
4. Statistics South Africa Statistical Release P0309.3: Mortality and causes of death in South Africa, 2015: Findings from death notification; 2017, pp 1-132
5. Harris BG. Inequalities in access to health care in South Africa. *J Public Health Policy* 2011;32:S102-S123.
6. Rispol L: Analysing the progress and fault lines of health sector transformation in South Africa; in Padarath A KJMECJe, (ed): *South African Health Review 2016*. Durban, Health Systems Trust, 2016, pp 17-23.
7. National Planning Commission: *National Development Plan: Vision for 2030*; South Africa, 2011.
8. Sartorius K, Sartorius B, Govender PS, Sharma V, Sherriff A. The future cost of cancer in South Africa: An interdisciplinary cost management strategy. *S Afr Med J.* 2016 Sep 6;106(10):949-950. doi: 10.7196/SAMJ.2016.v106i10.11375.
9. United Nations General Assembly. Resolution adopted by the General Assembly on 25 September 2015. http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E
10. National Cancer Registry: *Summary Statistics of Cancer Diagnosed Histologically in 2012; 2017*. <http://www.cansa.org.za/files/2017/03/SA-National-Cancer-Registry-2012-web-Feb-2017.pdf>
11. Bohlius J, Valeri F, Maskew M, Prozesky H, Garone D, Sengayi M, Fox MP, Davies MA, Egger M. Kaposi's Sarcoma in HIV-infected patients in South Africa: Multicohort study in the antiretroviral therapy era. *Int J Cancer.* 2014 Dec 1;135(11):2644-52. doi: 10.1002/ijc.28894.
12. International Agency for Research on Cancer. *GLOBOCAN 2012. Cancer incidence, mortality and prevalence worldwide. 2014*. http://globocan.iarc.fr/pages/burden_sel.aspx
13. Erdmann F, Kielkowski D, Schonfeld SJ, Kellett P, Stanulla M, Dickens C, Kaatsch P, Singh E, Schüz J. Childhood cancer incidence patterns by race, sex and age for 2000-2006: a report from the South African National Cancer Registry. *Int J Cancer.* 2015 Jun 1;136(11):2628-39. doi: 10.1002/ijc.29308.
14. Ward E, DeSantis C, Robbins A, Kohler B, Jemal A. Childhood and adolescent cancer statistics, 2014. *CA Cancer J Clin.* 2014 Mar-Apr;64(2):83-103. doi: 10.3322/caac.21219.
15. Nojilana B, Bradshaw D, Pillay-van Wyk V, Msemburi W, Laubscher R, Somdyala NI, Joubert JD, Groenewald P, Dorrington RE. Emerging trends in non-communicable disease mortality in South Africa, 1997 - 2010. *S Afr Med J.* 2016 Apr 1;106(5):58. doi: 10.7196/SAMJ.2016.v106i5.10674.
16. Poyiadjis S, Wainwright L, Naidu G, et al. The Saint Siluan Warning Signs of Cancer in Children: Impact of Education in Rural South Africa. *Pediatr Blood Cancer* 2011; 56(2):314–316. <http://dx.doi.org/10.1002/pbc.22853> [PMID: 21058290]
17. Stones DK, De Bruin GP, Esterhuizen TM, Stefan DC. Childhood cancer survival rates in two South African units. *S Afr Med J.* 2014 May 19;104(7):501-4. doi: 10.7196/samj.7882.

18. Moreno F, Dussel V, Orellana L; ROHA network Childhood cancer in Argentina: Survival 2000-2007. *Cancer Epidemiol.* 2015 Aug;39(4):505-10. doi: 10.1016/j.canep.2015.04.010.
19. World Health Organization. Global health risks: Mortality and burden of disease attributable to selected major risks. Geneva: World Health Organization; 2009
20. Jha P, Peto R: Global effects of smoking, of quitting, and of taxing tobacco. *N Engl J Med* 2014;370:60-68.
21. South African Demographic and Health Survey 2016. Key Indicator Report. Report 03-00-09. Statssa
22. South Africa Global AIDS Response Progress Report. South Africa National AIDS Council Trust.
http://sanac.org.za/wp-content/uploads/2016/06/GARPR_report-high-res-for-print-June-15-2016.pdf
23. Maskew M, Macphail AP, Whitby D, Egger M, Wallis CL, Fox MP: Prevalence and predictors of kaposi sarcoma herpes virus seropositivity: a cross-sectional analysis of HIV-infected adults initiating ART in Johannesburg, South Africa. *Infect Agent Cancer* 2011;6:22.
24. Mbulawa ZZ, Coetzee D, Williamson AL: Human papillomavirus prevalence in South African women and men according to age and human immunodeficiency virus status. *BMC Infect Dis* 2015;15:459.
25. Spearman CWN, Sonderup MW: Preventing hepatitis B and hepatocellular carcinoma in South Africa: The case for a birth-dose vaccine. *SAMJ: South African Medical Journal* 2014;104:610-612.
26. Tobacco Products Control Act in 1993. South Africa
27. Tobacco Products Control Amendment Act 2008. South Africa
28. National Liquor Act No 59 of 2003. South Africa
29. Hepatitis B policy South African National Dept. of Health.
30. Regulation on the Compulsory registration on Cancer
31. Breast cancer policy. South African National Dept. of Health
32. Cervical cancer policy. South African National Dept. of Health
33. Ministerial Advisory Committee on the Control and Prevention of Cancer. South Africa.
34. World Health Organization. Everybody's business: strengthening health systems to improve health outcomes. WHO's Framework for Action. Geneva: World Health Organization; 2007
http://www.who.int/healthsystems/strategy/everybodys_businesspdf
35. Strategic Plan for the Prevention and Control of Non-communicable diseases 2013-2017. South African National Dept. of Health.
36. Setswe G. The role of traditional healers and primary health care in South Africa. *Health SA Gesondheid* 1999;4:56-60.
37. Extended Immunization Program (EPI) of South Africa. South African National Dept. of Health
38. World Health Organization. Cancer control: knowledge into action: WHO guide for effective programmes. World Health Organization; 2007.
39. Govender M, Letshekogla ME, Basu D. Health technology assessment: a new initiative in South Africa. *SAMJ: South African Medical Journal* 2010;100:334.
40. Cameron A, Ewen M, Ross-Degnan D, Ball D, Laing R. Medicine prices, availability, and affordability in 36 developing and middle-income countries: a secondary analysis. *Lancet.* 2009 Jan 17;373(9659):240-9. doi: 10.1016/S0140-6736(08)61762-6.

41. Standard Treatment Guidelines. South African National Dept. of Health.
42. Essential Medicines List. South African National Dept. of Health.
43. WHO Model List of Essential Medicines 20th List (March 2017)
http://www.who.int/medicines/publications/essentialmedicines/20th_EML2017.pdf?ua=1
44. "Access to essential medicines as part of the right to health"
http://www.who.int/medicines/areas/human_rights/en/0
45. About Survivorship. Cancer.Net. <http://www.cancer.net/survivorship/about-survivorship>
46. Gilbert SM, Miller DC, Hollenbeck BK, Montie JE, Wei JT. Cancer Survivorship Challenges and Changing Paradigms J Urol. 2008 Feb;179(2):431-8.
47. Cancer Survivorship Supplement,
<https://www.cdc.gov/cancer/dcpc/research/articles/survivorship-supplement.htm>
48. National Policy Framework and Plan for Palliative Care. South African National Dept. of Health
49. Ministerial Report. Non Negotiables. Rationale and Monitoring. 31 August 2017. South African National Dept. of Health
50. Sustainable Development Goal 3 <https://sustainabledevelopment.un.org/sdg3>
51. WHO NCD Global Action Plan <http://www.who.int/nmh/ncd-tools/definition-targets/en/>
52. The South African National Cancer Registry: an update. <https://www.sasmo.co.za/news-articles/15-the-south-african-national-cancer-registry-an-update> Accessed 26/09/2017
53. Guide to cancer early diagnosis. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.
54. Cancer in South Africa 2013. Full report. National Cancer Registry.
http://www.nioh.ac.za/?page=cancer_statistics&id=163
55. Naidoo S. Radiation Services in RSA and Possible Solutions. 2017.

