THE REPUBLIC OF UGANDA
MINISTRY OF HEALTH

UGANDA NATIONAL CANCER CONTROL PLAN (UNCCP)

2025/26 – 2029/30

ABBREVIATIONS AND ACRONYMS

CPHL	Central Public Health Laboratories
CSO	Civil Society Organisations
EAC	East African Community
EBV	Epstein Barr Virus
EPI	Extended Program on Immunization
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HPV	Human Papilloma Virus
IAEA	International Atomic Energy Agency
IARC	International Agency for Research on Cancer
KCR	Kampala Cancer Registry
LMIC	Low- and Middle-Income Country
MoH	Ministry of Health
MoPS	Ministry of Public Service
NCCP	National Cancer Control Plan
NCD	Non-Communicable Diseases
NGOs	Non-Governmental Organisations
NHP	National Health Policy
PHP	Public Health Practitioners
PNFP	Private Not For Profit
SDG	Sustainable Development Goals
UAEC	Uganda Atomic Energy Council
UCI	Uganda Cancer Institute
UCS	Uganda Cancer Society
UHC	Universal Health Care
UNEPI	Uganda National Expanded Programme on Immunization
UNHRO	Uganda National Health Research Organisation
UPDF	Uganda People's Defense Forces
WHA	World Health Assembly
WHO	World Health Organisation

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FOREWORD

I am honored to present the Uganda National Cancer Control Plan (UNCCP), whose goal is to reduce cancer risk, sickness and death in Uganda, and whose vision is a cancer free productive population.

Cancer is a major public health concern in Uganda, and its causes and consequences have economic and development implications, given that the economically active members of society are the most commonly diagnosed with the disease, and care for patients diagnosed with cancer comes at a very high cost. The Ministry of Health has always prioritized support for actions to fight cancer, as part of its efforts to curb the overall growing burden of non-communicable diseases.

The Ministry of Health has in the past advocated for legislations and regulations that promote healthy behavior, including among others: the Tobacco Control Act, 2015; the Uganda Cancer Institute Act, 2016; the Uganda National Alcohol Control Policy, 2019, that can be used to implement activities geared towards reduction of cancer risk and management.

Other efforts in the fight against cancer by the Ministry of Health include; vaccination of girls against Human Papilloma Virus (HPV), to prevent cervical cancer, and Hepatitis B vaccination, to reduce the risk of developing liver cancer. The Ministry has also designated every second Sunday of July as a National Day of physical activity, following a declaration by H.E Yoweri Kaguta Museveni on 8th July 2018.

The Uganda Cancer Institute was established as a body corporate by an Act of parliament in 2016 and given the mandate to coordinate cancer control activities across the country. The Institute is equipped with modern facilities, including bunkers, radiotherapy machines, and cancer chemotherapy capacity, to offer comprehensive cancer services to the population. I am proud to note that UCI has been designated as the East African Center of Excellence for Oncology, and in 2018, it started to train cancer specialists in various fields of oncology. The UCI 2016 Act enjoins the institute to work with partners including, but not limited to: health development partners, implementing partners, private sectors, CSOs and NGOsin the fight against cancer.

The Government of Uganda is committed to decentralizing cancer control services, through the establishment of regional cancer centers. This includes training of health workers at the regional and district levels, to enable the provision of comprehensive cancer control services.

Cognizant of all these achievements, there are still gaps that need to be addressed. Some of these gaps include; inadequate number of

cancer specialists, equipment for cancer screening, diagnosis, and treatment, inadequate availability of cancer control services in rural areas, and low level of cancer awareness among the health workers and the general population, coupled with myths and misconceptions about cancer. Also, the global infiltration of substandard / counterfeit cancer drugs and medical supplies, among others, remains a challenge.

The National Cancer Control Plan is a crucial tool, which should be used to guide the agenda of bridging these gaps. This plan provides a comprehensive implementation strategy of cost-effective and evidence-based cancer control interventions across the cancer control continuum.

We know that with adequate multi-sectorial support in the implementation of the UNCCP, great progress towards reducing morbidity and mortality from cancer will be achieved.

The UNCCP is aligned with the National Development Plan III, National Health Policy, National Health Sector Development Plan, and the Health Sector Strategic and Investment Plan. It is also designed to contribute to the realization of Vision 2040, specifically on empowerment of households and communities, to take greater control of their health, by promoting healthy lifestyles and practices. The plan will also contribute to the achievement of Sustainable Development Goal 3, which calls for ensuring healthy lives, and promoting well-being for all, at all ages.

Wide stakeholder consultations have been done in the development of this plan, to ensure cohesive partnership, and foster ownership in the development and implementation process by all stakeholders.

Mobilization of resources for the implementation of this plan, will be a combined effort involving financial support from the Government of Uganda, financial contributions from Development partners, collaboration with civil society organizations, the private sector, the Media, and communities at large.

On behalf of the people of Uganda, I wish to extend my heartfelt gratitude to everyone who contributed to the development of this Plan.

The Ministry of Health looks forward to the successful implementation of the Uganda National Cancer Control Plan.

For God and My Country.

Hon. Dr. Jane Ruth Aceng Ocero
Minister of Health

PREFACE

According to World Health Organisation cancer is the second leading cause of death worldwide, accounting for nearly 10 million deaths, in 2020 alone.[1]In Uganda cancer remains the second leading cause of death after cardiovascular diseases.

Although cancer can affect anybody and any part of the human body, it is mostly influenced by one's behavior and/or exposure to risky conditions/environments. Some of the risk factors are; infections (Human Papilloma Virus, Hepatitis B, HIV, etc.), tobacco use, harmful consumption of alcohol, unhealthy diet, physical inactivity and air pollution, overweight and obesity, among others.

In Uganda, the burden of cancer has been on the increase. Some of the most common cancers are; cervical cancer in women (mainly caused by infection with Human Papilloma Virus (HPV)), Kaposi Sarcoma, breast cancer, prostate cancer, liver cancer, colon cancer, ovarian cancer and Leukemia. Furthermore, ten percent (10%) of patients treated with cancer are children (0-17 years), with the most common cancers being; acute leukemia, lymphoma, and rhabdomyosarcoma. These cancers are caused by various risks factors, but with the promotion of healthy lifestyle behaviors and vaccination, a reduction in most of them is possible. This, combined with screening and early diagnosis of amenable cancers i.e. cancer of the cervix, breast, and prostate, can lead to a significant reduction in morbidity and mortality.

Effective and efficient prevention, early detection, diagnosis and treatment, along with the provision of palliative care, are key to achieving effective cancer control, which is an integral component of the path towards Universal Health Coverage.
The National Cancer Control Plan emphasizes a multi-sectorial approach, with a focus on cost-effective and evidence-based interventions, in a resource limited setting like Uganda. With the systematic implementation of these interventions, Uganda will be able to meet the targets set herein.

I therefore call upon all Sectors of Government, Ministries, Departments, Agencies and Institutions, Development Partners, Civil Society Organizations, the Media, the Private Sector, and all other stakeholders, to be actively involved in implementing this plan; to realize the impact we desire as a country.

Dr. Diana Atwine,

Permanent Secretary
Ministry of Health

ACKNOWLEDGEMENT

The Uganda National Cancer Control Plan has been developed, following a wide consultative process, coupled with active participation, and involvement of various stakeholders.

The Ministry of Health acknowledges the contribution of: The Office of the President; Office of the Prime Minister; Ministry of Finance, Planning and Economic Development; Ministry of Energy and Mineral Development; Ministry of Agriculture, Animal Industry and Fisheries; Ministry of Water and Environment; Ministry of Gender, Labor and Social Development; Ministry of Education and Sports; Ministry of Trade, Industry and Co-operatives; Ministry of Local Government; Ministry of Justice and Constitutional affairs, Uganda AIDS commission, UNEPI; the Uganda National Atomic Energy Council; Kampala Capital City Authority; National Environment Management Authority; and Uganda Bureau of Statistics.

We further extend our appreciation to, among others: Development Partners; Civil Society Organizations in general, and specifically those under the umbrella of Uganda Cancer Society; the Palliative care fraternity under African Palliative Care Association and Palliative Care Association of Uganda; Inter- Religious Council of Uganda; Research and Academic Institutions; the Media, and the Private Sector, including the Anti-Counterfeit Network (ACN Africa).

The Government of Uganda is grateful to the African Development Bank, for the financial support that made the development of this plan possible. Additionally, we want to appreciate the African Palliative Care Association, for the initial seed grant, and Uganda Cancer Society, for their support.

The Uganda National Cancer Control Plan would not have been completed, without substantial technical support from the World Health Organization, National Cancer Institute of U.S.A, Union for International Cancer Control, American Cancer Society, Fred-Hutchinson Cancer Research Center, among others.

Special thanks go to the Uganda Cancer Institute for delivering on its mandate by developing this policy document to guide cancer control in Uganda.

Thank you all for the wonderful individual, and collective contributions.

Director General of Health Services

EXECUTIVE SUMMARY

Cancer is a major public health problem all over the world. Currently, over 43 million people around the world have been diagnosed with the disease. Over 18 million are diagnosed annually, and over 9.6 million lose the battle, making it the second leading cause of death in the world. In Uganda, based on the year 2022 data, there are currently more than 35,968 new cases, and over 24,629 cancer deaths annually, with 77,028 five-years prevalent cases – expected burden on care. These numbers are projected to double by 2040, if nothing is done to counter the rise in the cancer burden in the country.

There are various risk factors of cancer, most of which can be avoided. Some of the known risk factors include infections, tobacco use, harmful consumption of alcohol, unhealthy diet, physical inactivity, and radiation.

The 58th World Health Assembly resolution on cancer prevention and control (WHA58.22), adopted on 25th May 2005, urges member states to intensify actions against cancer, by developing and re-enforcing comprehensive cancer control programmes. In 2017, the same Assembly re-affirmed its commitment to cancer prevention and control, using an integrated approach (WHA70.12).

Article 5, section (b) and (e) of the Uganda Cancer Institute Act 2016, mandates the Institute to "undertake and coordinate the management of cancer, and cancer related diseases in Uganda", and "to oversee the management of cancer and cancer related services in public and private health centers". For this reason, the implementation of this plan shall be overseen by the Uganda Cancer Institute and assisted by the National Cancer Control Multi-Sectoral Committee of the Prime Minister's Office, whose secretariat is hosted at the Ministry of Health. To facilitate reporting on specific indicators and targets, a framework for monitoring and evaluation is incorporated in the UNCCP.

This UNCCP has been developed, in line with the National Development Plan III, the National Health Sector Development Plan, the Health Sector Strategic and Investment Plan 2015/16 -

2019/20, and is aligned with Vision 2040, which emphasizes the empowerment of households and communities to take great control of their health, by promoting healthy practices and lifestyles. The goal of this National Cancer Control Plan is to reduce cancer risk, sickness, and death in Uganda. This will be achieved through the following strategic objectives:

1. To strengthen capacity in cancer prevention, early detection, curative, palliative care and survivorship interventions.
2. To promote partnership and collaboration in cancer control.
3. To build cancer surveillance systems and research, to support national planning and implementation of interventions.
4. To set standards and coordinate interventions across implementing stakeholders.

The plan has seven cancer control pillars, within which the above strategic objectives will be implemented. These are: health promotion and cancer prevention, early detection, diagnosis and treatment, palliative care, cancer survivorship, cancer surveillance and research, and policy and advocacy.

Special interest groups including people living with HIV/AIDS, persons living with albinism, and refugees, have been catered for in this plan, to ensure that they are not left out during implementation of the cancer control interventions.

Successful implementation of this plan will contribute to the attainment of Sustainable Development Goal 3, which is "*To ensure healthy lives, and promote well-being for all, at all ages*," and specifically target four, which is to; "*Ensure reduction of mortality from non-communicable diseases and promote mental health*." It will also contribute to the efforts towards realization of universal health coverage.

Dr. Jackson Orem
Executive Director
Uganda Cancer Institute

CHAPTER ONE

1.0 BACKGROUND

Global Burden of Cancer

Cancer is the second leading cause of death worldwide, with over 19.9 million new cases, and 9.7 million cancer deaths, estimated to have occurred in 2022.[1] By 2040, it is projected that there will be about 29-37 million new cancer cases, with 67% annual cancer cases in low- and middle-income countries.[2] The expected rise in the global cancer burden is largely attributed to increasing life expectancy, epidemiological and demographic transitions.

The economic cost of cancer is high, and on the increase. In the US alone the annual costs of cancer care are projected to rise from 200.7 billion US dollars in 2020 to 245.6 billion US dollars in 2030. The global expenditure on cancer including supportive care is projected to rise from 69 billion US dollars in 2014 to 253 billion US dollars in 2024 and the total cost of 29 cancers in 204 countries is estimated to reach 25.2 trillion international dollars between 2020 and 2050 if there is no further investment in research and prevention. .[3]

The Burden of Cancer in Uganda

In 2022, it was estimated that there were 35,968 new cancer cases, 24,629 cancer deaths, and 62,548 adults living with cancer in Uganda[4]. According to the International Agency for Research on Cancer, by 2040, there will be 77, 510 new cancer cases per year, an increase of 138%. The WHO Uganda Country Profile of 2020 indicates that in 2016, out of the 41,687 premature deaths due to non-communicable diseases, cancer contributed 37.9%. The same profile also sights the five most common cancers in adults in Uganda as; cancer of the cervix, Kaposi sarcoma, breast cancer, cancer of the prostate, and non-Hodgkin lymphoma. In children, 0 –14 years of age, there were 2,093 news cancer cases. (GLOBOCAN 2022). At the Uganda Cancer Institute, ten percent (10%) of patients treated with cancer are children 0-18 years, with the most common cancers being acute leukemia, lymphoma, and rhabdomyosarcoma (UCI Annual Report 2020).

Although recent data show increase in the incidence of prostate, breast and colo-rectal cancers due to changes in lifestyle-related cancer risks, infections having been the leading drivers of the cancer risk burden in Uganda (Judith Asasira et al 2022)HIV infection increases the risk of developing Kaposi sarcoma over 1,000 times, non-Hodgkin lymphoma over 70 times, and cervical cancer over 5 times. Of all patients with cancer at UCI, 29% are HIV-positive. Albinism is also a very strong risk factor for skin cancer, and over 80% of patients with albinism who develop skin cancer are below the age of 40 years.

1. Ferlay J, Ervik M, Lam F, Laversanne M, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2024). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: https://gco.iarc.who.int/today, accessed [23/07/2024].
2. Ferlay J, Ervik M, Lam F, Colombet M, Mery L PM. Global Cancer Observatory: cancer tomorrow. Lyon: International Agency for Research on Cancer. 2019;

[3] Stewart BW WC. World cancer Report 2014. Int Agency Res cancer. 2014;

[4] 10. International Agency for Research on Cancer. World cancer statistics. GLOBOCAN 2022.

The most common risk factors driving the cancer burden in Uganda include; infections such as HIV, HPV, Hepatitis viruses, Epstein Barr Virus (EBV), and *H. pylori*; physical inactivity, exposure to and use of tobacco, alcohol, growth and aging. The 2023 Uganda NCD STEPS survey among adults aged 18-69 years showed that the prevalence of current alcohol drinking was 31.1 (44.6 among men and 19.1 among women, the prevalence of current tobacco use was 8.3% (15% among men and 2.4 % among women meanwhile 23.0 % (95% CI: 19.6 – 26.4) of women aged 30 – 49 years had ever been screened for cervical cancer[5].

The burden of cancers in Uganda attributable to risk factors showed that preventable risk factors contributed to 48.8% (39.2 to 59.0) of cancer age-standardized death rates (ASDR); . environmental and occupational risks such as agricultural and industrial chemicals and particulate matter from outdoor and indoor air pollution from solid and liquid fuels (3.8 % [2.8 to 5.2]) of age-standardized cancer deaths; behavioural risks such as alcohol consumption, tobacco use, unhealthy diet, physical inactivity, and unsafe sexual intercourse (40.3% [32.5 to 48.2]) while metabolic risks such as high body-mass index and high fasting plasma glucose(8.4 [4.0 to 13.8)).[6] Late presentation, limited access to diagnosis and treatment services and infection with antimicrobial resistant (AMR) organisms contribute to the high cancer death rates in Uganda.
Counterfeit products also remain a public health threat. These negatively affect patients' safety, health outcomes and public trust in the healthcare system and deny patients safe and effective treatments[6]. While difficult to quantify, studies show that the estimate total global sales of counterfeit drugs is between $200 billion and $431 billion annually[7].

[5] Ministry of Health Uganda. Non-Communicable Disease Risk Factor Baseline Survey. Uganda 2023 Rep. 2023
6.Tran KB, Lang JJ, Compton K, Xu R, Acheson AR, Henrikson HJ, Kocarnik JM, Penberthy L, Aali A, Abbas Q, Abbasi B. The global burden of cancer attributable to risk factors, 2010–19: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. 2022 Aug 20;400(10352):563-91.
7. Al-Worafi YM. Counterfeit and substandard medications. In Drug safety in developing countries 2020 Jan 1 (pp. 119-126). Academic Press.
[8] Miller HI, Winegarden W. Fraud in your pill bottle: The unacceptable cost of counterfeit medicines. Center for Medical Economics and Innovation Issue Brief. Pacific Research Institute. 2020 Oct

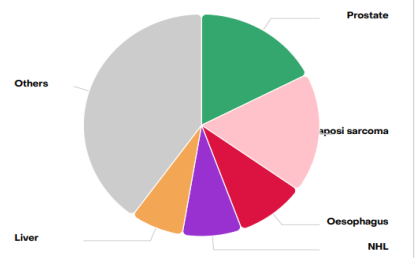
Table 1:**Summary Statistics of Cancer Information in Uganda**[1]

Statistics at a glance, 2022

	Males	Females	Both sexes
Population	23 898 167	24 534 706	48 432 873
Incidence*			
Number of new cancer cases	15 459	20 509	35 968
Age-standardized incidence rate	156.2	157.7	154.4
Risk of developing cancer before the age of 75 years (cum. risk %)	16.2	15.7	15.8
Top 3 leading cancers (ranked by cases)**	Prostate Kaposi sarcoma Oesophagus	Cervix uteri Breast Kaposi sarcoma	Cervix uteri Kaposi sarcoma Breast
Mortality*			
Number of cancer deaths	10 708	13 921	24 629
Age-standardized mortality rate	116.3	115.5	113.9
Risk of dying from cancer before the age of 75 years (cum. risk %)	12.1	12.2	12.0
Top 3 leading cancers (ranked by deaths)**	Prostate Kaposi sarcoma Oesophagus	Cervix uteri Breast Oesophagus	Cervix uteri Oesophagus Kaposi sarcoma
Prevalence*			
5-year prevalent cases	31 110	45 918	77 028

Top 5 most frequent cancers**

Males

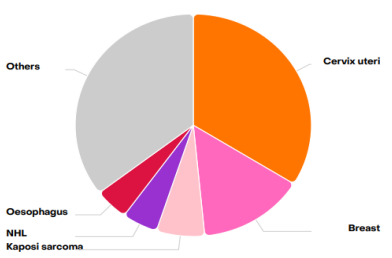


Total: 15 459

Rank	Cancer site	Number of cases	Percent
1st	Prostate	2 699	17.5%
2nd	Kaposi sarcoma	2 689	17.4%
3rd	Oesophagus	1 483	9.6%
4th	NHL	1 266	8.2%
5th	Liver	1 130	7.3%
-	Others	6 192	40.1%

Number of new cases in 2022, males, all ages

Females

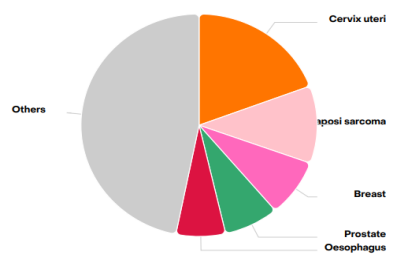


Total: 20 509

Rank	Cancer site	Number of cases	Percent
1st	Cervix uteri	6 938	33.8%
2nd	Breast	2 999	14.6%
3rd	Kaposi sarcoma	1 358	6.6%
4th	NHL	1 003	4.9%
5th	Oesophagus	955	4.7%
-	Others	7 256	35.4%

Number of new cases in 2022, females, all ages

Both sexes



Total: 35 968

Rank	Cancer site	Number of cases	Percent
1st	Cervix uteri	6 938	19.3%
2nd	Kaposi sarcoma	4 047	11.3%
3rd	Breast	2 999	8.3%
4th	Prostate	2 699	7.5%
5th	Oesophagus	2 438	6.8%
-	Others	16 847	46.8%

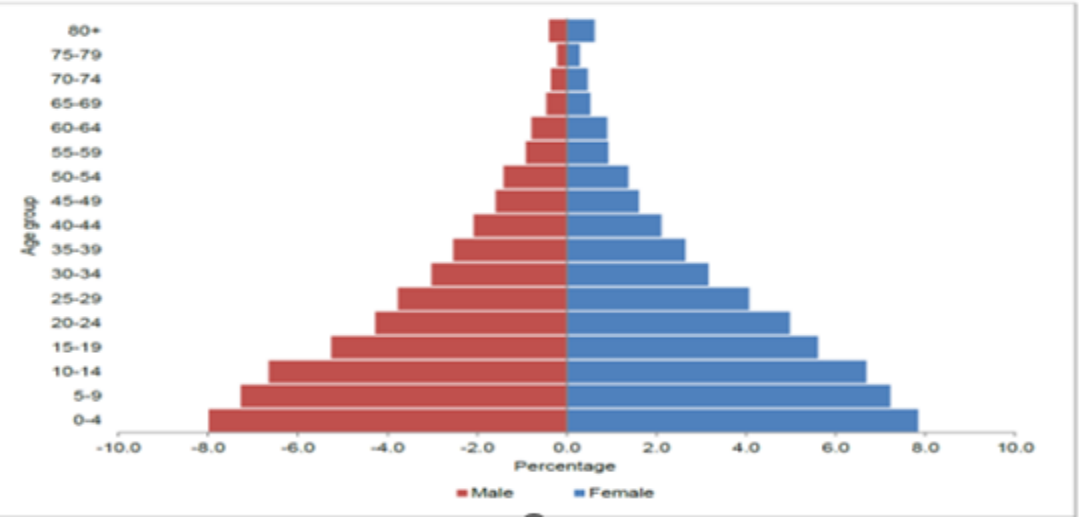
Number of new cases in 2022, both sexes, all ages

Source: GLOBOCAN 2022: *Ferlay J, Ervik M, Lam F, Laversanne M, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F (2024). Global Cancer Observatory: Cancer Today. Lyon, France: International Agency for Research on Cancer. Available from: https://gco.iarc.who.int/today, accessed [12 February 2024]*

Profile of Uganda

Uganda is a member of the East African Community (EAC), with a population of 45.9 million people. About 78.6 percent of this population resides in rural areas. The country has a predominantly young population, with 50.5 percent below 18 years of age, and 71.6 percent below 30 years of age[8]. Uganda also has about 1.4 million people living with HIV/AIDS, with an estimated 1,580,061 as refugees, and an undocumented population of persons living with Albinism.

Figure 1: Uganda Population Pyramid 2024



The country's Gross Domestic Product per capita stood at US 980 (FY 2022/23). However, the proportion of Ugandans living below the poverty line (1 USD per day) remains high at 19.7%, with the majority living in rural areas[9].

Administratively, Uganda is divided into 146 districts which are further divided into 1496 sub-counties, 10717 parishes, and 71,228 villages.[10] The country currently has 11 cities and 25 municipalities. Health services are delivered through both public and private sectors. The public health service has a decentralized structure. The system is structured through the specialized health institutions, National Referral Hospitals (NRH), Regional Referral Hospitals (RRH), General hospitals, Health centers IV, III, II, and the non-facility-based level called Village Health Teams (VHT). The Private sector comprises Private Not-for-Profits (PNFP), Private For Profit (PFP), and Traditional and Complementary Medicine Practitioners (TCMP).

Cancer control situation

[8] Uganda Bureau of Statistics (https://www.ubos.org/wp-content/uploads/publications/National-Population-and-Housing-Census-2024-Preliminary-Report.pdf)

[9] World Bank (https://www.worldbank.org/en/country/uganda/publication/uganda-afe-economic-update-improving-public-spending-on-health-to-build-human-capital)

[10] Ministry of Local Government (https://molg.go.ug)

The cancer situation in Uganda is best understood by interrogating the Strengths, Weaknesses, Opportunities, and Threats (SWOT) that characterize cancer control services. This is described as shown in the table below.

Table 2 **:SWOT for the Uganda National Cancer Control Program**

Strengths	**Weaknesses**
Political will	Inadequate funding
Policies and regulatory framework	Inadequate human resources
Decentralized health service delivery system up to community level	Absence of proper referral mechanisms
Technical capacity at all levels	Inadequate social support systems
Strong Civil Society Movement	Suboptimal enforcement of the existing laws and regulations e.g. the tobacco control Act, NEMA Act etc.
Existence of the Research and Innovation fund.	Limited structures and systems for cancer registration
Wide media coverage	Limited consumption of oral morphine
Opportunities	**Threats**
Developmental partners (Korea Foundation for International Healthcare (KOFIH), International Society for Paediatric Oncology (SIOP), St. Jude Children's Cancer Research Hospital, etc.)	High costs and maintenance of medical devices and supplies e.g. radiotherapy machines etc.
New technologies both for data management	Overreliance on foreign as opposed to home borne technology
Growing use of ICT	Competing priorities e.g. with infectious diseases
Existence of partners in the pharmaceutical industry	Brain drains
Growing movement for Universal Health Coverage	Aggressive marketing of cancer-causing products e.g. tobacco, alcohol, skin bleaching agents etc.
	Existence of misleading traditional medicine practitioners and religious groups
	Inadequate supportive environment i.e. runways, walkways, riding ways
	Continuing influx of refugees
	Population growth

Justification for the Uganda National Cancer Control Plan

The commonest cancers in Uganda are preventable, and if detected early, can be treated and cured. In children and adolescents, though many cancers are generally not preventable, most cancers, when detected early and diagnosed accurately, can be treated, and cured. Identifying specific areas amenable to technological transfer and innovation across the spectrum of cancer control, can result in highly technical, yet affordable and simple to implement interventions, accessible to many.

Different stakeholders are making various efforts to address the cancer burden, however, these efforts are not well coordinated and guided at all levels. The poor coordination has resulted in insufficient resource mobilization, allocation, and utilization.

The UNCCP provides strategies to align and guide the different interventions to maximize investment and achieve the best outcomes. This plan is in line with the National Development Plan (NDP), the Uganda Health Sector Development Plan, and the Health Sector Strategic and Investment Plan. The plan will also contribute to the realization of Vision 2040, which emphasizes empowerment of households and communities to take greater control of their health, by promoting healthy practices and lifestyles.[11]

[11] http://npa.ug/wp-content/themes/npatheme/documents/vision2040.pdf

CHAPTER TWO

2.0 VISION, MISSION, AND GOALS

2.1 Vision

A cancer free productive population.

2.2 Mission

To ensure access to quality cancer services at all levels.

2.3 Goal

To reduce cancer risk, sickness, and death.

2.4 Strategic objectives

a) To strengthen capacity in cancer prevention, early detection, curative, palliative care and survivorship interventions.
b) To promote partnership and collaboration in cancer control.
c) To build cancer surveillance systems and research, to support national planning and implementation of interventions.
d) To set standards and coordinate interventions across implementing stakeholders.

2.5 Guiding principles

The development of this plan and its implementation, is anchored on the following guiding principles, which have been adapted from the WHO National Cancer Control Programs, Policies and Managerial Guidelines.[12]

Leadership: The Uganda Cancer Institute will lead the implementation of cancer control interventions in the country.

Multi-sectorial approach: Stakeholders across all sectors, that play different roles in cancer control, will have an opportunity to engage and participate in the implementation of this plan.

Partnerships and Collaborations: This plan values collaborations with development partners, civil society actors, the private sector, among other stakeholders, in furthering common interests in cancer control.

[12] World Health Organisation. Uganda Cancer Country Profile. 2020.

People-centered: The plan prioritizes all people across the life cycle including cancer survivors, people living with HIV/AIDS, People with albinism and refuges.

Evidence-based practice: Research and surveillance will be a resource for decision making, for effective and efficient use of available resources.

Continuous quality improvement: The plan prioritizes monitoring and evaluation, and implementation of quality improvement measures.

Sustainability: The multi-sectoral nature of this plan provides an avenue for stakeholders to invest in cancer control. This will help in identifying and availing resources to sustain implementation of interventions.

Universal Healthcare Coverage: This plan provides for equitable access to cancer control services, and emphasizes decentralization of cancer services, through establishment of regional cancer Centres and integration of cancer control interventions in primary healthcare.

Science, Technology and Innovation: This plan provides opportunities to embrace science, technology and innovation, that can guide and or support interventions along the cancer control continuum, for better outcomes

.

CHAPTER THREE

3.0 PILLARS OF THE PLAN

3.1 PILLAR 1: HEALTH PROMOTION AND CANCER PREVENTION

Introduction

Primary prevention is the most cost-effective approach to reduce exposure to modifiable risk factors at the individual, community, and institutional levels. This is often the most economically efficient method for long-term control of a disease, through interventions such as vaccination, tobacco control, promotion of healthy diets, physical activity, prevention of consumption of counterfeit and substandard goods and services, protection against exposure to environmental carcinogens, improved disposal and management of electronic waste, and other industrial wastes.

According to WHO, between 30-50 percent of all cancers are avoidable, by preventing, modifying, or reducing the vulnerability of persons exposed to cancer risk factors. Cancer risk factors include infections (HPV, HBV, HIV), tobacco use, overweight and obesity, inadequate consumption of fruits and vegetables, inadequate physical activity, harmful consumption of alcoholic beverages, and environmental (air, water, and soil) pollution. Prevention of cancer can be well leveraged, when integrated with other public health programs, such as the Expanded Program on Immunization (EPI), reproductive health, HIV/AIDs, environmental and occupational health, among others.

In Uganda, the commonest cancers i.e., cancer of the cervix, Kaposi sarcoma, prostate cancer, breast cancer, and colorectal cancer, can be prevented by reducing exposure to their risk factors, and increasing uptake of protective factors. The most prevalent risk factors that are known to be associated with cancer include;

a) HPV infection, which is responsible for 99.7 percent of cervical cancer, 90 percent of anal cancers, and 40 percent of the external genitalia (vulva, penis, vagina) cancers, 12 percent of cancer of the throat, and 3 percent of cancers of the mouth. It is estimated that one in every three women (34%) of reproductive age in Uganda is infected with HPV.
b) HIV infection, which is associated with many cancers, including Kaposi sarcoma, cervical cancer, non-Hodgkin's lymphoma, and anal cancer.
c) Human Herpes Virus -8 or Kaposi sarcoma associated virus (HHV-8 or KSAV) which is associated with Kaposi Sarcoma.
d) Hepatitis B and C viruses, which are associated with 76 percent (56% attributable to HBV and 20% attributable to HCV) of cancer of the liver globally and 71% (50 % and 21% attibutable to HBV and HCV respectively) in sub-Saharan Africa. In Uganda e prevalence of Hepatitis B stands at 8.5 percent.[1,2]
e) *Helicobacter pylori* virus, which is responsible for cancer of the stomach.

1. Maucort-Boulch D, de Martel C, Franceschi S, Plummer M. Fraction and incidence of liver cancer attributable to hepatitis B and C viruses worldwide. International journal of cancer. 2018 Jun 15;142(12):2471-7.
2. Kafeero HM, Ndagire D, Ocama P, Kudamba A, Walusansa A, Sendagire H. Prevalence and predictors of hepatitis B virus (HBV) infection in east Africa: evidence from a systematic review and meta-analysis of epidemiological studies published from 2005 to 2020. Archives of Public Health. 2021 Dec;79:1-9.

f) Epstein Barr Virus, which is responsible for 98 percent of endemic Burkitt's lymphoma.

g) Tobacco use, which is the highest cancer risk factor globally. Tobacco use is associated with lung, nasopharyngeal, bladder, kidney, stomach, and colorectal cancers. In Uganda, it is associated with 46 percent of all bladder cancers. 12 percent of men, 5 percent of women, and 17 percent of youth use tobacco.

h) Physical inactivity, dietary factors, obesity, and being overweight contribute to several cancers such as the esophagus, endometrium, colorectal, stomach, and breast.

i) Alcohol use is associated with an increased risk of several cancers, including esophageal, breast, liver, oral, and colorectal cancer.

j) Environmental pollution of air, food, water, and soil, with carcinogenic chemicals, exposure to carcinogens, such as aflatoxins, which are known to cause cancer of the liver, asbestos, which is known to cause mesotheliomas, and occupational carcinogens, such as workplace radiation.

k) Radiation can cause any type of cancer, particularly, leukemia, skin, lung, thyroid, and breast cancer.

l) Reproductive factors, such as the mother's age when she first gave birth, the number of births, etc., contribute to the risk for cancer.

The protective factors include; adequate intake of fruits and vegetables, regular physical activities, breastfeeding babies, healthy weight, among others. Although the risk factors mentioned above are associated with an increased risk of developing cancer, they are also the same risk factors for other non-communicable diseases (NCDs). Cancer prevention must therefore be considered, in the context of preventing NCDs.

It is important to note that in most instances, cancers in children cannot be prevented. However, some chronic infections in children such as HIV, Epstein Bar Virus (EBV), and malaria, may increase the risk of some cancers such as Kaposi's sarcoma and Burkitt's Lymphoma. Therefore, interventions to reduce these risk factors should be emphasized. Additional interventions in children should emphasize the adoption of behaviors and interventions known to reduce the occurrence of preventable cancers in adulthood, such as; eating a healthy diet, physical activity, routine childhood vaccination, vaccination against HPV, etc.

Situation analysis

The main risk factor driving the cancer burden in Uganda is infections. Human Papilloma Virus (HPV) is responsible for cervical cancer, the commonest cancer, which accounts for approximately 20% of all cancers in the country. HPV is also associated with many other cancers including penile, anal, oropharyngeal, vulva, etc. Human Herpes Virus 8 (HHV8) is responsible for Kaposi Sarcoma

(KS), the second commonest in the country. The other infections associated with common cancers in Uganda are Hepatitis B and C, *H. pylori*, etc.

In children and adolescents, the association between Epstein Barr Virus (EBV) and recurrent malaria infections in the causation of Burkitt's lymphoma, one of the commonest cancers, has been well described. EBV infection is also associated with Hodgkin lymphoma and Nasopharyngeal carcinoma. It is important to note that HIV infection is associated with many cancers, in both children and adults, such as KS, lymphomas, and cervical cancer. Vaccination against HPV in girls started in 2014 and is ongoing for all girls who are 10 years of age. HPV coverage among the target girls is at 73.8% for the first dose and 17.3% for the second dose Vaccination against Hepatitis B is part of the routine Uganda National Expanded Program on Immunization (UNEPI) schedule and its 3rd dose coverage is 91% (WHO vaccination portal - https://immunizationdata.who.int/dashboard/regions/african-region/UGA). Widespread HIV care infrastructure are available.
Other risk factors include exposure to, and use of tobacco, harmful use of alcohol, physical inactivity, unhealthy diet, and aging.[13] Counterfeits and substandard goods also play an important role in increasing cancer risk. Unfortunately, knowledge and understanding of these risk factors among the population is low.

According to the Noncommunicable Disease (NCD) Risk Factors STEPS Survey Uganda 2023, tobacco use prevalence among the adult Ugandan population was 8.3%.[21] Tobacco smoke contains at least 69 chemicals known to cause cancer..[22] The Uganda Government ratified the WHO framework convention on tobacco control in 2007.[14] Uganda enacted the Tobacco Control Act in 2015, and there has been steady progress in its implementation. Graphic health warnings have been adopted, with up to 65% pictorial health warnings on cigarette packs. The statement "cigarettes can cause cancer" is currently included on the packages.[24] Tobacco advertising, promotion, and sponsorship has been fully banned. The Uganda 2023 NCD Risk Factors STEPS Survey, reported a high adult alcohol current consumption proportion of 31.1%.[21] There is a national alcohol control policy of 2019, and an alcohol control bill is currently being discussed in parliament. [25]

WHO estimates that a diet low in fruits and vegetables, is associated with about 19% of gastrointestinal cancer[26]. Diets high in fat, sugar, and salt also predispose humans to cancer[26]. In Uganda, the 2023 NCD Risk Factor STEPS Survey found that majority of Ugandans, consume fruits and vegetables below the required recommendations.[21, 26]

[13]Uganda M of H. Non-Communicable Disease Risk Factors STEPS Survey 2023[22]https://www.cdc.gov/tobacco/about/cigarettes-and-cancer.html
[23]https://www.afro.who.int/sites/default/files/2017-06/who-fctc-10-year_report_web.pdf
[24]https://bills.parliament.ug/attachments/Laws%20of%20Uganda%20(Acts)%20-%20THE%20TOBACCO%20CONTROL%20ACT,%202015.pdf
[25]https://www.health.go.ug/wp-content/uploads/2021/07/Uganda-Alcohol-policy-2019.pdf
[26] https://www.who.int/tools/elena/commentary/fruit-vegetables-

Physical inactivity is a key risk factor for cancer. In Uganda, the 2023 NCD Risk FactorsSTEPS Survey found that 94.3% of adult Ugandans do not meet the WHO physical activity recommendation.[21] Ugandans living in rural areas are reported to be more active than their counterparts living in urban areas. Residing in urban areas is a risk factor for becoming overweight or obese, possibly due to a high level of physical inactivity.

The Ministry of Health launched a national day of physical activity on the 8th of July 2018, to promote physical activity in the country.[27] In addition, Physical Education (PE) is encouraged in all primary schools.

Although Uganda has a young population, with over 50% less than 18 years of age, there has been a progressive increase in the average life expectancy, from 56.4 years in 2010, to 68 years in 2022. (UDHS 2022) Considering this, cancers associated with aging are expected to increase.

Environmental risk factors also play a role, including exposure to smoke from firewood and other biomass, consumption of foods contaminated with aflatoxins, occupational exposure to heavy metals such as asbestos, long-term exposure to sun radiation, especially for the Albino population, consumption of foods laden with preservatives, sugar, salt and trans fats etc. Counterfeit products, including foods, can also carry cancer risk. It is very important to note that as the country progresses to the drilling of oil, exposure to oil residues will increase the risk of cancers, including leukemia. Protection of workers from some of the above risks is governed by the provisions contained in Occupational Safety and Health Act (2006).[28] However, some exposures to carcinogenic substances are frequent, and protective measures are inadequate in most workplaces.[29]

Health promotion by Government and non-Government organizations, continues to play a pivotal role in cancer prevention. However, there is need to intensify health promotion interventions across the entire spectrum of cancer control in the country. The Ministry of Health, in partnership with civil society, conducts cancer awareness campaigns, including commemoration of World Cancer Day on 4th February, the International Childhood Cancer Day on 15th February, and Childhood awareness in September (The gold month), breast cancer awareness in October, and Prostate cancer awareness in November, each year. The use of media, including social media, to promote healthy lifestyle and increase knowledge of cancer risk factors, remains crucial.

Table 3: Strategic objectives, Specific Objectives, and Key Interventions for Health Promotion and Cancer Prevention.

Strategic Objective	**Specific Objective**	**Key interventions**
1.0 To reduce modifiable cancer risk factors.	**1.1** To increase coverage of vaccination against vaccine-preventable cancer-causing viruses (HPV and Hepatitis).	**1.1.1** Educate the public on the need for universal immunization.
		1.1.2 Build new partnerships in the implementation of the national immunization program.

	1.2 To increase awareness of cancer risk factors and care	**1.2.1** Conduct community dialogue at the district level.
		1.2.2 Develop cancer IEC materials (print and audiovisuals)
		1.2.3 Educate the public about cancer risk factors.
		1.2.4 Train health workers and village health teams on cancer prevention information.
		1.2.5 Integrate cancer awareness activities in existing health services.
		1.2.6 Use commemoration days to disseminate cancer prevention information in the community
		1.2.7 Develop and test cancer awareness messages for various settings and targets.
		1.2.8 Partner with other relevant sectors to intensify cancer awareness.
		Establish cancer prevention and innovation center of excellence facility at the Uganda Cancer Institute
	1.3 To reduce tobacco use and exposure to second-hand smoke	**1.3.1** Adopt the tobacco control regulations
		1.3.2 Monitor implementation of pictorial health warnings, regulations, and messages
		1.3.3 Disseminate national tobacco control regulations to stakeholders
		1.3.4 Monitor the National tobacco control regulations
		1.3.5 Monitor the implementation of a comprehensive ban on tobacco promotions, advertising, and sponsorship
		1.3.6 Implement the smoke-free law
		1.3.7 Implement tobacco cessation programs

		1.3.8 Build a partnership with key players in tobacco control for the enforcement of tobacco law.
		1.3.9 Offer help to quit tobacco use
		1.3.10 Advocate for the adoption of the tobacco control policy and regulations.
		1.3.11 Advocate for tax increment on production and sale of tobacco in the taxation policy
	1.4 To reduce alcohol consumption in the population.	**1.4.1** Build partnerships with key players for the enforcement of the liquor act
		1.4.2 Promote the implementation of legislation on the production, sale, and consumption of alcohol
		1.4.3 Conduct public awareness campaigns on alcohol consumption and its cancer-related risk.
	1.5 To promote physical activity in the population.	**1.5.1** Raise public awareness of the risks of physical inactivity.
		1.5.2 Promote physical activities in schools, workplaces, and communities through campaigns.
		1.5.3 Create and support community sports infrastructure
		1.5.4 Implement national guidelines on physical activity
	1.6 To promote the consumption of a healthy diet.	**1.6.1** Conduct public awareness campaigns on the risk of an unhealthy diet, overweight, and obesity.
		1.6.2 Regulate importation and production of processed foods according to the national and international guidelines.
		1.6.3 Develop and implement healthy diet meal schedules to promote the intake of foods (such as

		fruits and vegetables) which are associated with low cancer risk in the population.
		1.6.4 Conduct public health education on safe handling, storage, and transportation of food to minimize exposure to aflatoxins
	1.7 To minimize exposure to known environmental and occupational cancer-causing agents.	**1.7.1** Conduct public awareness campaigns on environmental-related cancer-causing agents.
		1.7.2 Conduct public health education on the safe use of household and agricultural chemicals – Pesticides, herbicides, skin jelly, and lotions.
		1.7.3 Build partnerships with the relevant stakeholders to control environmental-related carcinogens.
		1.7.4 Conduct public health education to limit exposure to ultra-violet radiation among most at-risk populations like people living with albinism.
		1.7.5 Enforce environmental and occupational laws and policies
	1.8 To promote cancer prevention among people living with HIV, persons living with albinism and refugees.	**1.8.1** Develop and implement mechanisms for delivery of cancer prevention interventions among people living with HIV, persons living with albinism and refugees.

3.2 PILLAR 2: EARLY DETECTION

Introduction

Early detection of cancer comprises screening in asymptomatic populations, and early diagnosis in symptomatic individuals. Among adults, one-third of all cancers can be detected early, treated, cured and the individuals affected will have fully productive lives. Except for retinoblastoma, childhood cancer is generally not screened for, and therefore efforts to improve outcomes in this population must necessarily focus on early and accurate diagnosis.

Early diagnosis comprises three components: awareness of early-stage symptoms and signs of cancer by individuals, accessing care, and clinical evaluation for diagnosis and treatment. The barriers for early diagnosis include poor health literacy, cancer stigma, limited access to primary

care, inaccurate clinical assessment, and delays in clinical diagnosis, inaccessible diagnostic or pathology services, poor coordination of services, lack of follow-up, financial, geographic, and logistical barriers, and socio-cultural barriers among others. Early diagnosis of cancer in some cases may not require sophisticated equipment or procedures, for instance, early diagnosis of skin cancer in people with albinism may be initiated through skin inspection, by a medical worker.

Situation analysis

In Uganda, due to various patient and health system related factors, 80% of patients with cancer (both children and adults) present late for diagnosis. According to studies by UCI, among the adults that present late, the commonest cancers include cancer of the cervix, Kaposi sarcoma, breast, prostate, and colon cancer. These cancers are potentially curable, when detected early, but since the patients arrive late to the hospital for care, even with the best possible treatment offered for the majority, the outcomes are dismal. These cancers also have proven cost-effective, affordable, and acceptable early detection methods. Cancer of the cervix can be effectively screened within the available resources in Uganda, prostate, breast, and colon can also be screened for at all regional referral hospitals and some general hospitals. However, screening for these coomon cancers in Uganda remains opportunistic, inconsistent, and in some places, absent.due to several factors, including resources and absence of a comprehensive national cancer control plan..

To increase access to cancer care, the Government of Uganda, through UCI, is decentralizing cancer care services, by establishing Regional Cancer Centres (RCCs) in all regions in a phased manner. Currently, Mbarara RCC serves the Western region, Arua RCC - West Nile, Gulu RCC - Northern, and Mbale RCC when established will serve the -Eastern region. The plan is to have cancer centres in all regions progressively develop their capacity to provide comprehensive cancer services with UCI as the lead centre of excellence in the country but also in the region. In addition, a community cancer centre was established at Kigandalo Health Centre IV, in Mayuge district, Eastern Uganda in 2010, to function as a research and pilot site for community cancer interventions. The Government has also trained over 500 health workers in cancer screening, diagnosis, and referral and referral guidelines for people with suspected cancer have been developed and disseminated.

Table 4: Strategic Objectives, Specific Objectives, and Key interventions for Early Detection

Strategic Objective	Specific Objective	Key Interventions
2.0 To reduce the proportion of patients presenting with advanced cancer	2.1 To increase coverage of cervical, breast, prostate, and colorectal cancer screening services.	2.1.1 Scale -up implementation of the National Cervical Cancer Control and Prevention Strategy by continuing to integrate interventions in existing services.
		2.1.2 Develop and implement comprehensive national screening guidelines for breast (by 2026),

		prostate (by 2028, and colorectal cancers (by 2030).
	2.2 To increase the rate of early diagnosis of cancers not amenable to screening.	2.2.1 Develop and implement national guidelines for early diagnosis of cancer by 2029.
	2.3 To increase the rate of early detection of childhood cancers	2.3.1 Develop and implement national guidelines on screening of retinoblastoma by 2028.
		2.3.2 Train health workers in early diagnosis of childhood cancers starting 2028.
		2.3.3 Sensitize the community about early signs and symptoms of childhood cancers by integrating intervention in existing services.
	2.4 To integrate cancer early detection interventions into primary health care services	2.4.1 Include cancer early detection services in the review of Uganda Essential Health Care Package.
		2.4.2 Include early diagnosis of childhood, adolescent and adult cancers in the Uganda Clinical Guidelines.
		2.4.2 Promote the use of cancer referral guidelines.
	2.5 To build human resource capacity for cancer early detection services in Uganda.	2.5.1 Continue training of health workers on cancer early detection and proper referral through regular Continuous Medical Education (this started in 2024 with key personnel in regional referral hospitals).
	2.6 To develop a network of local government and community leaders trained and motivated to	2.6.1 Sensitize local government and community leaders to support cancer early detection.

	support cancer early detection services	
	2.7 To strengthen the coordination of cancer early detection services in Uganda.	2.7.1 Upgrade the cancer early detection center at the Uganda Cancer Institute into a state-of-the-art center.
	2.8 To promote cancer early detection among people living with HIV infection, persons living with albinism and refugees.	2.8.1 Develop and implement strategies to deliver cancer early detection services to people living with HIV, persons with albinism and refugees starting with a feasibility survey in 2027.
	2.9 To promote scientific and technological innovation in cancer early detection.	2.9.1 Establish scientific and technological innovation hubs for cancer early detection at Uganda Cancer Institute and regional cancer centers starting 2026.

3.3 PILLAR 3: DIAGNOSIS AND TREATMENT

Introduction

Making a proper diagnosis is an essential step in the management of cancer. It encompasses an accurate clinical assessment of the patient's signs and symptoms, imaging studies, and laboratory tests. Cancer treatment modalities include surgery, radiotherapy, chemotherapy, immunotherapy, gene therapy, and stem cell transplantation. More than 60% of cancer patients require treatment with surgery, which delivers a 30-70% overall survival gain. Comprehensive surgical services for cancer requires cancer surgeons in the fields of Pediatric, Breast, Thoracic, Hepatobiliary, Colorectal, Genito-urinary, Head and neck, Gynecology, Neurosurgery, Orthopedics, Ocular, Oral Plastic, and Vascular surgery. Nearly half of all cancer patients require radiotherapy services.

Situation analysis

Over the years, cancer diagnosis and treatment has improved, with gradual increments in resource allocation to Uganda Cancer Institute (UCI). In 2016, the Government of Uganda established Uganda Cancer Institute, as an autonomous body corporate, through an Act of Parliament, to coordinate cancer diagnosis and treatment across the country. At about the same time, the institute was also designated the East African Center of Excellence for Oncology. This was part of an initiative by the East African community member countries, to develop a true center of excellence in biomedical sciences, which can provide highly specialized health services within the region.

In essence, the existence of this center of excellence brings several benefits to Uganda in particular, and the entire East African region, including research, training, and availability of state-of-the-art cancer care services.

Challenges

However, there remain gaps that must be addressed, for improvement to be realized. Some of the gaps that must be addressed are; cancer care services are still centralized, the Uganda Cancer Institute remains the only fully fledged comprehensive cancer treatment center located in the central region, serving a population of over 43 million Ugandans. This has resulted in delays in accessing cancer care. Radiotherapy services in Uganda are limited, with only two machines serving the entire population, contrary to the WHO recommendation of one radiotherapy machine, per 500 people. Human resource capacity for cancer diagnosis and treatment is still insufficient.

There is need for more oncologists, pathologists, oncology nurses, and pathology laboratories, to support cancer diagnosis in the country. Patients incur high out of the pocket expenditure to meet costs of treatment. Misdiagnosis is still a challenge that must be addressed. The patient record management system is mainly paper-based and does not allow the information to be readily shared and used. The existence of traditional medicine that is not harmonized with western medicine, is still a threat to cancer diagnosis and treatment; religious practices that divert patients away from their medical treatment have led to high levels of poor adherence to medical therapy; high levels of medical tourism divert resources from the health system that would have improved health services in the country. Majority of patients that seek treatment out of the country have a cancer diagnosis for which treatment could as well be provided in Uganda; and there are low rates of

patient acceptance and adherence to cancer treatment, especially in the pediatric oncology and up to one in every three children end up abandoning treatment.

Table 5: Strategic Objectives, Specific Objectives and Key Interventions for Diagnosis and Treatment

Strategic Objective: 3.0 To increase access to proper cancer diagnosis, staging and effective treatment.

Specific Objective	**Key Intervention**
3.1 Expand comprehensive cancer diagnosis and staging services.	3.1.1 Establish a state-of-the-art National Cancer Reference Laboratory at.
	3.1.2 Improve existing radiology services for cancer by implementing the BI-RADS classification across the country.
	3.1.3 Introduce cancer imaging and diagnostic services at the existing three Regional Cancer Centers by 2030.
	3.1.4 Establish a comprehensive nuclear medicine service at Uganda Cancer Institute by 2030.
	3.1.5 Establish pathology and analytical laboratories in all three existing Regional Cancer Centres.
3.2 Increase access to quality and comprehensive cancer treatment services	3.2.1 Expand surgical oncology services to all regional referral hospitals starting with surgical oncology camps (started in 2024 at the Northern Uganda Regional Cancer Centre) and establish static services (target by 2030).
	3.2.3 Improve radiotherapy services by continuously training more staff.
	3.2.4 Establish a bone marrow transplant center at UCI by 2030.
	3.2.5 Establish a state-of-the-art blood bank for cancer care at UCI by 2028.
	3.2.6 Expand and coordinate patient support services for patients with cancer and their families by establishing comprehensive palliative care services at all the existing RCC and the rural community cancer centre in Mayuge by 2028.

	3.2.7 Establish a specialized comprehensive nutrition unit at UCI and all existing regional cancer centers by 2029.
3.3 Improve the existing procurement system for cancer related equipment, medicine and supplies	3.3.1 Develop and incorporate a national cancer essential medicines list into the National Essential Medicines list by 2027.
	3.3.2 Include child cancer medicine formulations in the procurement of cancer medicines by 2026.
	3.3.2 Develop regulations for the UCI act to support procurement of cancer medicine, equipment and supplies by 2028.
3.4 To develop Human Resource Capacity for cancer diagnosis and treatment.	3.4.1 Continuously train cancer specialists (oncologists, oncology nurses etc.).
	3.4.3 Deploy cancer specialists in the relevant health facilities starting with all 3 oncologists in each of the 3 functional RCC by 2030.
	3.4.4 Train health workers at lower-level health facilities to provide comprehensive cancer awareness, screening and proper referral of suspected cancer for proper diagnosis and treatment. Have a team at every districts hospital by 2030.
	3.4.2 Train health workers in proper collection, processing, and transfer of samples for cancer diagnosis. Have a team at every district hospital by 2030.
3.5 To standardize cancer care and treatment in Uganda.	3.5.1 Establish multi-disciplinary cancer working groups at all RCCs by 2028.
	3.5.2 Expand the Uganda Cancer Treatment Guidelines to make them comprehensive by 2030.
	3.5.3 Develop Uganda Cancer Treatment guidelines for children and adolescents by 2029.
3.6 To decentralize cancer treatment services	3.6.1 Develop and complete operationalization of Regional Cancer Centers in Northern, Eastern, Western and West Nile by 2029.
	3.6.2 Integrate cancer services at all levels of the health care system as a propriate and have trained teams in all district hospitals by 2030.
3.7 To improve cancer treatment adherence.	3.7.1 Build patients' hostels through stakeholders. Have a costed strategic and resource mobilisation plan by 2030.

	3.7.2 Strengthen navigation services for patients with cancer by having a trained team of patient navigators at all functional RCC by 2028.
3.8 Improve antimicrobial stewardship in cancer treatment	3.8.1 Establish cancer care antimicrobial stewardship committee.
	3.8.2 Develop evidence-based Uganda antimicrobial use guidelines for cancer patients.
	3.8.3 Develop a Uganda antimicrobial resistance monitoring protocol for cancer patients.

3.4 PILLAR 4: PALLIATIVE CARE

Introduction

Palliative care is an approach that improves the quality of life of patients (adults and children) and their families, facing the problems associated with a life-threatening illness, through the prevention and relief of suffering, early identification, thorough assessment and treatment of pain, and other problems, physical, psychosocial and spiritual.[15]

Due to the physical, emotional, spiritual, social, economic, and other consequences of cancer and its management, palliative care services addressing the needs of patients and their families, from the time of diagnosis, can improve quality of life, and the ability to cope effectively. The greatest need for palliative care is generally among patients with cancer, presenting with advanced stages, and this constitutes about 80% of the patients registered at cancer treatment centers in Uganda.

Situation analysis

Uganda was the first African country to prioritize Palliative Care in its National Health Plan (2001–2005), and it was included in the Uganda National Minimum Health Care Package (UNMHCP). Palliative Care services are also included in the National Health Sector Strategic and Investment Plan 2019/2020 – 2024/25. The Ministry of Health has a department of Palliative care, charged with coordination of palliative care service delivery across the country. The Government of Uganda has developed a National Palliative Care Policy, which draws strategic directions for the provision of Palliative Care services in the country. This is yet to be adopted. In 2014, the World Health Assembly (WHA) passed a resolution (WHA 67.19), calling on member countries to strengthen Palliative Care services, as a component of comprehensive care throughout the life course.[16] In 2019, during the Ministers of Health sessions in Kigali-Rwanda, an essential Palliative

[15] https://www.who.int/cancer/palliative/definition/en/

[16] https://apps.who.int/gb/ebwha/pdf_files/WHA67/A67_R19-en.pdf

Care package for Universal Health Coverage was agreed upon, and this has been adopted by Uganda.[17]

There has been a growing civil society movement for palliative care in Uganda over the years. Hospice Africa - Uganda was founded in 1993, as the first palliative care provider. In 2004, PCAU was established, to coalesce efforts to advance palliative care. Uganda also hosts the African Palliative Care Association, which supports Governments across Africa in developing palliative policies. In 2018, Palliative Care Services were available in 97 districts in Uganda, mainly within the regional referral hospitals, district hospitals, and Health Center IVs.

There is a remarkable level of integration of Palliative Care training, as a component of the ongoing education of health workers in Uganda. Special training programs are offered at Mildmay Uganda, Institute of Health Sciences, and Makerere University, at certificate, diploma, and bachelor's degree level, in Palliative Care. However, there are still challenges in the provision of Palliative Care services, including absence of a National Palliative Care Policy, limited financing, and a lag in the deployment of Palliative Care specialists. Specifically, regarding patients with cancer, more so children and adolescents, Palliative Care services are not readily accessible.

Table 6: Strategic Objectives, Specific Objectives and Key Interventions for Palliative Care

Strategic Objectives 4: To improve access to palliative care services for children, adolescents and adults with cancer and their families

Specific Objectives	**Key Interventions**
4.1 To integrate palliative care services in cancer care and treatment	4.1.1 Adopt the palliative care policy by 2028.
	4.1.3 Establish comprehensive palliative care department at UCI and all the functional Regional Cancer Centers by 2029.
	4.1.4 Establish functional comprehensive palliative care units at all Regional Referral Hospitals.
	4.1.5 Establish Palliative care teams offering home-based services at all district hospitals by 2030.
	4.1.6 Establish comprehensive community outreach c palliative care programs in districts by 20230.
4.2 To establish pediatric cancer palliative care services in cancer care.	4.2.1 Include palliative care services tailored for children and adolescents in the palliative care policy by 2030.

[17] https://www.africanpalliativecare.org/images/stories/pdf/PC_in_UHC_package.pdf

	4.2.2 Integrated pediatric and adolescent tailored cancer palliative care services at UCI and all functional regional cancer centres by 20230
	4.2.3 Train health workers in pediatric and adolescent cancer palliative care services and establish teams at UCI and RCC by 2028.
4.3 To develop human resource capacity for palliative care provision to children and adults with cancer.	4.3.1 Train health workers (pre and in-service) in palliative care.
	4.3.2 Include palliative care service providers and specialists in the formal public service structure
	4.3.3 Advocate for the addition of palliative care specialists into the Health Professionals Act
	4.3.4 Deploy palliative care specialists
4.4 To increase the availability of palliative care medicines, technologies, and patient support devices for both children and adults across the country	4.4.1 Adopt the essential palliative care package by 2029.
	4.4.2 Increase the quantity and types of essential medicines for palliative care.
	4.4.3 Increase the quantity and types of children's formulations in the essential medicines for palliative care
4.5 To establish palliative care programs and linkages from home to tertiary health care facilities.	4.5.1 Create linkages between public and private palliative care service providers.

3.5 PILLAR 5: CANCER SURVIVORSHIP

Introduction

A survivor is one who remains alive and continues to function, during, and after overcoming a serious hardship or life-threatening disease. In cancer, a person is considered a survivor from the time of diagnosis, until the end of life.[18]

Cancer survivors bear the scars of cancer. Some patients end up undergoing radical surgeries, with loss of body parts, hence need rehabilitation to regain functionality. Some survivors require reconstruction to rebuild the body image, including those who undergo mastectomy for breast cancer. Many survivors suffer from psychological effects, such as living under constant fear of relapse or recurrence, and others suffer from infertility, leading to abandonment by their spouses and their families. In addition to the physical and psychosocial scars, many cancer survivors are left catastrophically impoverished, due to the heavy costs associated with cancer care, and the loss of their source of income.

Rehabilitation is defined as "a set of measures that assist individuals, who experience, or are likely to experience disability, to achieve and maintain optimum functioning in interaction with their environments"[22]. Rehabilitation is essential, in enabling cancer survivors to reintegrate into society, live independently, and participate in education, the labor market, and civic life. In children, survivorship and rehabilitation programs are so important, and support is required, as most childhood cancer is treated, with cure as an end point. Furthermore, they have many productive years left to live.

Supportive services that play a critical role in the rehabilitation of cancer survivors include those by; nurses, recreational therapists, nutritionists, social workers, mental health professionals, orthotic and prosthetic specialists, chaplains, vocational counselors, hospice liaisons, home care agencies, support groups, and educational outreach programs.

In addition to rehabilitation, survivorship care encompasses; long term follow-up, to detect cancer recurrences early enough; detection of and interventions for later consequences of cancer and its treatment, to facilitate the management of cancer-related complications early enough, when treatment is most effective; health promotion, to reduce the risk for developing of secondary malignancies and comorbidities; psychosocial support; and intervention for socio-economic effects of cancer.

Situation analysis

In Uganda, there is a growing number of cancer survivors. However, the MoH is yet to develop policies to address issues of cancer survivorship in the country. Civil Society Organizations play a crucial role in implementing survivorship activities. Many of these organizations are under the umbrella of the Uganda Cancer Society. Currently, survivorship activities in Uganda are not well coordinated and are mercurial at best, and at times expose survivors to being exploited by their benefactors. However, there have been some milestones in organizing survivors such as, the “Heroes camp”, that is run every year in August, for childhood cancer survivors. This is an

[18] https://www.cancer.gov/publications/dictionaries/cancer-terms/def/survivor

initiative of the UCI. Cancer survivors also provide an in-expendable resource for promoting the National Cancer Control Plan, as their success stories inspire others to adhere to prevention, early diagnosis, and to comply and complete treatment, and thereby lead to more survivors.

Table 7: Strategic Objectives, Specific Objectives, and Key Interventions for Cancer Survivorship

Strategic Objective 5.0 : To improve the quality of life of cancer survivors and their families

Specific Objectives	**Key Interventions**
5.1 To increase access to rehabilitation services	5.1.1 Promote in country manufacturing of prostheses and other assistive devices for cancer survivors.
	5.1.2 Strengthen distribution of assistive devices and prostheses through the cancer survivorship program.
	5.1.3 Establish a comprehensive rehabilitation and occupational therapy department at the UCI by 2029.
	5.1.4 Integrate services to support continuation of education for survivors (especially children) in the national education system
	5.1.5 Establish a database for survivors of cancer by 2027.
5.2 Establish economically viable initiatives to support cancer survivors	5.2.1 Establish SACCOs for survivors of cancer buy supporting survivors groups to make the initiative.
	5.2.2 Build partnerships with private sector such as financial institutions, private sector foundation to address different challenges facing cancer control.
	5.2.2 Train cancer survivors in entrepreneurship and business management. Establish a program through which to do this program at UCI by 2028.
5.3 Establish Education programs for children and other people on cancer treatment	5.3.1 Deploy pre-primary, primary school and other teachers at cancer treatment centers.
	5.3.2 Establish special needs training programs for children, adolscents and other people who suffer disability due to cancer and or its treatment.
5.4 To increase awareness about cancer survivorship	5.4.1 Sensitize the public on cancer survivorship.
	5.4.2 Train and equip cancer survivors with advocacy skills.
	5.6.1 Establish a National Cancer Survivorship Steering Committee by 2026.

5.6 To coordinate the cancer survivorship interventions	5.6.2 To establish a national cancer survivorship program by 2027.
	5.6.3 Draft a National Cancer Survivorship Strategy by 2029.
	5.6.4 Establish survivorship clinics in all cancer treatment centres.
	5.6.5 Develop fertility preservation guidelines and establish fertility preservation services for patients with cancer in Uganda.
	5.6.6 Increase awareness and scale up Uganda's cancer biobanking services.

3.6 PILLAR 6: CANCER SURVEILLANCE AND RESEARCH

Introduction

Cancer surveillance refers to the continuous systematic data collection, collation, analysis, interpretation, and use of data, for monitoring the burden and planning for cancer control. Cancer surveillance is centered on cancer registration and surveys. Surveillance in cancer control is conducted to monitor; risk factors, risk factor reduction, screening programs, incidence, survival, and mortality.

Cancer research is an important element that enables the generation of evidence, to support the planning and effective implementation of cancer control interventions. There are three forms of cancer research, namely: fundamental, translational (implementation science), and applied research. Fundamental research aims to reduce the gap between ignorance and knowledge about cancer, translational research aims to reduce the gap between knowledge and the translation of that knowledge into action, applied research on the other hand, is used to solve a specific issue affecting an individual or a group. The World Health Assembly resolution on cancer control (2017 WHA 58.22), urges member countries to encourage scientific research, necessary to increase knowledge about cancer, giving priority to cancers with a high incidence, and amenable to cost-effective interventions. The resolution also urges member countries to give priority to research on cancer prevention, early detection, and management strategies, including, where appropriate, traditional medicines and therapies, including for palliative care.[19]

Situation analysis

Uganda has three population-based cancer registries, which include; the Kampala Cancer Registry (KCR), Gulu, and Mayuge Cancer Registries. These cover about 14% of Uganda's population. Kampala Cancer Registry (KCR) is the oldest population-based cancer registry in Africa, established in 1954. The registry has provided internationally published high-quality cancer data on the population of Kyadondo County. Gulu and Mayuge Cancer Registries were established in 2013 and 2015, respectively. Other registries had been established at Kuluva, Mbarara, and Ishaka, however, these were closed, due to sustainability challenges. To revamp cancer registration, Mbarara Registry in was established in 2019 to inform the establishment of more regional population-based cancer registries in Mbale, and Arua These registries collect integrated data on cancer incidence for both adults and children. However, the cancer data quality of all these new registries requires improvement.

The Ministry of Health collects data on all health conditions, through its Health Management Information System (HMIS). Data on vaccination are collected through UNEPI. Other national surveys that collect data relevant to cancer control include; the Uganda Demographic Health Survey (UDHS), and NCD risk factor survey. Cancer registries collect data actively, using paper-based standardized tools, which are transferred, stored and analysed with CanReg 5-an open-source tool. The introduction of electronic health records is providing opportunities for the integration of information systems. There is no legal framework to support cancer registration and notification of individual cancer patients.

[19] https://www.who.int/cancer/media/news/WHA58%2022-en.pdf?ua=1

Information on death in the population is collected by the National Identification and Registration Authority (NIRA), which is the civil registration system that records vital events. The Ministry of Health, through UCI, provides leadership support to promote cancer research. Uganda Cancer Institute holds a global legacy of providing the first description of Burkitt Lymphoma and pioneering the first delivery of combination chemotherapy for the treatment of cancer. The institute remains active in conducting research on cancer, with relevance to Uganda and East Africa. The research portfolio of the Institute is mainly clinical research projects.

UCI is also a member of the Uganda National Health Research Organization (UNHRO), which is funded by the Government of Uganda. Other local and international institutions such as the Clinton Health Access Initiative (CHAI), THETA-Uganda, Makerere University, National Cancer Institute, USA, The African Organization on Research and Training on Cancer (AORTIC), The Fred Hutchinson Cancer Research Center, AIDS Malignancy Consortium (AMC), among others, also conduct cancer research. The ethical conduct of cancer research is regulated by the Uganda National Council of Science and Technology (UNCST).

Cancer research in Uganda still faces challenges, including lack of a national research agenda, lack of cooperation between herbalists and medical professionals, limited financing, poor records keeping, and documentation. However, embracing technology and scientific innovation could result in interventions, based on advances in technology, but tailored for the local context.

Table 8: Strategic Objectives, Specific Objectives, and Specific Interventions for Cancer Surveillance and Research.

Strategic Objective6.0 To strengthen the use of evidence-based approaches in cancer control.

Specific objective	Specific Interventions
6.1 To develop a national cancer registry network	6.1.1 Establish a National Population Based Cancer Registry by 2030.
	6.1.2 Establish a special National Population Based Registry for childhood cancer by 2030.
6.2 To increase coverage of cancer registration	6.2.1 Establish Population Based Cancer registries at Gulu, Mayuge, Kuluva, Mbarara, Arua and Mbale by 2030.
	6.2.2 Establish special population-based cancer registries for children at Gulu, Mayuge, Kuluva, Mbarara, Arua and Mbale by 2030.
6.3 To generate comprehensive nationally representative data on cancer and cancer biomarkers for both adults and children.	6.3.1 Increase the number of cancer data variables captured in HMIS continuously.
	6.3.2 Increase cancer related variables in Uganda Demographic Health Survey and NCD risk factor survey by 2030.
	6.3.4 Undertake national cancer biomarker surveillance
6.4 To develop a national framework for cancer research	6.4.1 Develop a National Cancer Research Agenda that addresses priorities for both children and adults by 2028.

	6.4.2 Support dissemination of cancer research findings through biennial international Uganda Conference on Cancer and Palliative Care (UCCP in 2025, 2027 and 2029.
	6.4.3 Facilitate translation of research findings into practice by establishing the Uganda Implementation Science Research Working Group at the 2025 Uganda Conference on Cancer and Palliative Care. 6.4.4 Establish Cancer Research working groups at the UCI 6.4.4 Establish a national pan-cancer biobank
6.5 To strengthen cancer research networks and collaborations.	6.5.1 Strengthen research collaborations at regional, national, and international levels through research in progress meetings and biennial conferences.
	6.5.2 Promote research in traditional and other alternative medicines and health care approaches (e.g. herbal medicine, traditional healthcare practices etc.) by including them in the national cancer research agenda by 2028.
6.6 To promote use of technology and scientific innovation along the cancer control continuum	6.6.1 Establish a National Cancer Research and Innovation facility, and innovation research hubs at the UCI regional cancer centers by 2030.

3.7 PILLAR 7: POLICY AND ADVOCACY

Introduction

The policy is a broad course of action or statements adopted by the Government, in pursuit of national objectives. Effective cancer control requires a supportive policy environment. Among others, this includes; laws, policies, regulations, and guidelines.

In 2015, the United Nations General Assembly adopted the Sustainable Development Goals (SDGs). SDG 3 aims to ensure healthy lives and promote wellbeing for all at all ages.[20]
Specifically, SDG 3.4 targets 2030, to reduce by 1/3 premature mortality of non-communicable diseases, through prevention and treatment, and to promote mental health and wellbeing. SDG.3.8 is to achieve Universal Health Coverage, including financial risk protection, access to ensure health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all. SDG.3.9 by 2030, substantially reducing the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination. In 2011, the UN high-level meeting on prevention and control of NCDs adopted a political declaration on the prevention and control of NCDs.[21]

The WHO has adopted several resolutions and global strategies on the prevention and control of NCDs, including, but not limited to: the Global Action Plan 2013-2040 on NCDs prevention and control, the WHO FCTC (2003). Also, the WHO in 2005 (WHA 58.22) and 2017 (WHA 70.12), adopted and reaffirmed respectively, resolutions on cancer prevention and control. In 2018, WHO launched the global initiative for childhood cancer, to ensure the survival of at least 60% of children with cancer by the end of 2030.[22] In 2020, WHA adopted a global strategy, to accelerate the elimination of cervical cancer as a public health problem (WHA73.2).

Advocacy is the effort to influencing policymakers to create necessary change, by making the right decisions.

In the context of cancer control, advocacy should result in the adoption of comprehensive policies, sufficient allocation of resources, and the effective implementation of needed interventions. Non-state actors, including Civil Society movements, the academia, organized professional bodies, among others, play a very crucial role in both influencing and supporting policymakers, to make the right policies, for the betterment of public health. Additionally, advocates provide a strong segment that then ensures accountability by those responsible in positions of authority, in the implementation of the said policies that should improve the health of populations.

International organizations have been great partners in advocating for cancer services, and providing both the technical and financial support necessary for effective advocacy strategies. Such partners include; the World Health Organization (WHO), American Cancer Society (ACS), and Breast Health Global Initiative (BHGI), pharmaceutical companies such as; Merck, Roche, and GSK, among others.

[20] https://sdgs.un.org/goals/goal3
[21] https://www.who.int/nmh/events/un_ncd_summit2011/political_declaration_en.pdf
[22] https://www.who.int/cancer/childhood-cancer/en/

Situation analysis

Uganda as a WHO member country is committed to its resolutions, initiatives and strategies on cancer control and prevention. [21,22, 23]
The Parliament of Uganda passed the Tobacco Control Act 2015, to domesticate the WHO FCTC.[23] Uganda's vision2040 emphasizes the empowerment of households and communities to take greater control of their health, by promoting health practices and lifestyles. The Government is also committed to the achievement of the SDGs. The Uganda Cancer Institute Act, 2016, Atomic Energy Act 2008, Atomic Energy Regulations 2012, and the National Health Policy, 2010, also guide the implementation of cancer control activities.[24]
Despite the milestones above, significant gaps remain in providing a supportive environment for effective cancer control in the country.

There are a number of Civil Society Organisations (CSOs) which are involved in advocacy for cancer control. They engage in activities which include; outreaches to increase cancer awareness, media engagement and patients support among others. The Uganda Cancer Society coordinates civil society and individual efforts, in fostering collaborative cancer control efforts in the country hence providing some leadership to CSOs in cancer control arena.

Table 9: Strategic Objectives, Specific Objectives, Key Interventions for Policy and Advocacy.

Strategic Objectives: 7.0 To improve and streamline advocacy networks and coordination structures

Specific Objectives	Key interventions
7.1 To scale up cancer advocacy activities	7.1.1 Establish a cancer control co-ordination forum for implementers by 2026.
	7.1.2 Expand advocacy groups including community volunteers and patients' groups, to cover all the regions of Uganda by 2026.
	7.1.3 To conduct cancer awareness campaigns among influential groups and individuals on a regular and continuous basis by Uganda Cancer Institute coordinated by Uganda Cancer Society.
	7.1.4 Implement interventions towards reduction of stigma and fear of cancer across all socioeconomic groups by regular and continuous awareness led by Uganda Cancer Institute.
	7.1.5 Develop and implement a national cancer communication and advocacy strategy by 2028.
	7.1.6 Identify cancer champions in different population categories on a continuous basis bu Uganda Cancer Institute coordinated by Uganda Cancer Society.

[23] World Health Organisation. Global action plan for the prevention and control of non-communicable diseases 2013-2020
[24] http://library.health.go.ug/publications/policy-documents/second-national-health-policy-2010

	7.1.7 Engage mass media on a regular and continuous basis coordinated by Uganda Cancer Society.
7.2 To Strengthen implementation of the National Cancer Control Plan	7.2.1 Establish a national cancer control committee under the prime minister's office led by the Ministry of Health.
	7.2.2 Carry out continuous resource mobilization in partnership with governmental and non- government organisataion and agencies to support UNCCP implementation.
	7.2.3 Include UNCCP secretariat staff at all levels in the Public Service Structure by 2026.
	7.2.4 To develop and disseminate a simplified version of the comprehensive cancer control plan by 2025.
	7.2.5 To develop the national cancer control policy by 2030.
	7.2.6 Adopt all the necessary policies and guidelines as defined in this plan.
	7.3.7 Systematically increase the cancer control national budgetary allocations.

3.8 PILLAR 8: CANCER CONTROL IN CHILDREN AND ADOLESCENTS

INTRODUCTION

Globally, 400,000 children aged 0 to 19 years are diagnosed with cancer annually.[25] Eighty percent of these live in LMICs, and 40% are in Africa. In sub–Saharan Africa, the incidence of childhood cancer is 56.3 cases per million (IICC-3). However, this figure is based on data from 6 registries, covering only 5.1% of the region's children.

While in high-income countries more than 80% of children with cancer are cured, less than 30% are cured in many LMICs countries. In most of sub-Saharan African countries, this figure is lower -about 20%. This is attributed to, among other factors, no diagnosis, misdiagnosis, limited awareness about cancer symptoms and signs in children, delays in accessing appropriate diagnostic and treatment services, abandonment of treatment, limited access to quality essential anticancer drugs, and deaths from toxic cancer treatment. Additionally, comorbidities such as malnutrition and HIV/AIDS, worsen the situation. These factors are majorly underpinned by poverty at individual, community, and national levels.

Cancer in children cannot be prevented. Retinoblastoma cannot even be screened for. This underscores the need for early diagnosis and appropriate treatment, as the key strategies to improve cure rates. Most sub-Saharan countries do not have childhood cancer registries. This undermines planning and program design for improvement of childhood cancer care modalities. Additionally, it hampers policy development, which otherwise would provide a supportive environment, and ensure sufficient resource allocation for childhood cancer.

In 2018, the WHO launched the Global Initiative for Childhood Cancer (GICC), with the goal of achieving at least 60% survival, and alleviating suffering for all children with cancer globally, by 2030. This will result in saving of 1 million lives. The initiative emphasizes six priority cancers that represent 50–60% of all childhood cancers, and are highly curable, with proven therapies. These include; acute lymphoblastic leukemia, Burkitt's Lymphoma (BL), retinoblastoma, Wilms tumor, Hodgkin lymphoma, and low-grade glioma.

The WHO has proposed a technical "CureAll package", with 4 pillars, each addressing specific challenges, and 3 enablers to guide countries, as they implement the Initiative. These pillars include; creation of centers of excellence, Universal Health Coverage, regimens and roadmaps for diagnosis and treatment and, evaluation and monitoring. The 3 cross-cutting enablers are; advocacy, leveraged financing, and linked policies/governance.

Situation Analysis

[25] https://www.who.int/docs/default-source/documents/health-topics/cancer/who-childhood-cancer-overview-booklet.pdf

In Uganda, 55% of the population (44 million) are children under the age of 18 years. Eighty percent of Ugandans live in rural areas. The poverty rate remains high at 87.70% (World Bank 2016). The health system is weak, with limited capacity to handle the overall burden of disease in the country. The HIV sero-prevalence rate among children (0 to 14 years) is 0.5%, and the Under 5 stunting rate is 33%. The cancer burden in the country has been growing over the years. In terms of childhood cancer, the estimated number of new cases of children with cancer annually is 3,084 (GLOBOCAN 2018), of which only 750 (24.3%) presents for care at the National Cancer Institute (UCI). Currently, UCI has the only comprehensive childhood cancer treatment center in the country. The most common cancers among children in Uganda include; Lymphoma, Acute Leukemia, Wilms tumor Rhabdomyosarcoma, and in adolescents-Bone tumors. (Unpublished from UCI hospital database).

There has been no study looking at overall survival and its determinants in children with cancer in Uganda. However, for Burkitt's Lymphoma and Wilms tumor, the 5-year overall survival is 44% and 48% (Namugerwa et al, 2021 unpublished), respectively.

HEALTH PROMOTION AND CANCER PREVENTION IN CHILDREN AND ADOLESCENTS

Table 10: Strategic Objectives, for Health Promotion and Cancer Prevention in Children and Adolescents

Strategic Objective	Specific Objective	Key interventions	Indicator
1.0 To reduce modifiable cancer risk factors in children and adolescents.	**1.1** To increase vaccination coverage against vaccine-preventable cancer-causing viruses (HPV and Hepatitis B).	**1.1.1** Educate the public on the need for universal immunization immunization	Immunization coverage
		1.1.2 Build new partnerships in the implementation of the national immunization program	Immunization coverage
	1.2 To increased awareness of child and adolescent cancer risk factors	**1.2.1** Develop IEC materials (print and audiovisuals) on the relationship between infections (malaria, HIV, hepatitis B and C) and cancer development in children and adolescents by 2028	IEC and audio/visual materials produced and disseminated.
		1.2.2 To integrate child and adolescent cancer risk information into existing disease control programme	National disease control programme plans with integrated information on child

		activities by 2030 e.g. malaria control programme, PMTCT, AIDS control program	and adolescent cancer risk (malaria control programme, PMTCT, AIDS control programme)
		1.2.3 Integrate information on child and adolescent cancers when training health workers and Village Health Teams (cancer prevention information (HIV, Malaria, Hep B and C).	

CANCER EARLY DETECTION IN CHILDREN AND ADOLESCENTS

Table 11: Strategic Objectives, Specific Objectives, and Key Interventions for Cancer Early Detection in Children and Adolescents

Strategic Objective: To reduce the proportion of children, and adolescents presenting with advanced cancer.

Specific Objective	Key Interventions	Indicator
2.1 To scale up coverage of retinoblastoma screening services	To start a national retinoblastoma screening program under the NCCP secretariat by 2030	Uganda national retinoblastoma screening program established.
	Develop and disseminated retinoblastoma screening guidelines by 2030	National retinoblastoma screening and referral guidelines developed.
	To integrate retinoblastoma screening into existing services including but not limited to MCH, UNEPI, IMCI, and School Health by 2030	Number of service categories integrated with retinoblastoma screening. Number of children referred with suspected retinoblastoma
2.2 To improve awareness of early warning signs of child and	2.2.1 Develop IEC materials and sensitise the community on early warning signs of child and adolescent cancer by 2028	Number of outreaches conducted, and number of people reached.

adolescent cancer.	2.2.2 Develop and disseminate IEC materials on child and adolescent cancer among health workers by 2028	Number of training sessions conducted, and health workers trained.
2.3 To integrate child and adolescent cancer early detection into existing health services.	2.3.1 Include early diagnosis interventions for child and adolescent cancer in the Uganda Clinical Guidelines by 2028	Child and adolescent cancers included in the UCG 2028.
	2.3.2 Include child and adolescent cancers in the UCI referral guidelines for suspected cancer by 2027.	Child and adolescent cancers included in the 2026 edition of the UCI referral guidelines suspected cancer.
	2.3.2 Promote the use of integrated cancer referral guidelines in the referral of children and adolescents with cancer by dissemination of the 2026 edition of UCI referral guidelines for suspected cancer.	Number of children and adolescents with cancer referred Number of health care centres with a copy of the integrated referral guidelines
2.4 To promote early detection among children and adolescents living with HIV infection, those with albinism and refugees.	2.4.1 To integrate child and adolescent cancer early detection -specific interventions and procedures in existing services targeting children and adolescents living with HIV infection, those albinism and refugees by 2029.	Integrated services targeting children and adolescents living with HIV infection, those with albinism and refugees. Proportion of health facilities with integrated interventions and procedures.

CANCER DIAGNOSIS AND TREATMENT IN CHILDREN AND ADOLESCENTS

Table 12: Strategic Objectives, Specific Objectives and Key Interventions for Cancer Diagnosis and Treatment in Children and adolescents

Strategic Objective	**Specific Objective**	**Key Intervention**	**Key indicator**
3.0 To increase access to child- and adolescent cancer-specific diagnosis, staging and treatment services.	3.1 Establish comprehensive child and adolescent cancer-specific diagnosis and staging services.	3.1.1 Integrate specific capacities for the diagnosis and staging of child and adolescent cancers in the National Cancer Reference Laboratory	National **Cancer Reference Laboratory** with integrated child and adolescent cancer specific diagnosis and staging capacities.
	3.2 Increase access to quality and comprehensive cancer treatment services	3.2.1 Expand paediatric surgical services to all regional referral hospitals	Proportion of RRH with paediatric surgical services
		3.2.2 Expand specialist pediatric surgical oncology services at UCI Center of Excellence	Number of specialist pediatric surgical oncology procedures established at UCI
		3.2.3 Establish neurosurgical oncology services at UCI	Neurosurgical oncology service established at UCI
		3.2.4 Establish adolescent-friendly services in the pediatric oncology services at UCI and regional cancer centres	Adolescent-friendly service established at UCI Proportion of Regional Cancer Centres with adolescent-friendly services.
		3.2.5 Establish a fertility preservation service at UCI or any other in-country facility.	Fertility preservation service in place within Uganda.
		3.2.6 Expand pediatric and adolescent oncology units to all existing regional cancer centres	The proportion of regional cancer centres with child and adolescents-specific chemotherapy services

		3.2.7 Improve access to radiotherapy services for children and adolescents at UCI, e.g. brachytherapy probs for infants, sedation services for children and adolescents, no out-of-pocket-cost radiotherapy, equitable access etc	Number of demonstrated commitment initiatives to improve access to radiotherapy services
		3.2.8 Establish a dedicated Intensive Care Unit for children and adolescents with cancer at UCI.	A paediatric intensive care unit established at UCI
		3.2.9 Expand and coordinate patient support services for families of children and adolescents with cancer	Navigation program for children and adolescents with cancer Home for children and adolescents and their caretakers established at UCI Proportion of Regional Cancer Centres with homes for children, adolescents and their caretakers
		3.2.10 Improve the existent child and adolescent cancer nutritional service at the UCI to recommended standard for cancer centres	Specialized nutrition service for children and adolescents at UCI
	3.3 To improve the existing procurement system for cancer-related equipment, medicine and supplies for children and adolescents.	3.3.1 Ensure that the National Cancer 3.3.2 Essential Medicines and Diagnostics list includes the WHO priority medicines and diagnostics for child and Adolescent cancer.	The proportion of children's medicines on the National Cancer Essential Medicines list. The proportion of children's diagnostics on the National Essential Diagnostics list.

	3.4 To develop Human Resource Capacity for cancer diagnosis and treatment for children and adolescents.	3.4.1 Train multi-disciplinary specialists for child and adolescent cancer treatment	The Number of trained child and adolescent cancer specialists.
		3.4.2 Deploy child and adolescent cancer specialists in the relevant health facilities.	Number of child and adolescent cancer specialists deployed.
		3.4.3 Develop and disseminate national guidelines for shared care for children and adolescents with cancer to health workers at all levels.	Number of health facilities implementing national guidelines for shared care for children and adolescents with cancer.
		3.4.4 Train health workers at all levels on early warning signs and shared care of children and adolescents with cancer	Number of training sessions conducted. Number of health workers trained in early warning signs of child and adolescent cancers and shared care
	3.5 To standardize cancer care and treatment in Uganda.	3.5.1 Establish multi-disciplinary tumour-specific working groups for the WHO six tracer cancers.	Number of tumour-specific working groups established.
		3.5.2 Develop Uganda Cancer Treatment guidelines for children and adolescents	Uganda Cancer Treatment guidelines for children and adolescents developed.

PALLIATIVE CARE FOR CHILDREN AND ADOLESCENTS WITH CANCER

Table 13: Strategic Objectives, Specific Objectives and Key Interventions for Palliative Care for children and adolescents with cancer

Strategic Objectives	Specific Objectives	Key Interventions	Indicators
4. To improve access to palliative care services for children, adolescents with cancer and their families.	4.1 To establish child and adolescent palliative care services at UCI and Regional Cancer Centres	4.1.1 Establish a comprehensive palliative care department at UCI and all the functional Regional Cancer Centres by 2030.	Existence of child and adolescent palliative care services at UCI Existence of comprehensive palliative services in the Regional Cancer Centres
		4.1.5 Establish specialised paediatric palliative care teams offering home-based services at all regional referral hospitals by 2030.	Number specialised paediatric palliative care teams for home-based services at RCC.

CHILD AND ADOLESCENT CANCER SURVIVORSHIP

Table 14: Strategic Objectives, Specific Objectives, and Key Interventions for Child and Adolescent Cancer Survivorship

Strategic Objective	Specific Objectives	Key Interventions	Indicators
5.0 To improve the quality of life of child and adolescent cancer survivors and their families	5.1 To increase access to rehabilitation services for children and adolescents who survive cancer.	5.1.1 Include assistive devices and prostheses for children and adolescents on the essential assistive devices and prostheses list by 2028	Essential assistive devices and prostheses list with children and adolescent devices and prosthetic devises
		5.1.2 Integrate needs of children and adolescents in the comprehensive rehabilitation and occupational therapy services at the UCI and all RCC by 2029.	Integrated rehabilitation and occupational services at UCI and RCCs.
		5.1.3 Establish transition-of-care services at UCI and Regional Cancer centres by 2026	Transition-of-care guidelines for children and adolescent cancer survivors in place. Transition-of-care service in place at the UCI & regional cancer centres
		5.1.4 Establish mechanisms to support the continuation of education for children and adolescents at UCI and RCC by 2028	Education services established at UCI & RCCs
		5.1.5 Establish a national program for survivors of child and adolescent cancer by 2027.	Database of survivors of child and adolescent cancer. Program for survivors of child and adolescent cancer established

		5.3.2 Establish special needs training programs for children, and adolescents who suffer disability due to cancer and or its treatment by 2030	special needs training programs for children and adolescents who survive cancer established.

CANCER SURVEILLANCE AND RESEARCH IN CHILDREN AND ADOLESCENTS

Table 15: Strategic Objectives, Specific Objectives, and Specific Interventions for Cancer Surveillance and Research in Children and Adolescents.

Strategic Objective	Specific objective	Specific Interventions	Indicator
6.0 To strengthen evidence-based approaches in child and adolescent cancer control.	6.1 To strengthen the capacity of national cancer registries to capture child and adolescent cancer data	6.1.1 Train cancer registry staff on new data collection methods for child and adolescent cancer data by 2028	Training conducted
		6.2.2 Establish hospital-based child and adolescent cancer registries at UCI and all Regional Cancer Centres by 2028	Hospital-based child and adolescent cancer registries
	6.3 To generate comprehensive nationally representative data on cancer for children and adolescents.	6.3.1 Incorporate child and adolescent cancer data variables in the HMIS by 2030	Number of variables on child and adolescent cancer in the HMIS
	6.4 To develop a national framework	6.4.1 Establish a national pan cancer	A National Cancer Research Agenda that

	for child and adolescent cancer research	biobank for child and adolescent cancers in Uganda by 2027 6.4.2 Develop guidelines for the pan biobank for child and adolescent cancers by 2027 6.5.3 Describe the Epidemiology of the WHO six tracer cancers among children and adolescents in Uganda by 2030 6.5.4 Describe the Biology of the WHO six tracer cancers among children and adolescents in Uganda by 2030	addresses priorities for both children and adolescents. Child and adolescent cancer Pan biobank guidelines in existence Number of publications on the Epidemiology of the WHO six tracer cancers in children and adolescents. Number of publications on biology of the six tracer cancers
	6.5 To establish child and adolescent cancer research networks and collaborations.	6.5.1 Establish children and adolescents' cancer research collaborations at national, regional and international levels by 2030	Child and adolescent cancer research networks and collaborations established

		6.5.2 To collaborate with pharma, traditional and alternative medicine practitioners in child and adolescent cancer research.	A framework of child and adolescent cancer research collaboration is established by 2030 Number of engagements (meetings, trainings, sensitizations) held with collaborators
	6.6 To promote use of technology and scientific innovation along the child and adolescent cancer control continuum	6.6.1 Integrate children and adolescents in established technology and scientific innovation hubs for cancer control by 2030	Number of technology and scientific innovation hubs

ADVOCACY AND POLICY FOR CANCER CONTROL IN CHILDREN AND ADOLESCENTS

Table 16: Strategic Objectives, Specific Objectives, Key Interventions for Policy and Advocacy.

Strategic Objectives	**Specific Objectives**	**Key interventions**	**Indicator**
7.0 To improve and streamline advocacy networks and coordination structures for child and adolescent cancer	7.1 To scale up cancer advocacy activities for child and adolescent cancer by 2030	7.1.1 Establish cancer control co-ordination fora for implementers with a representation of child and adolescent interests at the national, regional, and district levels by 2026	A coordination forum Number of integrated fora
		7.1.3 To scale-up child and adolescent cancer awareness campaigns	Number of campaigns conducted
		Engage traditional/tribal leaders in advocacy efforts	Number of engagements

		for child and adolescent cancer by	(meetings, workshops etc.) held
		7.1.4 Integrate survivors of child and adolescent cancer in awareness and advocacy efforts by	Number of awareness activities with survivors
		Improve the advocacy capacity (trainings, observerships etc) of survivors of child and adolescent cancer	Number of trainings conducted
		7.1.5 Integrate children and adolescents needs in the national cancer communication and advocacy strategy by 2030	Integrated strategy
		7.1.6 Improve the capacity of civil society organisations to mobilise resources and engage stakeholders through training, workshops etc	Trainings conducted Partnerships attracted
	7.2 To Strengthen the implementation of the National Cancer Control Plan	7.2.1 Establish a national steering committee on child and adolescent cancerunder the MOH	Steering Committee at MOH
		7.3.8 Mobilise resources from development partners and private sector to support child and adolescent cancer control activities	Number and amount of grants and donations

3.9 PILLAR 9: CANCER CONTROL IN SPECIAL INTEREST POPULATIONS

INTRODUCTION

The special interest groups of focus in this pillar include people living with HIV/AIDS, people with Albinism, Persons with Disabilities, Refugees and people living in organized institutions such as Uganda Police Force (UPF), Uganda People, Defense Forces (UPDF), Uganda Prisons, institutions of higher learning and schools. These groups are of special interest, because they have unique needs that may not be appropriately addressed in the usual cancer control interventions, thereby warranting special consideration based on the setting characteristics.

5.1 People living with HIV/AIDS

Globally, 39.9 million people are living with HIV infection. Africa accounts for 65% of all the people living with HIV (25.9 million).[35] Having HIV infection increases ones' risk of developing cancer. This is because the infection affects the ability of the infected persons's immunity to fight disease, including cancer. Additionally, HIV synergizes with other cancer-causing infections, to increase the risk of developing the disease. For example, it increases the risk of developing Kaposi sarcoma, non-Hodgkin, and cervical cancer. Cancer also progresses faster in individuals who are HIV-positive. In fact, WHO recommends that all HIV-positive women of reproductive age are screened for cervical cancer every 3 to 5 years, as opposed to every 5 to 10 years for their HIV-negative counterparts. It is also important to note that individuals on ART are more likely to experience worse side effects, when receiving cancer treatment.

There are 1.5 million people living with HIV/AIDS in Uganda; 910 000are women 15 and above years of age, 520 000 are men 15 and above years of age, and 72 000are children, 0 – 14 years old. At the Uganda Cancer Institute, approximately 1 in every 3 patients with cancer are HIV-positive.[36]

Three of the five topmost common cancers in Uganda are associated with HIV. These are cancer of the cervix (20.5%), Kaposi sarcoma (11.3%), and Non-Hodgkin Lymphoma (6.9%). Over the last 10 years, the incidence of these cancers has been on the increase, with cervical cancer incidence doubling from 3,915 new cases in 2012, to 6, 959 in 2020. Treatment of HIV/AIDS in Uganda has been improving over the last 3 decades. This has resulted in increased survival of people living with HIV infection, rising the prevalence from 890,000 in 1991 to 1,500,000 in 2019. This is despite the number of new infections decreasing from 100,000 in 1991 to 55,000 in 2018. This demonstrates that there is an increasing population at high risk of developing the HIV associated cancers, which partly explains why the trend has been on the rise. Therefore, the HIV situation and care system must be taken advantage of, to increase access to cancer control services for PLWH.

35. https://www.unaids.org/en/regionscountries/countries/uganda
36. https://www.unaids.org/en/regionscountries/countries/uganda

5.2 People with Albinism

Albinism is a genetic condition in which there is absence of pigmentation (melanin) in the skin, hair, and eyes. Globally, 1 in 20,000 people are born with albinism annually, and are living with the condition. Albinism has high frequency in Africa, with 1 in 2,673 in Tanzania living with the condition. Melanin protects the skin from the effect of ultraviolet rays (sun), which can cause skin cancer, among many other skin conditions. People with Albinism (PWA) develop skin cancer at a young age, with over 80% developing it before the age of 40, and some as young as 11 years (Caroline Bradbury, John, et al, 2018).

This population requires special interventions, to prevent them from developing skin cancer, such as use of sunscreen cream. When they develop cancer, they require tailored treatment to their unique condition. It is important to note that there is a lot of misinformation and stigma surrounding albinism. This results in people living with albinism failing to seek appropriate cancer preventive and treatment services, where they may be available.

The WHO estimates that in Africa, 1 in every 5,000 to 15,000 people have albinism, and applying this rate of prevalence to the population of Uganda, according to the 2024 population census that was 45,900,000 people, the approximate number of persons with albinism in Uganda is between 3,060 and 9,1080.

There is scanty data available about PWA in Uganda which has been compiled by organizations that support them. The Albino Association of Uganda estimates the number to be approximately 3,000 –5,000, although it does not provide a basis for this statistic. The source of the Nile union for albinism has registered 626, albinism umbrella 426, and 277 registered by Naume Muganwa (Bugishu and Sebei region). The condition of albinism among cancer patients is not captured.

PWA access cancer care services in a similar way as other people in the population. However, they face unique challenges including, discrimination and stigmatization within their communities, and this makes it difficult for them to actively seek appropriate care. The myths surrounding them have resulted in their rejection within most communities and being attacked, because of superstition. This makes it difficult for them to move from their homes to health facilities and poses very high psychological effects. Because of their vulnerabilities, this special group of people must be affirmatively sought out, and specifically targeted to benefit from cancer control initiatives.

5.3 People with disabilities

Disability is a form of impairment, which in part or full, may hinder ones full and effective participation in society (UNCRPD 2006 P.1). In this plan, the focus is on four specific disability types including hearing, vision, cognitive (a person's ability to concentrate or make decisions), and mobility (difficulty in walking). People with disabilities are less likely to receive cancer care services. These people often have trouble getting health care for many reasons including, not having transportation to health care facilities.

According to the 2014 National Population Census, the prevalence of disability in Uganda is 13.6%, among the population aged five years and above. The census estimates that the highest

forms of disability are difficulty seeing (6.5% of the population), difficulty remembering (5.4%); difficulty walking (4.5%); and difficulty hearing (3.1%). (UBOS, 2016). Some types of cancer and their treatment cause disability, for example, bone cancer surgery leads to loss of limbs.

The Government of Uganda has in place legal frameworks that provide for inclusion of persons with disabilities. The key legal instruments include.

- The 1995 constitution of Uganda, which makes a case for the promotion of rights of people with disabilities.
- The Persons with Disability Act 2006, which emphasises that the Government shall take affirmative action in favor of persons with disabilities, for addressing imbalances which exist against them.

The National Policy on Disability expands on the scope of interventions provided for by the above instruments. *The National Planning Authority Act 2002*, also emphasises that all sectors at national and local government levels, must address disability in their development plans.

The Ministry of Gender, Labor and Social Development (MGLSD) is mandated to oversee implementation of interventions that address the rights and interests of people with disabilities. The Ministry of Health takes into consideration rights of persons with disabilities, in its planning and service provision. It has a unit responsible for overseeing mental health services across the country, including cognitive disability. However, due to their unique mental health needs, cancer patients with disability require specialists in psycho-oncology, who are not available in the country. The Ministry also oversees rehabilitation services for people with disability, but these are not easily accessible to cancer patients with disabilities.

The UCI has a committee on gender, which is mandated to deal with disability issues. However, on the committee, there is no representation of persons with disabilities. In addition, all buildings of UCI have provisions for enabling access by people with walking disabilities, and the Institute also provides assistive devices, such as wheelchairs. However, some of the service areas lack WASH (Water, Sanitation and Hygiene) facilities suitable for people with disabilities.

In Uganda experts who can communicate to people with hearing and speaking disability, have not been deployed along the cancer control continuum. There are several challenges that are yet to be addressed, including; provision of essential drugs and commodities for preventing and treating disabling cancer complications, tailoring cancer education to persons with disabilities, ensuring representation of persons with disability at different levels of management, and their inclusion in planning and service provision, among others. All stakeholders under the leadership of the MGLSD and guidance of UCI need to coalesce and coordinate efforts to improve access of cancer control services among all people living with disabilities.

5.4 Refugees

Refugees are people who have fled war, violence, conflict, or persecution, and have crossed an international border to find safety in other countries (UNHCR).

Worldwide, there are 79.5 million refugees, with 6.3 million living in sub Saharan Africa. Uganda ranks 4th among the top refugee host countries, hosting up to 1.4 million refugees. According to the 1951 refugee convention, refugees should have access to the same or similar health care as a host population. UNHCR works closely with national Ministries of Health and partner organizations, to ensure that refugees get the health and medical services they need, including cancer prevention and treatment services. It also advocates for refugee inclusion in the national health plans of host countries. In Uganda, all refugee services are overseen by the office of the Prime minister, working with UNHCR, and other stakeholders.

However, cancer prevention and care services for refugees are difficult to implement, putting them at a great risk of having their diagnosis delayed, and treatment disrupted. Therefore, systems should be developed by all stakeholders involved in oversight and provision of services to refugees, to support cancer prevention and treatment services for refugees in Uganda, to improve efficiency and effectiveness.

5.5 People living in organized institutions

These include the Uganda People Defense Forces (UPDF), Uganda Police Force (UPF), Uganda Prisons, institutions of higher learning, and schools. National cancer control interventions will be contextualised to the characteristics of these unique settings, applying the "setting approach" to health promotion and health programming for cancer control.

CHAPTER FIVE

6.0 GOVERNANCE AND MANAGEMENT

Introduction

Implementation of the NCCP will be overseen by a well-defined governance structure, to provide visibility, coordination, and guidance of cancer control activities across the country. The main goal of governance will be to ensure that operations by all stakeholders are aimed at achieving the outcomes of the plan.

6.1 Legal and regulatory framework

The right to health is provided for by the United Nations 1948 Universal Declaration of Human Rights, under Article 25 (1), and the constitution of the republic of Uganda 1995, in its National Objectives and Directive Principles of State Policy (XIV) (b). This plan provides a framework for actions that will contribute to the realization of this human right.

6.2 Governance

Although implementation of this plan will be multi-sectoral, involving all government, non-government - international and national stakeholder organisations, institutions and individuals across the country and socio-economic status, governance and management will be led by the health sector, with technical guidance of the Uganda Cancer Institute within the Non-Communicable Diseases Department in the Ministry of Health. It will therefore be governed and managed along the healthcare system structure, which is supported through the following institutions and organisations;

- The Ministry of Health (MoH)
- Health Service Commission (HSC)
- Public Service Commission (PSC)
- Ministry of Local Government (MoLG)
- National Drug Authority (NDA)
- National Medical Stores (NMS)
- Uganda AIDS Commission
- Uganda National Health Research Organization (UNHRO)
- Central Public Health Laboratory (CPHL)
- Uganda Blood Transfusion Services (UBTS)
- Uganda Virus Research Institute (UVRI)
- Uganda Cancer Institute (UCI)
- Uganda Heart Institute (UHI)
- Joint Clinical Research Center (JCRC)
- Natural Chemotherapeutics Research Laboratory
- Uganda Medical and Dental Practitioners Council (UMDPC)
- Pharmacy Board
- Uganda Cancer Society (UCS)
- Palliative Care Association of Uganda (PCAU)

- Uganda Nurses and Midwives Council (UNMC)
- Allied Health Professionals Council (AHPC)
- Pharmaceutical Society of Uganda
- Health Committee of Parliament
- Parliamentary Forum on Non-Communicable Diseases.
- Budget Committee of Parliament
- Uganda Manufacturers Association (UMA)
- World Health Organization (WHO)
- United Nations International Child Education Fund (UNICEF)
- United States Agency for International Development (USAID)
- Center for Diseases Control and Prevention (CDC) – Uganda

6.3 Coordination mechanism

The UNCCP will be implemented through a multi-sectoral approach. To ensure efficient and effective coordination, a National Steering Committee the under the Ministry of Health will oversee implementation of the plan.

Similarly, the district health committee will oversee implementation at the district level, with a dedicated focal person.

The Ministry of Health will take technical responsibility, to ensure the successful implementation and attainment of the objectives of this plan, through its technical agency-UCI.

6.4 The Uganda National Cancer Control Secretariat (UNCCS)

Uganda Cancer Institute, the ministry of health's technical arm on cancer which is mandated to guide cancer care, research and training in the country will house the national cancer control secretariate which will coordinate implementation, monitoring and evaluation of the plan.

6.5 Stakeholders

This is a multi-sectorial plan which provides strategies and opportunities for all stakeholders, including, but not limited to; development partners, civil society, all government agencies, and the public, to participate in cancer prevention, early detection, diagnosis, treatment, supportive care, and survivorship, as well as end-of-life care. The Ministry of Health is responsible for its implementation, through its technical arm, the Uganda Cancer Institute.

Table 17:The UNCCP Stakeholders Analysis

Stakeholder	Role of stakeholder	Status	Interest	Influence	Position	Impact
Parliament of Uganda	Advocacy Resource mobilization Political commitment	Final decision in plan & budget approval	High	High	Supportive	Very high
MoH	Policy formulation National coordination and leadership	Established NCDs prevention and control department Cancer control set as a priority among other NCDs, Resource mobilization	High	High	Process leadership	Very high
Uganda Cancer Institute	Policy formulation Clinical care provision as a national reference center Source of clinical outcomes and research Human Resource Development in cancer control	National mandate for cancer control. Led the development of UNCCP.	High	High	Process ownership	Very high
Regional referral hospitals	Regional coordination & leadership	Implementation of national policies and strategies Regional Cancer control focal point/ unit established. Regional resource-mobilization & prioritization	High	High	Regional process ownership	Very high
District health office & health facilities	District coordination & leadership	Implementation of national policies and strategies District Cancer control focal point/ unit established/ integrated District level resource mobilization & prioritization	High	High	District process ownership	Very high

Stakeholder	Role of stakeholder	Status	Interest	Influence	Position	Impact
Other Government line ministries, agencies & departments	Budgetary and Financial allocation for cancer control Control of tobacco use and alcohol consumption (Uganda police) Information in curricula on healthy lifestyles (Ministry of Education & Sports) Build sports facilities and promote community playground space to encourage physical activity Promotion of physical activity Safety of agricultural products, foods, and fishery products (Ministry of Agriculture, Animal Industry and Fisheries) Control and regulation of imported and locally manufactured foods and chemical products (UNBS) Regulation of traditional healers and herbalists (Natural Chemotherapeutic Research Institute)	Lack of coordination mechanism Not actively involved Low priority for cancer control	High	High	Supportive	High
Civil Society Organizations (CSOs)	Coordination of cancer control efforts by NGOs (e.g. Uganda Cancer Society) Advocacy Conducting research Patient support	Very few organizations with interest in cancer control, and most are localized in the capital (Kampala) Lack of funding for cancer control	High	High	Supportive	High

Stakeholder	Role of stakeholder	Status	Interest	Influence	Position	Impact
	Palliative care Awareness creation Resource-mobilization Engage professional associations (such as UMA, ASU, AOG, UPA,) to advocate for cancer control activities					
International organizations and funders	Financial and technical support Cancer control macro policies and guidelines (WHO, International Atomic Energy Agency, Fred Hutchinson Cancer Research Center, America cancer society, etc.)	Financial and technical support	High	High	Supportive	High
Community & Village health teams	Dissemination of cancer awareness messages Referral to facilities, Community participation in cancer control	Low level of cancer awareness Low level of active participation in community health programs	High	High	Supportive	High
Health workers	Directly involved in cancer prevention, care, and control, according to their level of expertise and health facilities	Inadequate knowledge and skills in prevention and care for cancer patients	High	High	Very Supportive	Very high
Cancer patients, survivors, and their associations	Have the right to care. Participation in community cancer control program Cancer survivors can provide the real-life experience of cancer diagnosis, care, and cure Community support groups for patients with cancer	Inadequate access to cancer information. Late presentation for cancer care Lack of comprehensive cancer control services in most regions of Uganda Patients are stigmatized	High	High	Very Supportive	Very high
Private Health facilities	Directly involved in cancer prevention, care,	Inadequate knowledge and skills in cancer prevention and care	High	High	Supportive	High

Stakeholder	Role of stakeholder	Status	Interest	Influence	Position	Impact
(PNFP & PFP)	and control, according to the facility level	Lack of coordination mechanism Lack of cancer control specific public-private partnership Lack of trained staff				
Religious leaders	Dissemination of cancer information to a large audience Psycho-social support Referral of patients to health facilities	Lack of cancer information	High	High	Very supportive	High
Traditional healers and herbalists	Have good access to cancer patients	Patients delayed at this level Disseminate non-evidence-based information on cancer control Financial conflict of interest	Low	Low	Less supportive	Medium
Media	Awareness creation (cancer prevention messages, cancer treatment services, to policymakers, raise interests, etc) Information sources (potential bad publicity, impactful information, etc.)	Readily available Lack of information about the cancer control planning process	Moderate	High	Supportive	High

6.6 Accountability and reporting

The Uganda Cancer Institute will host the National Cancer Control Secretariat, under the supervision of the Ministry of Health. The Secretariat will provide annual reports, and disseminate NCCP data, to inform programming. The Ministry of Health, with guidance from its technical arm, the Uganda Cancer Institute, will report to the National Cancer Control Steering Committee.

Table 18: The minimum cancer control services by level of health facility

Health facility level	Expected minimum required services	Required resources/ equipment
National Cancer Centre (Uganda Cancer Institute)	• National cancer control planning • Development of guidelines • Development of cancer IEC materials • Cancer control health system strengthening • Setting and review of cancer control services standards. • Resource mobilisation • Cancer control research • Health education on cancer risk factors, prevention, early detection, and care • HPV vaccination (Gardasil at least two doses) • Cancer early detection through screening and early diagnosis strategies (Cervical screening using visual inspection with acetic acid (VIA), HPV molecular testing, Pap smears for cytology and liquid based media for IHC; clinical breast exams, Prostate cancer screening using PSA and digital rectal exams (DRE)). • Colposcopy • Ultrasonography • Xray • Endoscopy • Colonoscopy • Biopsy (Histopathology, IHC.) • Treatment of precancer (cryotherapy or thermocoagulation). • LEEP • Surgery • Chemotherapy • Radiotherapy • Palliative care	• Cancer treatment guidelines • Early detection guidelines • Referral guidelines for suspected cancer • Cancer IEC materials • Colposcopy • Biopsy forceps and ancillary equipment • Lab equipment (Tissue Microtomes, Automatic Tissue processor/ Histokinette, Tissue embedding centre, Hot air oven, Floating tissue histobath, PCR machines, IHC Stainer, Automatic Pap stainer, Telepathology equipment, slide scanner for Telepathology, microscopes etc) • Thermocoagulator/Cryotherapy • LEEP Equipment • Cervical cancer screening equipment (GeneXpert device, HPV testing and VIA consumables • PSA strips for qualitative analysis • Mammogram • Ultrasound • Xray • Endoscopy unit • Colonoscopy unit • Theatre equipment • Radiotherapy unit • IEC materials • Appropriate human resource

Regional Cancer Centres	• Cancer control research • Health education on cancer risk factors, prevention, early detection, and care • HPV vaccination (Gardasil at least two doses) • Cancer early detection through screening and early diagnosis strategies (Cervical screening using visual inspection with acetic acid (VIA), HPV molecular testing, Pap smears for cytology and liquid based media for IHC; clinical breast exams, Prostate cancer screening using PSA and digital rectal exams (DRE). • Colposcopy • Ultrasonography • Xray • Endoscopy • Colonoscopy • Biopsy (Histopathology, IHC.) • Treatment of precancer (cryotherapy or thermocoagulation). • LEEP • Surgery • Chemotherapy • Radiotherapy • Palliative care	• Cancer treatment guidelines • Early detection guidelines • Referral guidelines for suspected cancer • Cancer IEC materials • Colposcopy • Biopsy forceps and ancillary equipment • Cervical cancer screening equipment (GeneXpert device , HPV testing and VIA consumables • Lab equipment (Tissue Microtomes, Automatic Tissue processor/ Histokinette, Tissue embedding centre, Hot air oven, Floating tissue histobath, PCR machines, IHC Stainer, Automatic Pap stainer, Telepathology equipment, slide scanner for Telepathology, microscopes etc) • Thermocoagulator/Cryotherapy • LEEP Equipment • Cervical cancer screening kits (e.g., vaginal speculums, sponge holding forceps, acetic acid) • PSA strips for qualitative analysis • Mammogram • Ultrasound • Xray • Endoscopy unit • Colonoscopy unit • Theatre equipment • Radiotherapy unit • IEC materials • Appropriate human resource

National Referral Hospitals (Exculding Cancer Centres)	• Health education on cancer risk factors, prevention, early detection, and care • HPV vaccination (Gardasil at least two doses) • Cervical screening using visual inspection with acetic acid (VIA), HPV molecular testing, Pap smears for cytology and liquid based media for IHC; clinical breast exams, Prostate cancer screening using PSA and digital rectal exams (DRE) • Colposcopy • Ultrasonography • Xray • Endoscopy • Colonoscopy • Biopsy (Histopathology, IHC.) • Treatment with cryotherapy or thermocoagulation. • LEEP • Surgery • Palliative care	• Cancer treatment guidelines • Early detection guidelines • Referral guidelines for suspected cancer • Cancer IEC materials • Colposcopy • Biopsy forceps and ancillary equipment • Lab equipment (Tissue Microtomes, Automatic Tissue processor/ Histokinette, Tissue embedding centre, Hot air oven, Floating tissue histobath, PCR machines, IHC Stainer, Automatic Pap stainer, Telepathology equipment, slide scanner for Telepathology, microscopes etc) • Thermocoagulator/Cryotherapy • LEEP Equipment • Cervical cancer screening equipment (GeneXpert device, HPV testing and VIA consumables • PSA strips for qualitative analysis • Ultrasound • Xray • Endoscopy unit • Colonoscopy unit • Theatre equipment • IEC materials • Appropriate human resource
Regional Referral Hospitals	• Health education on cancer risk factors, prevention, early detection, and care • HPV vaccination (Gardasil at least two doses) • Cervical screening using visual inspection with acetic acid (VIA), HPV molecular Testing, PAP smears for cytology, and liquid based media for IHC; clinical breast exams, Prostate cancer screening using PSA and digital rectal exams (DRE) • Colposcopy • Ultrasonography • Xray	• Cancer treatment guidelines • Early detection guidelines • Referral guidelines for suspected cancer • Cancer IEC materials • Colposcopy • Biopsy forceps and ancillary equipment. • Lab equipment (Tissue Microtomes, Automatic Tissue processor/ Histokinette, Tissue embedding centre, Hot air oven, Floating tissue histobath, Flow cytometers, IHC Stainer, ISHs, Telepath equipment, Slide scanner

	• Endoscopy • Colonoscopy • Biopsy (Histopathology, IHC) • Treatment with cryotherapy or thermocoagulation. • LEEP • Simple surgery • Referral for radical surgery and chemoradiotherapy • Palliative care	for Telepathology, microscopes etc) • Thermocoagulator/cryotherapy unit • LEEP Equipment • Cervical cancer screening equipment (GeneXpert device, HPV testing and VIA consumables • PSA strips for qualitative analysis • Ultrasound • Xray • Endoscopy unit • Colonoscopy unit • Theatre equipment • IEC materials • Appropriate human resource
General (District) Hospitals	• Health education on cancer risk factors, prevention, early detection, and care, and community mobilisation • HPV vaccination (Gardasil at least two doses) • Cervical screening using visual inspection with acetic acid (VIA), HPV molecular testing, and cytology. • Biopsy (Histopathology, IHC), clinical breast exams, Prostate cancer screening using PSA and digital rectal exams (DRE) • Treatment with cryotherapy or thermocoagulation. • Referral for LEEP/Surgery/Chemoradiotherapy • Palliative Care	• Cervical cancer screening equipment (GeneXpert device, HPV testing and VIA consumables • Thermocoagulation • Cryotherapy unit • Pap staining equipment • Microscopes • PSA strips for qualitative analysis • IEC materials • Appropriate human resource
Health Centre IV	• Health education on cancer risk factors, prevention, early detection, and care, and community mobilisation • HPV vaccination • Cervical screening using HPV DNA Testing, VIA and cytology, and clinical breast exams. • Treatment with cryotherapy or thermocoagulation.	• IEC materials • HPV DNA testing consumables and VIA consumables and equipment • Equipment for cold-chain maintenance • Pap staining equipment • Microscopes • Appropriate human resource

	• Referrals of suspected cancer for further investigations and treatment • Home-based palliative care	
Health Centre III	• Health education on on cancer risk factors, prevention, early detection, and care, and community mobilisation • HPV vaccination • Cervical screening using visual inspection with acetic acid (VIA), and clinical breast exams. • Referrals of suspected cancer for investigations and treatment • Home-based palliative care	• IEC materials • Equipment for cold-chain maintenance •
Health Centre II	• Health education on cancer risk factors, prevention, early detection, and care, and community mobilisation • HPV vaccination • Referrals of suspected cancer for investigations and treatment	• IEC materials • Equipment for cold-chain maintenance • Appropriate human resource
Community (Village Health Teams)	• Health education on cancer risk factors, prevention, early detection, and care, and community mobilisation • Referrals of suspected cancer for investigations and treatment	• IEC materials • Active village health teams

CHAPTER SIX

7.0 IMPLEMENTATION OF THE PLAN

7.1 Monitoring and evaluation

Introduction

The Ministry of Health is responsible for the implementation of the Uganda National Cancer Control Programme Plan and the Monitoring and Evaluation (M & E) process, with technical support from UCI. Progress reports will be generated annually. There will be mid-and-end-term evaluation activities. The purpose of M & E for this NCCP is to track and measure progress towards achieving its objectives and outcomes within the set time frame and determine if the plan has achieved its desired effect. The evaluation will also include judging the quality and impact of the plan implementation activities.

Results of these processes will help generate the information necessary for adjusting implementation of the NCCP, from time to time.

Monitoring reports will be generated on an annual basis, while evaluation reports will be provided mid-term, and at the end of the NCCP term.

The NCCP will be reviewed annually, to assess the extent to which the planned activities have been executed.

7.2 Cost of implementing the plan

Introduction

The costing was undertaken, through a participatory and consultative manner, with stakeholders drawn from across the sectors. The key interventions and activities included in the costing were identified, developed, and prioritized by the stakeholders, drawn from across the sectors. The approach used to cost the control plan took into consideration the disease burden, and disease management. The costing approach included an extensive review of published and grey literature on the non-communicable diseases (NCDs) in Uganda and sub-Saharan Africa region. Additional information and data were obtained from databases at the Ministry of Health, and WHO, among others. Expert opinion and guidance were sought from technical and professional persons, in the field of cancer control and management, healthcare costing and resource mobilization.

An activity-based costing approach was used in the generation of the resource estimates. This approach requires that key inputs for each activity are identified, quantified, and then costed, using unit costs. This ensured that all aspects of an activity were monetized, to facilitate resource estimates.

Specifically, a two layered costing platform was used as follows:

a) The specific interventions layer was used to estimate the resources for all programmatic interventions. This used the formula below;

Intervention Cost = Target Populations X Service Coverage X Unit Costs

This expression involved the identification of the population for whom the services were intended; the population in need; and the scope of services to be provided. The component of the unit costs used were derived with inputs and guidance from the Government of Uganda public service standing orders, the financial management Act; domestic and international indicative price indices for medicines, drugs, and supplies.

Unit cost data was based on a compendium of services provided by GoU MDAs, as well as the Not-for-profit private sector players. The costs of the medicines and supplies were based on the indicative price indices from the major suppliers, including the National Medical Stores (NMS) and the Joint Medical Stores (JMS), for health products and supplies, and the indicative expenditure trends, obtained through detailed reviews of project expenditures from various funding agencies.

b) Cost of Human resources.

The human resource costs have been based on the enhanced public service salary structure. The human resources are estimated on the assumption of a 60% staffing in the first year, gradually increasing to 75 % levels by the end of the plan period.

c) Medicines and health supplies.

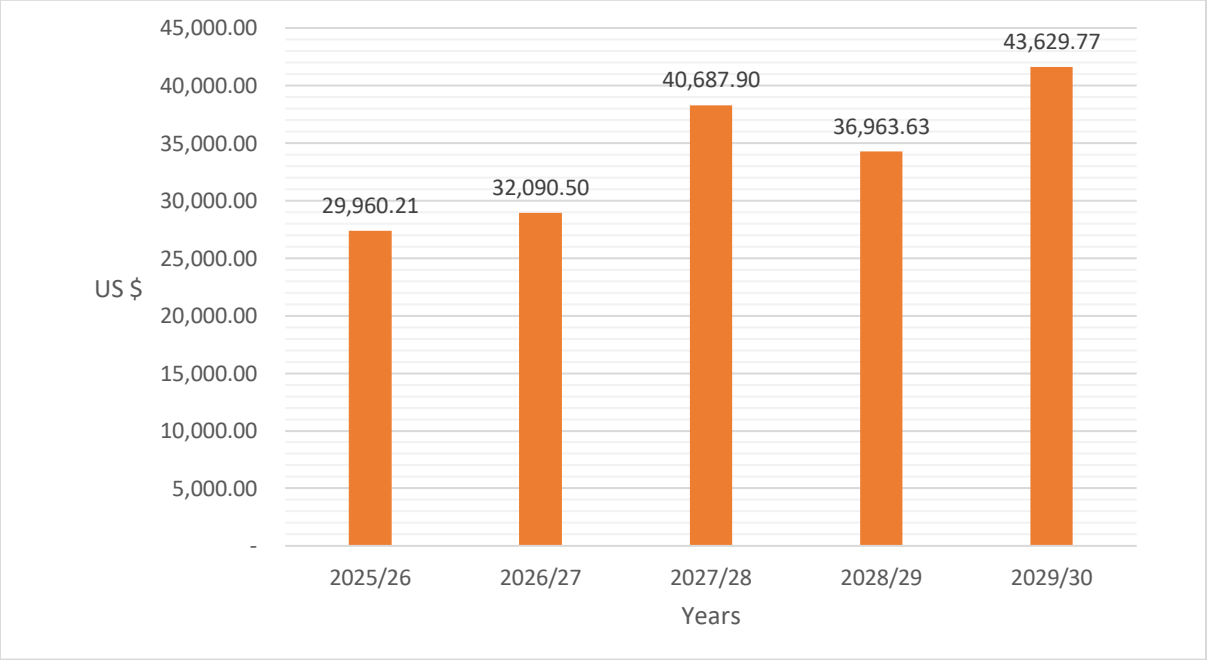
The medicines and health supplies were estimated, based on the current GoU funding levels. At the time of developing the program, unit had inadequate data in terms of the projections of clientele, enrolments, and proportion of clients accessing the different services. The resource estimates reflected took into consideration the current volume of patients under treatments, as well as the projected patients, as the regional centres become operational.

d) Other costs, such as infrastructure, health information systems, logistics management, human resources, and program overheads were estimated, based on the volume of activities, and the scope of services.

1) Resources for implementing the plan

The plan is estimated to cost US $ 170.48 million, for the period of five years. The resources will increase from US $ 27.38 million in the first year of implementation, to US $ 41.61 million in the fifth year.

Figure 2: Resource Estimates for the period 2025/26 to 2029/30 in US $ '000'



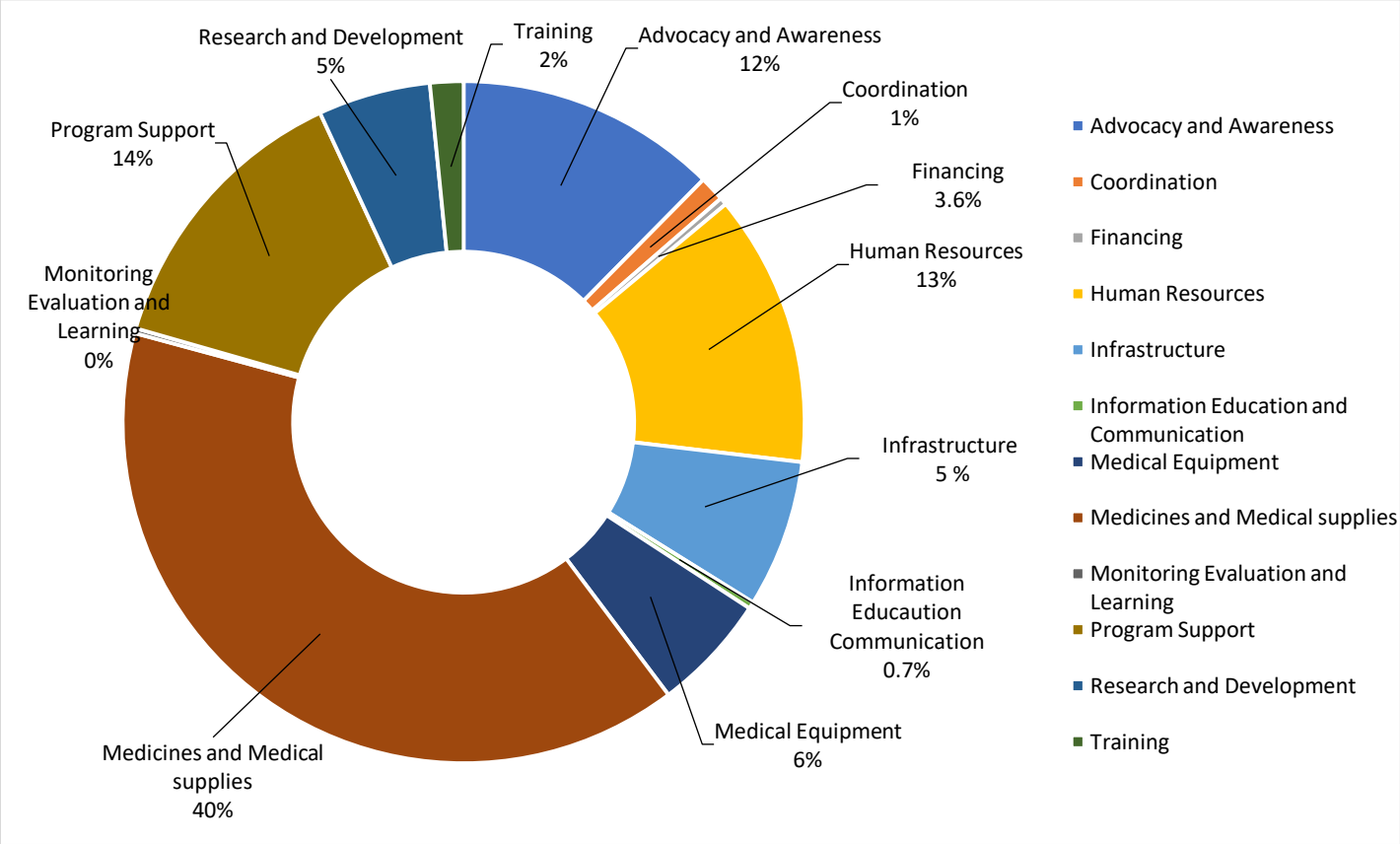
The resource estimates reflect an increasing trend, and this is largely attributed to the investments in the infrastructure which are planned majorly for the five years, as the program sets stage for service scale up.

Table 19: Resources estimate for the Period 2025/26 to 2029/30

	2025/26	2026/27	2027/28	2028/29	2029/30	Totals
	US $ 'ooo'					
HEALTH PROMOTION AND CANCER PREVENTION	5,708.11	6,493.44	6,604.13	6,553.45	6,469.63	31,828.76
EARLY DETECTION	1,453.16	905.27	778.97	715.23	888.94	4,741.57
DIAGNOSIS AND TREATMENT	7,664.77	9,250.93	18,390.32	16,774.92	23,721.30	75,802.23
PALLIATIVE CARE	1,676.24	2,611.19	589.77	402.93	402.93	5,683.06
CANCER SURVIVORSHIP	1,068.15	1,093.61	1,008.95	1,050.23	1,042.61	5,263.54
CANCER SURVEILLANCE AND RESEARCH	4,996.25	3,180.25	5,030.14	2,398.16	2,167.28	17,772.08
POLICY AND ADVOCACY	4,817.54	5,388.66	5,881.01	6,380.12	6,923.48	29,390.81
CANCER CONTROL IN CHIL-DREN & ADOLESCENTS	2,575.99	3,167.14	2,404.61	2,688.60	2,013.61	12,849.96
TOTALS	29,960.21	32,090.50	40,687.90	36,963.63	43,629.77	183,332.02

It should be noted that an estimated US$ 12.8 million of the total US $ 183.3 million is earmarked for the children and adolescent cancer control interventions as illustrated in Chapter 4. This translates to 7.5% of the total resources estimated with the remaining 92% allocated for the general population. The figure below shows the proportions of resources planed for children and adolescents, and adult cancer control.

Figure 3: Resource allocation as per cost category



The medicine and medical supplies cover the drugs, laboratory reagents and other supplies for surgical, chemotherapy, radiotherapy, as well as the Palliative care services for patients. It should however be noted that the estimates reflected in this costing cover only about 60% of the need. Furthermore, the government of Uganda funds not more than 40% of this category, resulting in a huge funding gap for this item.

2) Resource allocation criteria

The resources were allocated to the respective interventions, based on the program needs, which included among others:

i) Need to create awareness and sensitization in the general population and among health workers

ii) Develop adequate infrastructure for the service delivery

iii) Provide the necessary medical and health supplies to the patients in care.

The cost category with the most significant allocations is the Medicines and Supplies with 40%, followed by the program support interventions with 14%, human resources at 13%, and the awareness interventions with 12%. The allocations reflect the trend in programming mode, as the programs are rapidly scaling up to meet the growing needs.

Resources for children and adolescent cancer control

Using the Activity Based Costing approach, the various interventions and activities for the children and adolescent cancers were costed and this was estimated to require US 12.8 million. This would grow from US $ 2.57 million in the year 2025/26 with a peak of US $ 3.16m and US $ 2.01 million in the year 2029/30.

The thematic area of Cancer surveillance and research had the largest allocation accounting for 21% followed by Health Promotion with 19% and followed by Diagnosis and treatment with 18%. The table below shows the summary of the resource estimates for the children and adolescent cancer control programs.

3) Funding for the pillars

The financing of this plan will be contributed to by the GoU, Support from the Development Partners and from the household, and Out-of-pocket contributions. Funding for the implementation of this plan, will be directed towards the various pillars. It is hoped that some of the primary care costs for cancer services will be covered in the proposed Uganda National Health Insurance Scheme. Measures to cut cost of care, such as adapting efficient procurement and disposal systems and processes to facilitate acquisition and disposal of cancer drugs, supplies and medical devices and reduce stock outs for cancer drugs and supplies, will be implemented. A funding analysis developed showed that the projected resource estimates by far, outstrip the projected inflow, thus calling for the need to mobilize additional resources for the cancer program.

Table 20: Funding gap analysis for the National Cancer Control Plan

	2025/26	2026/27	2027/28	2028/29	2029/30	Totals
	US $ '000'					
Resource estimates	29,960.21	32,090.50	40,687.90	36,963.63	43,629.77	183,332.02
Projected funds						
GoU	8,301	8,716	9,152	9,427	9,710	45,307
External sources	12,200	12,322	12,445	12,570	12,695	62,232
						-
	20,501	21,038	21,597	21,997	22,405	107,539
TOTALS	9,459.21	11,052.50	19,090.90	14,966.63	21,224.77	75,793.02

Currently, it is estimated that funding from the GoU stands at about 25% of the Cancer needs in the country, while the development partners are providing about 35 %, which leaves a funding gap of approximately 40 %. There is need for innovations, geared towards reducing the funding challenges.

a) There is need for further advocacy for the GoU to increase it allocations to the Human Capital Developments program, where resources for the Cancer programs are drawn.

b) There is need for further engagements with the development partners for funding, particularly for the infrastructure projects and the human capital development, as the country sets out to establish and equip the specialized cancer treatment Centres.

c) To further increase access to the services, and reducing financial barriers, the GoU is in advanced stages of introducing a National Health Insurance Scheme, which is both a social protection, and an additional resource mobilization scheme.

d) Lastly, a program-based approach of financing, provides opportunities to leverage on the resources in other programmes other than the Human Capital Development Programme during implementation of cancer control interventions. While household contributions in form of out-of-pocket expenditure are a potentially significant source of financing, it is not equitable and can be impoverishing to some households. This has not been factored into the financing mechanisms.

Harnessing these contributions through pooling mechanisms under a national health insurance or other prepayment schemes, is recommended.

Table 21: Performance framework for the Uganda Cancer Control Program

Specific Objectives	Specific Indicator	Baseline indicator	Mid-term targets (End of 2023)	End-term targets (End of 2025)	Stakeholder
1.1 To increase coverage of vaccination against vaccine-preventable cancer-causing viruses (HPV and Hepatitis)	Percentage of 10-year-old girls fully vaccinated against the HPV	23% (2nd dose (MOH)	Achieve 40%	Achieve 60%	-UNEPI -GAVI -UNICEF
	HBV vaccination coverage among the most at-risk adults	8% (MOH, 2017	Achieve 40% vaccination	Achieve 60%	-MoES
1.2 To increase awareness of cancer risk factors and care	Percentage of the public with the correct knowledge of cancer risk factors	20% (Mayuge survey, 2017)	Achieve 30% coverage	Achieve 35%	-CSOs
	The proportion of health facilities displaying cancer awareness materials (IECs)	5%	15% of health centers with IECs	25% of health centers with IECs	CSOs
1.3 To reduce tobacco use and exposure to second-hand smoke	Prevalence of current tobacco use among adolescents disaggregated by gender.	Boys 19.3%	Boys 16%	Boys 15.44%	Mak.SPH-CTCA
		Girls 15.8%	Girls 13%	Girls 12.64%	Mak.SPH-CTCA
	Prevalence of current tobacco use among adults	8.3% (NCD STEPS Survey 2023)	7%	6%	Mak.SPH-CTCA
1.4 To reduce alcohol consumption in the population.	Prevalence of any form of alcohol consumption	31.1% (MoH NCD survey, 2014)	28%	26%	UAPA UCS
	Percentage of people with the correct knowledge of alcohol-related risk		30	60	
	Age-standardized prevalence of heavy episodic drinking among adolescents and adults disaggregated by gender				
1.5 To promote physical activity in the population.	Proportion of the population engaged in sufficient physical activity	TBD	5% increase	10% increase	MoH, WHO, , CSOs,
1.6 To promote the consumption of a healthy diet.	Prevalence of overweight in adolescents				MoH, MAAIF, WHO, , CSOs,

Specific Objectives	Specific Indicator	Baseline indicator	Mid-term targets (End of 2023)	End-term targets (End of 2025)	Stakeholder
	Percentage of adults consuming vegetables and fruits disaggregated by gender and location (urban and rural)				-UMA
1.7 To minimize exposure to known environmental and occupational cancer-causing agents	Percentage of workplaces implementing occupational safety and health guidelines	OSH data from MoLGSD	25% workplaces complying	50% of workplaces complying	MoGLSD NEMA MWE NWSC AEC
1.9 To promote cancer prevention among people living with HIV, Albinism and Refugees.	Proportion of people living with HIV, Albinism and Refugees reached at least once	5%	10%	20%	Civil society, UAC, UACP, HIV Care Organisation, UNHCR
2.1 To increase coverage of cervical, breast, prostate and colorectal cancer screening services	The proportion of patients presenting with advanced cervical, breast, and prostate cancer on diagnosis	80%	65%	40%	MoH, WHO, Public and private health facilities, CSOs, development partners.
	Number of health facilities (Government and private) providing cancer early detection services	Not known	20% increase from the baseline	25% increase from the baseline	
2.3 To increase rate of early detection of childhood cancers	The proportion of children presenting with advance cancers	65%	35%	32.50%	SIOP, WHO, UCI, development partners, CSOs, etc.
2.5 To build human resource capacity for cancer early detection services in Uganda	Number of health workers trained for early detection	488	900	1000	Ministry of Local Govt, Inter Religious Council of Uganda, MoH, UCI, Cultural Institutions, etc.
	Number of local government and community leaders sensitized to support cancer early detection services	300	1000	2000	
	State of the art cancer early detection center established	0	1	1	Govt of Uganda (MoH, OPM,

Specific Objectives	Specific Indicator	Baseline indicator	Mid-term targets (End of 2023)	End-term targets (End of 2025)	Stakeholder
2.7 To strengthen the coordination of cancer early detection services in Uganda	Number of health facilities (gov't and non gov't) implementing cancer early detection and referral guidelines	TBD	20% increase from the baseline	25% increase from the baseline	Presidents office), development partners, CSO
3.1 Establish comprehensive cancer diagnosis and staging services	Number of cancer specialists trained	15	60	100	MoH, WHO, , CSOs,
	A state-of-the-art comprehensive national cancer reference laboratory established				
4.1 To integrate palliative care services in cancer care and treatment.	Number of palliative care specialists trained		25	An additional 30 specialists	MoH, WHO, , CSOs,
	Number of general Health workers trained in palliative care services (pre/in-service training)	No data	20%	25% increase from the baseline	
5.1 To increase access to rehabilitation services.	Number of patients accessing assistive devices and prostheses				MoH, WHO, , CSOs,
6.1 To develop a National Cancer Registry network	National Cancer Registry developed		1	1	MoH, WHO, , CSOs, KCR.UCI.GCR, MCR
6.4 To develop a national framework for cancer research	Number of implementation research conducted		10	15	AfPCA, PCA, UCS, UCI, MOH
	Number of articles published on cancer				
	National cancer research agenda developed				
7.1. To scale up cancer advocacy activities	Training course in cancer control advocacy				UCS, UCI,MoH
	National cancer symposium developed				UCI MOH UNCST
	Teams of cancer champions formed				UCS

Table 22: National Cancer Control Plan: Annualized Results Matrix.

	Indicator	Base line	Targets					Measurement technique/ data sources
			Y1	Y2	Y3	Y4	Y5	
Goal and Strategic Objective level/Outcome indicators and targets								
Goal: To reduce morbidity and mortality attributable to cancer and to improve the quality of life of patients and their families.								
Strategic Objectives 1: To promote cancer prevention, early detection, curative and palliative interventions in the national health and development agenda.								
Strategic Objective 2: To take preventive measures to eliminate the infiltration of substandard/counterfeit cancer medicines and supplies.								
Strategic Objective 3: To promote community involvement and participation in cancer control and prevention.								
Strategic Objective 4:								

To promote partnership and collaboration in cancer control.								
Strategic Objective 5: To promote cancer surveillance and research to support national planning and implementation of cancer control interventions.								
Strategic Objective 6: To improve the quality of lives and productivity of survivors.								
Strategic Objective 7: To develop human resources capacity for cancer care.								
Strategic Objective 8: To coordinate interventions across implementing stakeholders.								
Specific Objectives and Specific Interventions /Output level Indicators								
Pillar 1: Health Promotion and Prevention								
1.1 To reduce modifiable cancer risk factors.								
1.2 To increase coverage of vaccination against vaccine-preventable cancer-causing viruses (HPV and Hepatitis).	1.2.1 Percentage of 10-year-old girls vaccinated against the HPV vaccine							UNEPI
	1.2.2 HBV vaccination coverage among the most at-risk adults							
	1.2.3 Vaccination coverage against HBV monitored by the number of 3rd doses administered to infants							
1.3 To increase awareness of cancer risk factors and care.	-KAP baseline study conducted							
	-Information and Communication strategy developed and adopted							
	-Number of national dialogues conducted							

	1.3.1 Number of community dialogues conducted at the district level							
	1.3.2 Percentage of the public with the correct knowledge of cancer risk factors							
	1.3.3 Number of health workers trained on cancer prevention (avoidance & risk reduction)							
	1.3.4 Number of active VHTs/ CHEWs trained							
	1.3.5 Proportion of health facilities displaying cancer awareness materials (IECs)							
1.4 To reduce Tobacco use and exposure to second-hand smoke.	1.4.1 Prevalence of current tobacco use among adolescents disaggregated by gender							
	1.4.2 Age-standardized prevalence of current tobacco use among persons aged 18 years and above.							
1.5 To reduce alcohol consumption in the population.	1.5.1 Prevalence of any form of alcohol consumption							
	1.5.2 Prevalence of high-end alcohol consumption							
	1.5.3 Percentage of people with the correct knowledge of alcohol-related risk							
	1.5.4 Total alcohol per capita consumption within a calendar year in liters of alcohol for those aged 15 years and above disaggregated by gender							
	1.5.5 Age-standardized prevalence of heavy episodic drinking among							

	adolescents and adults disaggregated by gender							
1.6 To promote physical activity in the population.	1.6.1 Percentage of workplaces with facilities for physical activities							
	1.6.2 Percentage of schools implementing regular physical activities							
	1.6.3 Guidelines of physical activities disseminated							
	1.6.4 Proportion of general public engaging in any form of physical activity.							
	1.6.5 Prevalence of insufficiently physically active adults defined as less than 30 and 60minutes of moderate to vigorous-intensity activity daily respectively							
	1.6.6 Age-standardized prevalence of insufficiently physically active persons aged 18 years and above (Defined as less than 150 minutes of moderate-intensity per week or equivalent)							
	1.6.7 Proportion of physically inactive adolescents							
	1.6.8 Age-standardized prevalence of insufficiently physically active persons aged 18 years and above (Defined as less than 150 minutes of moderate-intensity per week or equivalent)							
1.7 To promote the consumption of a healthy diet.	1.7.1 Prevalence of overweight in adolescents							

	1.7.2 Prevalence of obesity in adolescents							
	1.7.3 Prevalence of obesity in 18 years and above							
	1.7.4 Prevalence of overweight in persons aged 18 years and above							
	1.7.5 Proportion of schools that have policies that regulate food consumed within the school							
	1.7.6 Regulations on food importation, processing, and manufacturing production							
	1.7.7 Proportion of individuals consuming at least 5 servings of fruits and vegetables per day							
	1.7.8 Percentage of adults consuming vegetables and fruits disaggregated by gender and location (urban and rural)							
	1.7.9 Percentage of children below 2 years with minimum acceptable dietary diversity score.							
	1.7.10 Number of national policy frameworks (guidelines, strategies, and standards) developed to regulate the consumption of saturated fatty acids and trans-fats.							
1.8 To minimize exposure to known environmental and occupational cancer-causing agents.	1.8.1 Percentage of workplaces implementing occupational safety and health guidelines							

	1.8.2 Advocacy for increase in budget allocation to primary prevention interventions.							
	1.8.3 Guidelines on management and disposal of cytotoxic waste developed and adopted.							
	1.8.4 Advocacy interventions on management of electronic waste.							
Pillar 2: Early Detection								
2.1 To reduce the proportion of patients presenting with advanced cancer	2.1.1 Proportion of patients presenting with advanced cervical, breast, and prostate cancer at diagnosis							
	2.1.2 Proportion of children presenting with advanced cancers							
2.2 To develop and implement national interventions for cancer screening and early diagnosis.	2.2.1 National cervical cancer elimination plan developed							
	2.2.2 National breast health guidelines developed.							
	2.2.3 National prostate health guidelines developed.							
	2.2.4 National guidelines for cancer early detection in adults developed							
	2.2.5 National guidelines for cancer early detection in children developed							
	2.2.6 Number of health facilities (government and private) providing cancer early detection services							
2.3 To build human resource capacity for cancer early detection services in Uganda.	2.3.1 Number of health workers trained for early detection							
	2.3.2 Number of local government and community leaders sensitized to support cancer early detection services							

2.4 To strengthen the coordination of cancer early detection services in Uganda.	2.3.3 State of the art cancer early detection center established							
	2.4.1 Number of health facilities (gov't and non gov't) implementing cancer referral guidelines							
	2.4.2 Referral mechanisms established							
	2.4.3 Desk for coordinating cancer early detection services							
Pillar 3: Diagnosis and Treatment								
3.1 To improve access to accurate cancer diagnosis and effective treatment.	3.1.1 Number of cancer specialists trained							
	3.1.2 A state of the art comprehensive national cancer reference laboratory established							
	3.1.3 Pathology and analytical laboratories established in all regional cancer centers							
	3.1.4 Number of laboratory personnel trained to collect, process, and transfer samples to regional cancer centers for analysis							
	3.1.5 State of the art radiology and nuclear imaging services established at UCI							
	3.1.6 Basic imaging diagnostic services established at the regional cancer center							
3.2 Establish state of the art diagnostic services and capabilities in Uganda to enable accurate diagnosis of cancers.	3.2.1 Regional cancer center established 3.2.2 A counterfeit proof procurement policy to guide acquisition of genuine medical supplies.							

3.3 Establish an efficient procurement system to reduce stock-outs for cancer drugs, supplies, and medical devices	3.3.1 A cancer essential drug list developed and included in the national drug list							
	3.3.2 Regulations for the UCI Act developed with a strong component on the procurement of cancer drugs and medical devices							
3.4 Standardize cancer care and treatment in Uganda.	3.4.1 multi-disciplinary working groups in the country established							
	3.4.2 Cancer care and treatment guidelines revised.							
	3.4.3 Pediatric cancer care and treatment guidelines developed							
Pillar 4: Palliative Care								
4.1 To improve the quality of life of cancer patients and their families by increasing access to palliative care services to all in need.	4.1.1 National palliative care policy adopted.							
	4.1.2 Essential palliative care package adopted							
4.2 To integrate palliative care services in cancer care and treatment	4.2.1 Number of palliative care departments established at regional cancer centers							
	4.2.2 Palliative care department established at UCI							
	4.2.3 Palliative care units established at regional Referral hospitals							
	4.2.4 Palliative care teams established at district Hospitals							
4.3 To develop human resource capacity for palliative care provision to cancer patients.	4.3.1 Palliative care specialists added to the health professionals Act							
	4.3.2 Number of palliative care specialists trained							
	4.3.3 Number of palliative care specialists deployed							

	4.3.4 Number of general Health workers trained in palliative care services (pre/in-service training)							
	4.3.5 Number of basic community health workers trained in palliative care provision							
	4.3.6 Structure of palliative care service providers and specialists established in the formal public structure							
4.4 To increase the availability of palliative care medicines, technologies, and patient support devices across the country.	4.4.1 Per capital morphine consumption							
	4.4.2 Number of patients with access to patient support devices							
	4.4.3 Availability of essential medicines for palliative care							
4.5 To establish palliative care programs and linkages from home to tertiary health care facilities with clear linkages	4.5.1 Home-based palliative care programs established at each district							
	4.5.2 Number of linkages between public and private service providers established							
Pillar 5: Cancer Survivorship								
5.1 To improve the quality of life of cancer survivors and their families by creating a supportive environment.	5.1.1 Quality of life of cancer survivors' status.							
	5.1.2 Cancer survivorship program established							
5.2 To increase access to rehabilitation services.	5.2.1 Number of factories manufacturing prostheses							
	5.2.2 Number of patients accessing assistive devices and prostheses							
	5.2.3 Number of occupational centers established							
	5.3.1 Number of SACCOS established for cancer survivors							

5.3 Establish economically viable initiatives to support cancer survivors to meaningfully integrate into society	5.3.2 Number of survivors skilled in business management							
5.4 To integrate cancer survivorship services into existing cancer care services.	5.4.1 Number of Health care workers trained on survivorship							
	5.4.2 Survivorship directorate established							
	5.4.3 National survivorship program established							
	5.4.4 National cancer survivorship steering committee							
5.5 Communication, education, and training of the public, survivors, and health care providers about survivorship programs.	5.5.1 Number of sensitization sessions for the public and policymakers conducted.							
	5.5.2 Number of survivors trained on survivorship and advocacy							
	5.5.3 National cancer survivor's database established							
	5.5.4 National cancer survivorship plan established							
5.6 To construct patient hostels at national and regional cancer centers	5.6.1 Patient hostels constructed at National and regional cancer centers.							
Pillar 6: Cancer Surveillance and Research								
6.1 To improve cancer care and clinical outcomes through promotion and support of efficient and effective cancer surveillance and research	6.1.1 National Cancer Research Agenda developed.							
6.2 To develop a national cancer registry network.	6.2.1 National cancer registration network developed							
6.3 To establish more population-based cancer registries	6.3.1 Population cancer registries established							
	6.3.2 Percentage of the population covered by cancer registry							

6.4 To improve the inclusion and use of cancer-related data in the national Health Management Information Systems (HMIS).	6.4.1 Number of cancer risk factors captured in the HMIS tools							
	6.4.2 Number of cancers reported in the HMIS							
6.5 To develop a national framework for cancer research.	6.5.1 National cancer research agenda developed							
Pillar 7: Policy and Advocacy								
7.1 To improve and streamline advocacy networks and coordination structures for effective intervention against cancer.								
7.2 To scale up cancer advocacy activities in Uganda	7.2.1 Number of advocates trained							
	7.2.2 Advocacy and Communication strategy developed							
	7.2.3 Teams of cancer champions formed							
	7.2.4 Training course in cancer control advocacy							
	7.2.5 Budget allocation to support cancer policy development and implementation							
	7.2.6 Media coverage of cancer control activities							
	7.2.7 Number of influential groups and individuals reached by advocacy							
	7.2.8 National Cancer symposium conducted							
7.3 Strengthen implementation of National Cancer Control Plan	7.3.1 Training of UCI key staff on NCCP provisions							
	7.3.2 Establishment of NCC committee							
	7.3.3 National cancer control program established							
7.4 Develop a National Cancer Control Policy	7.4.1 National Cancer Control policy developed							

Pillar 8: Cancer Control in Children & adolescents								
Pillar 9: Cancer control in special interest populations								

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