REPUBLIQUE DU CAMEROUN
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MINISTERE DE LA SANTE PUBLIQUE

REPUBLIC OF CAMEROON
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MINISTRY OF PUBLIC HEALTH

National Strategic Plan for Prevention and Cancer Control

2020 - 2024

June 2020

World Health Organization
CLINTON HEALTH ACCESS INITIATIVE
UNFPA
IAEA International Atomic Energy Agency

CONTENT

ACRONYMS AND ABBREVIATIONS

AR: Attributable risk
AWP: Annual Working Plan
BRCA: Breast Cancer Antigen
BSE: Breast Self-Examination
CBCHS: Cameroon Baptist Convention Health Services
CBE: Clinical Breast Examination
CDC: Centers for Disease Control and Prevention
CENAME: National Central Supply of Essential Drugs
CHAI: Clinton Health Access Initiative
CIRCB: Chantal BIYA International Research Center
CPC: Centre Pasteur of Cameroon
CSO: Civil Society Organization
DH: District Hospital
DHIS: District Health Information Software
DLMEP: Department of Disease Control, Epidemics and Pandemics
EPI: Expanded Programme on Immunization
GES: Growth and Employment Strategy
GLOBOCAN: Global Burden of Cancer
HBV: Hepatitis B virus
HCC: Hepatocellular Carcinoma
HCV: Hepatitis C Virus
HF: Health Facility
HSS: Health Sector Strategy
HPV: Human Papilloma Virus
IAEA: International Atomic Energy Agency
IARC: International Agency for research on Cancer
IEC: Information, Education and Communication
IHC: Integrated Health Center
LEEP: Loop Electro Surgical Excision
MAR: Monthly Activity Report
M&E: Monitoring and Evaluation
MHC: Medicalized Health Center
MINAS: Ministry of Social Affairs
MINDDEVEL: Ministry of Decentralization and Local Development
MINEDUB: Ministry of Basic Education
MINEPAT: Ministry of the Economy, Planning and Regional Development
MINESEC: Ministry of Secondary Education
MINESUP: Ministry of Higher Education
MINFI: Ministry of Finance
MINPOSTEL: Ministry of Posts and Telecommunications
MINPROFF: Ministry of Women's Empowerment and the Family
MINRESI: Ministry of Scientific Research and Innovation
MOH: Ministry of Public Health
MRI: Magnetic Resonance Imaging
NACFAC: National Committee for the Fight against Cancer
NCaI: National Institute of Cancerology
NCD: Non Communicable Diseases
NGO: Non-Governmental Organization
NPHO: National Public Health Observatory
NSPPCaC: National Strategic Plan for Prevention and Cancer Control
PCCHS: Presbyterian Church in Cameroon Health services
PHC: Primary Health Care
PLANUT: Triennale Emergency Plan
PSA: Prostate Specific Antigen
PSEDCs: Permanent Screening and Early Diagnosis Centers
RH: Regional Hospital
SDG: Sustainable Development Goals
UNDP: United Nations Development Program
UNESCO: United Nations Educational, Scientific and Cultural Organization
UNFPA: United Nations Population Fund
UNICEF: United Nations International Children's Emergency Fund
USAID: United States Agency for International development
VIA: Visual Inspection with Acetic Acid
VILI: Visual Inspection with Lugol Iodine
WHO: World Health Organization

TABLE OF ILLUSTRATIONS

PREFACE

The Government of Cameroon, under the distinguished leadership of the President of the Republic, is committed to ensuring that all its citizens have equitable access to health care services while guaranteeing their financial security. This commitment is particularly highlighted by in the actions that are being taken to roll out universal health coverage, which also contains robust measures to support the prevention and management of chronic non transmissible diseases in Cameroon. This targeted action is particularly important now that our country is experiencing a significant increase in the prevalence of chronic non-transmissible diseases, including cancers which affects an average of 15,700 people, causing about 10 533 deaths each year

Cognizant of the need to effectively fight this disease, whose management is both complex and expensive, the government created the National Committee for the Fight against Cancer in 1990, which was subsequently reorganized in 2002. The overall objective of the committee is to reduce morbidity and mortality due to cancers in Cameroon.

However, despite remarkable efforts made in prevention, diagnosis and management, cancer-related morbidity and mortality remain unacceptably high. This high burden is primarily due to delay in diagnosis and challenges in the management of cancer patients. In order to reverse this dramatic trend, it is necessary to reevaluate and align our ambitions with the 2016-2027 Health Sector Strategy and international standards, to mobilize the necessary expertise and resources, to intensify cancer control efforts in Cameroon.

It is in this context that we developed the 2020-2024 National Strategic Plan for Prevention and Control of Cancer in Cameroon. Its overall mission is to ensure holistic and optimal management of cancers in Cameroon, in line with the vision of the government, "... that of an emerging Cameroon by 2035".

The main focus areas of the plan are : (i) health promotion by encouraging physical activity, healthy eating, and raising awareness on cancer in the population; (ii) strengthening primary and secondary prevention by intensifying the fight against sexually transmitted infections, vaccination, screening and early diagnosis; (iii) improving care by ameliorating the technical capacity of hospitals, creating a national cancer institute as well as decentralising cancer care and treatment; (iv) improving governance through better coordination and integration of interventions, development and pooling of resources as well as strengthening the information system and cancer research.

In addition, efforts will be made, in collaboration with relevant institutions, to minimize effect of known cancer risk factors, including tobacco use, alcoholism, environmental pollution, ionizing radiation, certain cosmetics, household detergents and food additives. Efforts will also be made to improve the quality of life of cancer patients via improvement in palliative care across the national territory.

These are the perspectives outlined in this plan. It is important to highlight that the fight against cancer is a collective responsibility. This is because we all are, and may continue to be, affected by cancer either directly or indirectly in our personal, family, social and professional lives, or because we want to reduce our risk of developing cancer.

I therefore appeal to all stakeholders, including coordination and management structures, central administrations, decentralised bodies, technical and financial partners, civil society organizations, community actors, opinion leaders, academics and researchers amongst others, to joint these efforts in the fight against cancer for the well-being of populations, in fairness and equity in the humanisation of care.

The Minister of Public Health

LE MINISTRE
The Minister
Ministry of Public Health
MINISTERE DE LA SANTE PUBLIQUE

MALACHIE

SUMMARY

Cancer is a public health concern in Cameroon with more than 15,700 new cases diagnosed annually, according to WHO. Cancer mortality is 10,533 deaths per year with an incidence mortality ratio greater than 65%. Adults remain the most affected population with 15,262 new cases in persons aged over 15 years. The most common cancers in adults are breast, cervical and prostate cancers.

Cancer affects 1 to 2% of children. The most frequent pediatric cancers are lymphomas, acute leukemias, nephroblastomas, neuroblastomas and retinoblastomas. About 90% of patients arrive the treatment centres at advanced stages of the disease. The treatment drop-out rate is estimated at 20%, and 30% of patients die after initiation of treatment.

As in most developing countries, many challenges affect cancer management: the limited human resource capacity, the inaccessibility of anti-cancer drugs, the high cost of treatments, inadequate platforms as well as old infrastructure.

The objective of this strategic plan is to reduce morbidity and mortality due to cancer by at least 10% in Cameroon. It presents the priority strategies and action plan over the next five years.

These actions are grouped into three strategic components: **primary prevention**, whose objective is to reduce the incidence of cancers. It involves intenifying the actions already undertaken by the NACFAC, namely raising awareness through information and health education programs in order to encourage behavior changes. Free vaccination against Human Papilloma Virus (HPV) and Hepatitis B virus (HBV) will also be introduced nationwide in the Expanded Program on Immunization (EPI). Children born to mothers who are infected with HBV will receive the appropriate vaccine at birth. With regards to **secondary prevention**, emphasis will be laid on screening; interventions will include the screening and early diagnosis of cervical cancer by Visual Inspection with Acetic Acid and Lugol Iodine (VIA/VILI). Concerning case management, it will involve the upgrading of existing treatment centers and the establishment of the National Cancer Institute (NCaI) which will be the center of excellence for multidisciplinary management of cancers according to international standards. This Institute will also be a platform for the development of human resources and research in cancer. This plan also considers the basics of **tertiary prevention**, psychosocial support and palliative care.

Ultimately, this national strategic plan for cancer prevention and control is in line with the 2016-2027 Health Sector Strategy that prioritizes the control of cancers. We have reason to believe that within five years, cancer morbidity and mortality will be significantly reduced.

KEY WORDS: Strategic plan – Prevention – Fight – Cancer – Health.

INTRODUCTION

Chronic non-communicable diseases are considered a public health concern of global importance, given their increasing burden. However, developing countries are mostly affected, with more than 85% of "premature deaths" as a result of these diseases[1]. Cameroon, like other developing countries, is experiencing a dramatic increase in the burden of non-communicable diseases, including cancer. Cancer is one of the most common causes of morbidity and mortality today. Each year, more than 10 million new cases and more than 6 million deaths are registered worldwide. Cancer is diagnosed in more than 20 million people and more than half of the cases are seen in developing countries. It is responsible for about 20% of deaths in industrialized countries and 5-10% of deaths in developing countries (WHO, 2012). According to Global Burden of Cancer (GLOBOCAN) statistics, the number of new cancer cases in Cameroon in 2018 is estimated at 15,769.

In response to this, the Cameroon Ministry of Public Health established a cancer control strategy in 1990 which was latter reorganized in 2002 as National Committee for the Fight Against Cancer. However, the current state of cancer management is limited to the overwhelmed medical oncology services in Yaounde (HGY) and Douala (HGD), some private institutions (Mbingo Baptist Hospital, etc ...), including the radiotherapy services in HGD and the Cameroon Oncology Centre. In addition, there is limited access to anticancer drugs, insufficient cancer specialists, old dilapidated infrastructure, poor maintenance of equipment as well as inadequate funding for implementation of target interventions.

In order to address these gaps, this strategic plan has been developed with the help of national and international multidisciplinary expertise. It is based on an analysis of the socio-political and economic context, considering the current state of cancer control, to propose strategic interventions and key indicators. Its goal is to reduce the morbidity and mortality of cancer, by making a holistic approach effective. The main interventions of this plan are focused on (i) health promotion, notably through the promotion of physical activity, food hygiene and cancer awareness; (ii) strengthening primary and secondary prevention, by intensifying the control of sexually transmitted infections, vaccination, screening and early diagnosis; (iii) improving care by raising the platform of tertiary hospitals, the creation of a national cancer institute and decentralization of care; (iv) improving governance through better coordination and integration of interventions, mobilising resources and strengthening information and research. Furthermore, efforts will be made in collaboration with the institutions concerned to minimize the health risks posed by ionizing radiation, some cosmetic products, household detergents and food additives, which are increasingly implicated in the development of cancers. These will improve the

[1] https://www.who.int/fr/news-room/fact-sheets/detail/noncommunicable-diseases, 1st June 2018.

quality of life of affected patients and strengthen advocacy for mobilization of stakeholders and resources for appropriate management of cancers.

1. BACKGROUND

1.1 Geographical and Cultural Context

Cameroon, is a Central African Country, with a surface area of 475,650 km^2. It is bounded to the west by Nigeria, to the south by Congo, Gabon and Equatorial Guinea, to the east by the Central African Republic and to the northeast by Chad.

The country is known for its geographical diversity. The Centre, East, Littoral, South and South-West regions have a hot and humid climate with abundant rainfall. The western highlands (West and North-West regions) are an area of savannah and volcanic land suitable for agriculture. The Sudano-Sahelian North (Adamawa, North and Far North regions) is a savannah and plain zone characterized by a hot and dry tropical climate and diminishing precipitation as one gets closer to Lake Chad.

Due to its geographical position, located at the crossroads of the Sudanese, Peuhl and Bantu peoples, the country has nearly 250 ethnic groups divided into five major cultural groups:

- the people of the semi-arid regions of the Far North, of Sudanese type, Hamites and Semites, generally Muslims, Christians or animists;
- the people of the western plateaux (West and North-West regions) of semi-Bantu type, generally Christian or animist;
- the people of the coastal tropical forests (Littoral, South-West regions and coast of the South region), of Bantu type, most often Christians and animists;
- the people of the southern equatorial rainforest (Centre, South and East regions), of Bantu type on the one hand, generally Christians and animists, and on the other hand of the semi-Bantu type, Sudanese or pygmies, mainly animists or Christians.
- the Kirdi in the desert of the North and central lands

1.2 Political and Administrative Organization

Cameroon is a unitary, decentralized and democratic state, with a presidential regime. The 1996 Constitution defines the three forms of government: **the Executive**, presided by the President of the Republic, **the Legislative**, supervised by the National Assembly and Senate, and finally **the Judiciary**, overseen by different jurisdictions, the highest of which is the Supreme Court. The constitution also provides for the decentralization of public management with the creation of regional and local authorities.

Administratively, Cameroon is bilingual with English and French as official languages. It has 10 regions, 58 divisions & 360 subdivisions, equivalent to the existing municipalities.

1.3 Economic and Social Context

Macroeconomic Situation

In 2018, Cameroon's gross domestic product (GDP) was estimated at FCFA 15 846 billion with an annual growth rate of 5.9% and an inflation rate of 1.9%. Current projections place the average annual growth rate at 6.3% between 2015 and 2017[2] [3].

In December 2014, following the initiative of the President of the Republic, the Government adopted the "Triennial Emergency Plan" (PLANUT) for growth acceleration". The budget allocated to this plan was FCFA 925 billion. The health component of PLANUT has two essential constituents: (i) Infrastructural rehabilitation and upgrading the platforms of the General Hospitals (Douala & Yaounde) and the University of Yaounde Teaching Hospital - FCFA 30 billion; (ii) the construction and provision of equipment to all Regional Hospitals – FCFA 120 billion.

Demographic Situation

In 2018, the population of Cameroon was estimated at 24,863,337 inhabitants. The population growth rate was 2.6% between 2005 and 2010. At this rate, the population would reach 36 million inhabitants by 2035. This population is unevenly distributed over the country: the cities of Douala and Yaounde alone have about 20% of the national population. The most populated regions are the Centre (18.7%), Far North (18%), Littoral (15.1%) and North (11.0%). In 2010, 52% of the total population lived in urban areas, 43.6% were under the age of 15 and only 5.5% were people aged over 60.

Cameroon has not yet entered the demographic transition phase as fertility is still high. Such demographic growth results in a high dependency ratio (around 95%) and great pressure on basic social infrastructure and services such as education, health, access to energy and potable water, food security and land security[4].

Social Status

In 2014, about two out of five people (37.5%) lived below the poverty threshold, especially in rural areas (about 90%) and in northern regions (>52%)[5]. In 2010, 70% of the population was unnderemployed, involuntarily working less than the minimum weekly duration of 35 hours, or earned less than the hourly minimum wage. Furthermore, the net primary school enrollment rate (aged 6 to 11yrs) remained around 80% between 2005 and

[2] National Institute of Statistics. 2014 National Accounts.
[3] World Bank. Country/Cameroon. 2014. http://www.data.worldbank.org
[4] MINEPAT & UNFPA. *Étude sur les conditions du bénéfice du dividende démographique au Cameroun*. 2012
[5] World Health Organization- Country profiles for Non-Communicable Diseases (NCD), 2018. https://www.who.int/nmh/countries/cmr_fr.pdf

2010. The literacy rate for people aged 15 and above was estimated at 71% in 2010 (55 % among women).

Equity and Social Justice in Health

According to MINEPAT and UNDP estimates, life expectancy increased from 51.7 years in 2010 to 56.3 years in 2020. With a Human Development Index (HDI) of 0.512, Cameroon ranked 153 out of 188 countries assessed in 2014. However, the Inequality Adjusted Human Development Index (IHDI) increased slightly from 0.156 to 0.161. This increase indicates that there is an upsurge in inequalities in living standards, particularly in the areas of health, education and income.

Public health facilities are more accessible to the wealthiest: 14.5% for the poorest quintile compared to 25% for the richest quintile in 2007. Indeed, while the share of the wealthiest in access to the services of a medical doctor approached 43%, it was only about 3% for the poorest. In addition, there are disparities in geographical accessibility to care depending on the area of residence (between rural and urban areas). For example, only 46.7% of deliveries are attended by skilled personnel in rural areas, compared to 86.7% in urban areas.

Humanitarian and Security Context

The crisis in the North-West and South-West regions, terrorism and conflicts in the North of Nigeria and in the Central African Republic (CAR) respectively, have repercussions on the security of the people and the goods in the Regions of the Far North and East, thus hampering the provision of basic social services including health care. According to figures from humanitarian planning, as part of the process of developing the 2019 humanitarian response plan, the number of refugees from Nigeria and Central African Republic is estimated at 246,000 people, the number of internally displaced populations is 665,000 people, identified within the context of the humanitarian crisis in the Far North, North West and South West Regions. In addition, 92,000 Cameroonians who returned from Nigeria were identified as part of the Humanitarian Need Overview (HNO) 2019.

1.4 Organization of the Health sector

The health sector in Cameroon is structured into three levels forming a pyramid whose functional relationships are specified in the table 1. It has three sub-sectors namely public, private and confessional.

The law on decentralization of 22 July 2004 provides for the transfer of powers and resources to the local councils. In the health sector, decrees No. 2010/0246/PM of 26 February, 2010 and No. 2011/0004/PM of 13 January, 2011 specifies the role of councils typically with respect to building, equiping and managing Integrated Health Centers (IHC)

and Medicalized Health Centres (MHC). In addition, mayors will chair the management committees of District Hospitals (DH) and Medicalized Health Centres (MHC), while that of Regional Hospitals (RH) and Central Hospitals are entrusted to Government Delegates in urban cities.

It should be noted, however, that significant changes occured with Law No. 2019/024 of 19 December 2019 on the General Code of Regional and Local Authorities. In fact, in addition to the powers delegated to the councils, and in accordance with the mapping of health infrastructures and equipment, the management and maintenance of health facilities are now a responsibility of the Regions[6].

Tertiary health facilities include general and referral hospitals. Two of these hospitals, located in Douala and Yaounde, have cancer services, with the capacity of treating almost all tumor diseases. However, the radiotherapy department of the Yaounde General Hospital has been closed since 2012 due to exhaustion of the radioactive source. The Douala General Hospital could suffer the same fate if its radioactive source is not replaced by December 2020. In addition, there is a private radiotherapy center with a linear accelerator device, but the cost of the services remains inaccessible for a large majority of patients.

It should be noted that the country's only nuclear medicine department housed at the Yaounde General Hospital was closed in early 2019.

The medical oncology department of the Yaounde General Hospital receives more than 800 new patients every year. According to registers from outpatient and in-patient wards, only 50% of patients received started a course of chemotherapy. The total number of chemotherapy courses has been increasing over the years; from 3,061 in 2015, to over 4,000 in 2017. This corresponds to about 333 chemotherapies per month, or more than 15 sessions daily by a team made up of not more than 2 nurses daily. The protocols are prepared at bed side by the nurse who administers them; there are no specific protective measures for staff and patients, against the exposure to these cytotoxics.

[6] Law No. 2019/024 of 19 December 2019 on the General Code of Regional and Local Authorities

Table 1: Different levels of the health system

Level	Administrative structures	Skills	Health Structures	Dialogue structures
Central	Minister's Office, Office of the Secretary of State, General Secretariat, Departments and others ranking as such	-Development of concepts, policies and strategies - Coordination - Regulation	General Hospitals, University Teaching Hospitals, Central Hospitals and Others ranking as such , CENAME, CHRACERH CPC, LANACOME, CIRCB,ONSP	National Council of Health, Hygiene and Social Affairs
Intermediate	10 Regional delegations	Technical support to health districts	Regional hospitals and others ranking as such; Regional Funds for Health	Regional Funds for Health promotion
Peripheral	189 Health districts	Implementation of programs	- District Hospitals - Clinics; - MHC; - IHC.	District Health Committee; District Management Committee; Local Health Committees and local Management Comittees

Source : MOH. Conceptual framework of the health district completed from the decree organizing the Ministry of Public Health in 2013.

2. RATIONALE FOR THE NATIONAL CANCER CONTROL STRATEGY

2.1 Epidemiology of cancers in Cameroon

In Cameroon more than 15,700 new cases are diagnosed annually. Mortality is at 10,533 deaths per year with a mortality-to-incidence ratio greater than 65%[7,8]. This ratio remains higher than the 60% recorded a decade ago [9,10].

In terms of incidence, women are the most affected with 9,335 new cases every year, representing a standardized risk equal to 116.9 cases per 100,000 women compared to 100.5 per 100,000 men (incidence of 6,434 new cases every year). People aged 15 and over are the most affected with 15,262 new cases. About a fifth of all cases occur in patients over the age of 65. This is mainly prostate cancer in 1,251 of the 3,495 registered cases.

In terms of annual incidence, the five main cancers are: **breast cancer** (3,265 new cases), **cervical cancer** (2,349 new cases), **prostate cancer** (2,064 new cases), **liver cancer** (919 new cases) and **colorectal cancers** (832 new cases).

In Cameroon, 43% of the population is under the age of 15 years. **Pediatric cancers represent 1 to 2% of all cancers**. The number of incident cases expected annually is approximately 900 new cases. In 2018, the pediatric oncology service of the Mother and Child Center of the Chantal Biya Foundation in Yaounde recorded 150 new cases of cancer. This number of cases does not reflect the reality of the situation of pediatric cancers in Cameroon, because some patients do not arrive in Yaounde for various reasons (poverty, distance, lack of diagnosis ...). In this age group, malignant hemopathies represent 50% of the cancers diagnosed. Although 90% of cancers are curable, more than 80% of patients reach an advanced stage with a high fatality rate (40%).

The number of cancers continues to increase over time. The annual incidence was 12,000 cases in the year of writing of the first cancer control plan (in 2003), today it is 15,769 cases and is estimated at 27,726 cases in 2035. It will be an increase of over 75% in the current incidence if nothing is done[11].

In Cameroon, as in other developing countries, there is an epidemiological shift characterized by increased cases of non-communicable diseases such as cancer. Lifestyle modification (sedentary lifestyle, tobacco, and alcohol consumption ...), risky local eating habits (salting, smoking, fatty meals..), the persistence of infectious diseases involved in

[7] National Institute of Statistics. 2014 National Accounts.
[8] World Bank. Country/Cameroon. 2014. http://www.data.worldbank.org
[9] MINEPAT & UNDP, 2013. National Report on human development in Cameroon
[10] National Institute of Statistics. Fourth Camerounian Household Survey (ECAM III). 2014
[11] Cameroon, Globocan 2018 Source : http://gco.iarc.fr/today/data/factsheets/populations/120-cameroon-fact-sheets.pdf

carcinogenesis could explain this increase in the number of cancer cases. According to a WHO study, 31% of the causes of death are linked to non-communicable diseases[12].

According to the Yaounde cancer registry, the average age at diagnosis is 45.4 ± 1 for men and 44.7 ± 2 for women. Women are more affected with a proportion of 61,85%[13].

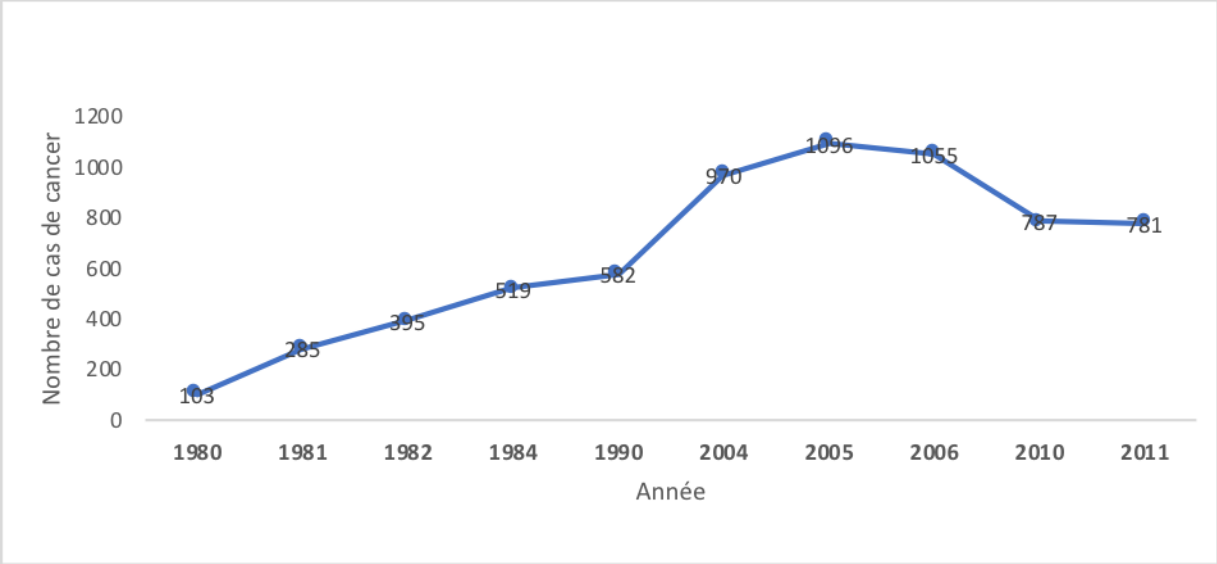

Figure 1: Evolution of the number of Cancer cases in Cameroon, 1980 to 2011

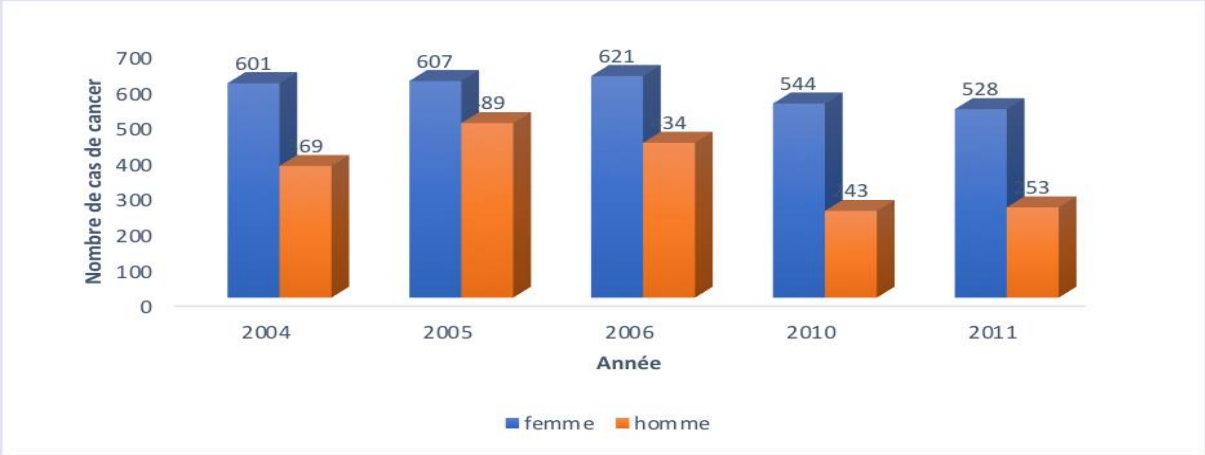

Figure 2: Distribution of cancer cases by sex in Cameroon 2004-2006:2010-2011

According to a hospital based study in the medical oncology service of the Yaounde General Hospital, delays in diagnosis are long, over 60% of the patients arrive at an advanced stage, and the treatment is expensive.

12 National Institute of Statistics. Fourth Cameroonian Household Survey (ECAM III). 2014
13 Ibid

Breast and cervical cancer are the two most common cancers. According to the figures collected in the District Health Information System (DHIS 2), the regions with the highest number of suspected cases of breast, cervical and prostate cancer are respectively the North-West, West and Centre. The national completion rate is 65%, and health facilities notify through Monthly Activity Reports (MAR) only cases suspected of the following primary locations: breast, cervix and prostate.

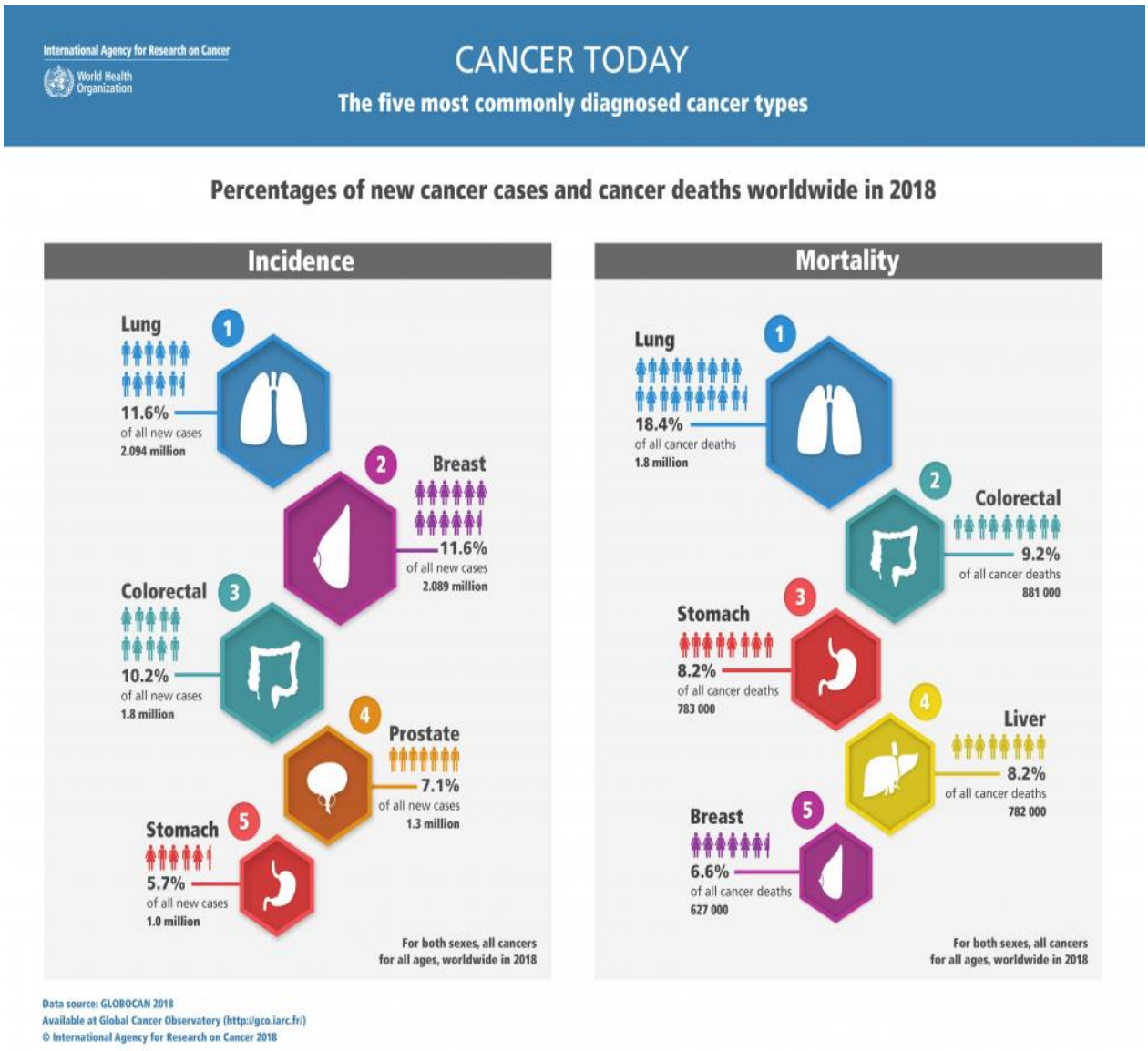

Figure 3: The five most diagnosed cancers in 2018 (Globocan 2018)

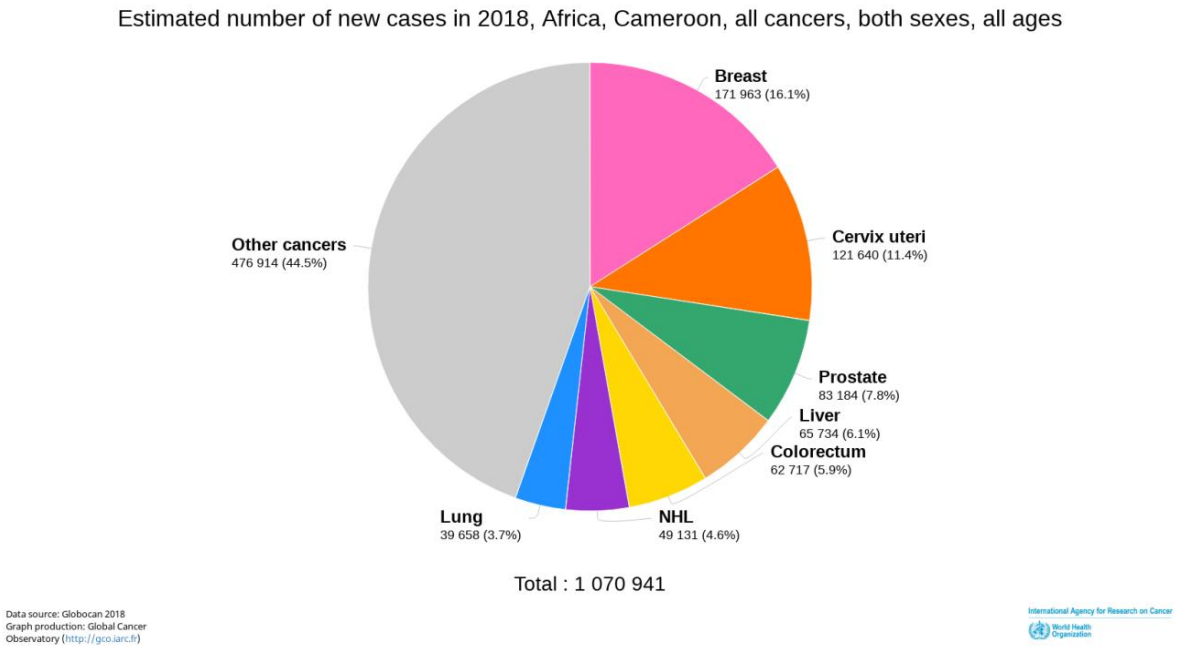

Figure 4: Dostribution of cancer cases according to primary site

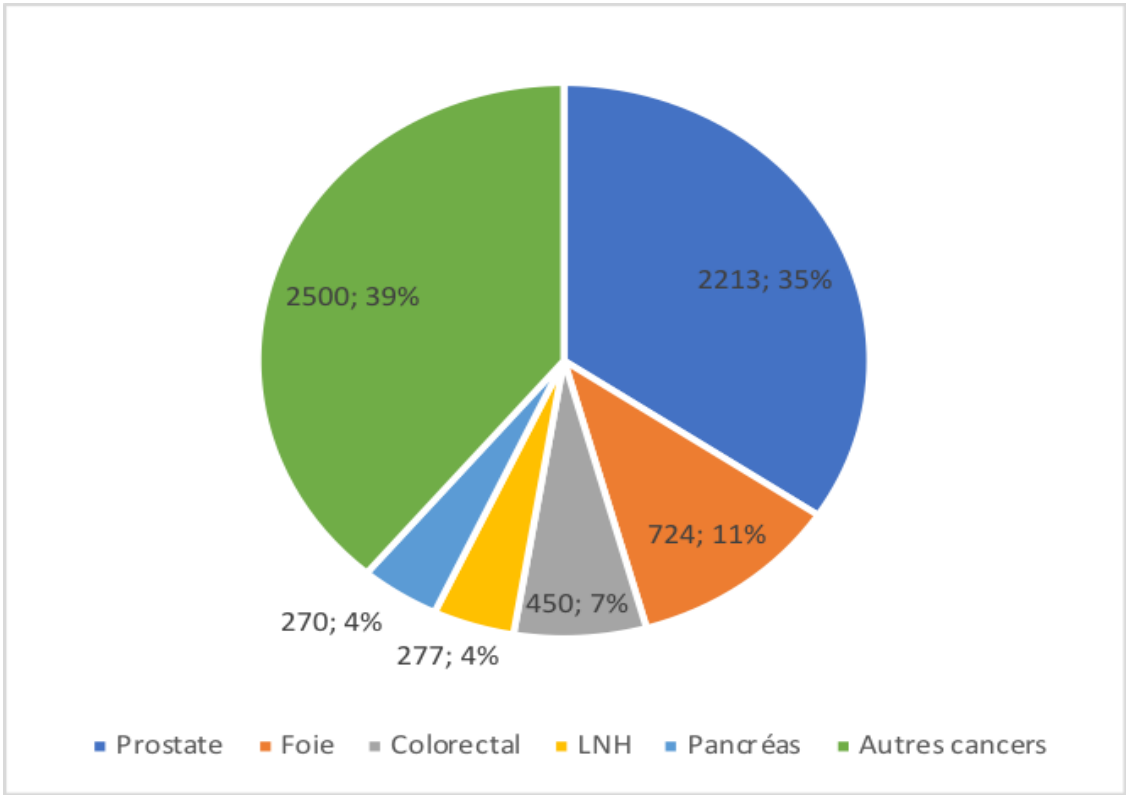

Figure 5: Most common cancers in men (Globocan 2018)

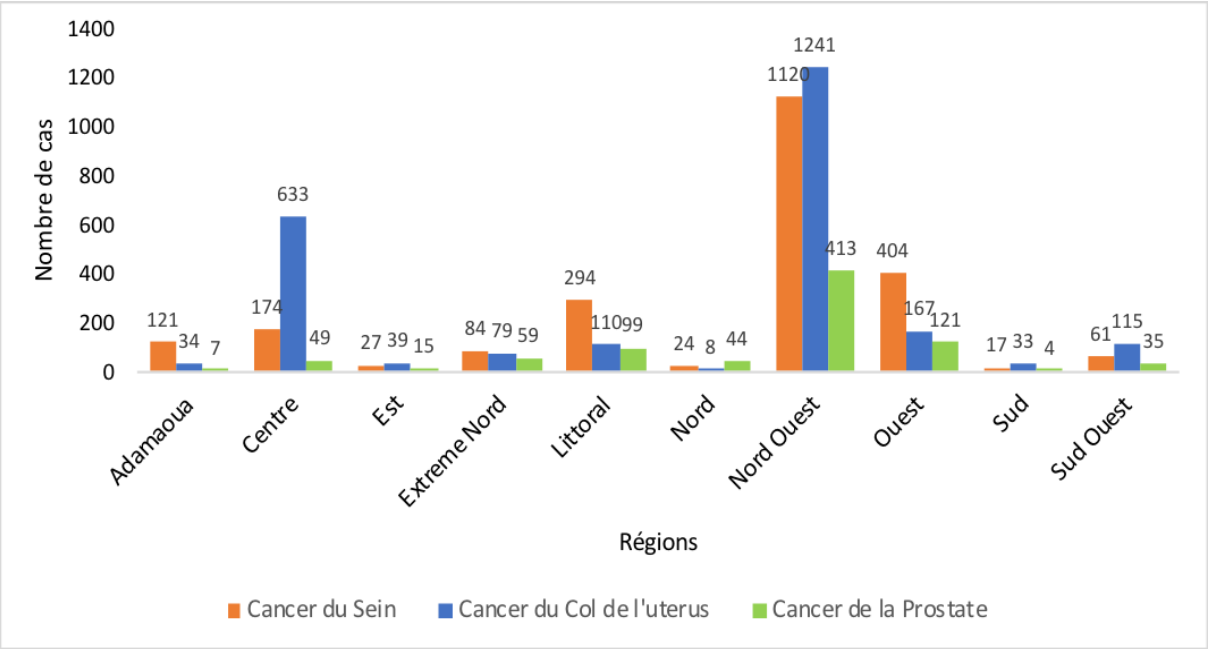

Figure 6: Number of suspected cases of breast, cervix and prostate cancers per region in Cameroon 2018 (DHIS)

2.2 Risk factors[14,15]

According to the International Agency for Research on Cancer (IARC), 13 risk factors for cancer have been identified. Table 2 presents the 13 risk factors for cancer.

Table 2: The 13 Common Risk Factors for Cancer

No.	Risk factor	No.	Risk factor
1	Active and passive smoking	**8**	Ionizing radiation
2	Alcohol consumption	**9**	Air pollution
3	Unbalanced diet	**10**	Ultraviolet radiation (UV)
4	Overweight and obesity	**11**	Occupational exposures to carcinogens (wood dust, petroleum derivatives, chromium, tars, etc.)
5	Insufficient physical activity	**12**	Duration of breastfeeding less than 6 months
6	Use of exogenous hormones	**13**	Exposure to chemicals in the general population (arsenic, benzene)
7	Infections		

[14] Cancer country profiles in 2014, WHO. https://www.who.int/nmh/countries/2014/cmr_en.pdf
[15] World Health Organization- Country Profiles for non-communicable diseases (NCDs), 2018. https://www.who.int/nmh/countries/cmr_fr.pdf

Infectious risk

Despite the epidemiological transition underway in Cameroon, as in other developing countries, infectious agents remain a major risk factor. In Africa, 230,000 cases of cancer are attributable to infections, 45% by the human papillomavirus alone and 20% by the hepatitis viruses (10% for HBV and 9.6% for HCV, respectively). Helicobacter Pylori is responsible for 9% of cancers. Other viral, bacterial and parasitic agents are responsible for approximately 9% and 26.2% of cancers, respectively. In Cameroon, the number of cases of cancer attributable to infectious agents is 5191, that is, 33.6% of cancers diagnosed each year.

Exposure to radon

Radon is an ubiquitous gas on the earth's surface that is the primary source of natural exposure to radioactivity. It comes after tobacco, the second risk factor for lung cancer. The emission of radon to the atmosphere depends on the nature of the soil (granitic and volcanic regions are particularly favorable for the emanation of radon). According to the World Health Organization (WHO), the reference level of radon concentrations for the habitat is 100 Bq.m-3. In Cameroon, the uranium regions of the North (Poli) and the South (Lolodorf) have radon concentrations in homes sometimes exceeding the reference values.

Smoking

Tobacco is the primary environmental carcinogen and primary risk factor for lung cancer with a relative risk of 23.9. The prevalence of smoking is increasing in the young population. According to the Cameroon Coalition Against Tobacco, Cameroon has more than one million active smokers and about 7 million passive smokers.

Alcoholism

According to the IARC, alcohol is a proven carcinogen, its consumption increases the risk of developing cancers of the upper digestive tract, esophagus, liver and colon. The amount of pure alcohol is a real risk factor and this risk increases linearly with the dose consumed, regardless of the type of alcohol. In Cameroon, in 2016, the average consumption of pure alcohol per capita and per year was estimated at 9 liters.

Obesity

Obesity is a consequence of socioeconomic development, and the effects of changing lifestyles. Diets are more fatty, richer in alcohol and low in vegetable fibers, while populations become more sedentary. Obesity is a risk factor for breast cancer in postmenopausal women (AR = 38.8%), for colorectal (AR = 13.5%), cancers of the uterus (AR = 22.3 %), gallbladder (AR = 7.1%), pancreas (AR = 5.4%), ovaries (AR = 3.6%) and esophageal adenocarcinomas (AR = 3.2%) . Obesity is an emerging problem in Cameroon.

The proportion of Cameroonians who do not exercise is 27% and the prevalence of obesity is 10%[16].

Genetic risk factors

Knowledge of genetic factors, whether these are predisposing genes (BRCA 1, BRCA 2 for breast cancer) or the existence of genetic polymorphisms, can make it possible to envisage screening for the population at risk in secondary prevention or to carry out some primary prevention interventions (chemo-prevention, prophylactic surgery). Colon, breast, ovarian, prostate, retinoblastoma, gliomas, medullary thyroid cancers are those for which a genetic predisposition can be found. Current studies, both epidemiological and molecular biology, indicate that a genetic risk could exist in approximately 5 to 20% of cancers. More than 200 mutations predisposing to cancer are known in humans. In Cameroon, breast cancer is the most frequent of all sexes. In young women (under 40 years) it is generally associated with a genetic predisposition, notably a mutation in the BRCA gene. In 2008, the prevalence of breast cancer among those under 40 years was estimated at 30%, which continues to increase in terms of oncology consultation statistics from general hospitals in Yaounde and Douala. However, no genetic study has been identified in this population to determine the existence of a mutation in the BRCA gene either in the patient or in their first degree relatives. No prevention and diagnostic strategy is therefore implemented for this group of the population17,18.

2.3 Management of cancers in Cameroon

Institutional Framework

The National Committee for the Fight Against Cancer was reorganized by Prime Ministerial Decision No.017/PM of 06 March 2020. This committee is responsible for:

- Drafting cancer control policies and strategies ;
- Cancer prevention ;
- Early diagnosis of cancer ;
- Treatment and palliative care for cancer patients ;
- Data collection on cancer ;
- Research on cancer ;
- Mobilization of the necessary resources to carry out its activities.

[16] World Health Organization- Country Profiles for non-communicable diseases (NCDs), 2018. https://www.who.int/nmh/countries/cmr_fr.pdf

[17] Cancer Country Profile in 2014, WHO. https://www.who.int/nmh/countries/2014/cmr_en.pdf

[18] World Health Organization, Regional Office for Africa. Training manual on strategic planning for the prevention and control of cervical cancer in Africa. (2017)

Human Resources

Human resources for the management of cancers remain very insufficient as compared to the number of patients. Cameroon has 1.1 medical doctor and 7.8 nurses and midwives per 10 000 inhabitants. The table below presents the number of human resources that was available for cancer response in 2018.

Table 3: Human resources available for cancer control, 2018

№	Type of health personnel	Estimated number
1	Palliative care Nurse	50
2	Anatomo-cytopathologist	21
3	Radiologists	20
4	Social workers	20
5	Gynaecologist, expert in Oncology	10
6	Biologists	10
7	Hematology Oncologists	06
8	Medical Oncologists	09
9	Radiotherapists	05
10	Oncology Surgeons	05
11	Medical doctors trained in palliative care	05
12	Clinical Psychologists with expertise in oncology	07
13	Pediatric Oncologists	03
14	CCF/ENT with expertise in oncology	04
15	Cytotechnicians	02
16	Oncology Nurses	01

2.4 Cancer Prevention in Cameroon

Cameroon does not currently have a national strategy for cancer prevention. A national strategic plan for the control of cervical cancer was drafted in 2016, but was not implemented. Among the five (5) most frequent cancers, three (3) may have an effective primary and secondary prevention strategy. These are breast cancer, cervical cancer and liver cancer.

Awareness raising on modifiable risks factors

With regards to primary prevention, Cameroon does not have an Integrated Communication Plan (ICP) on modifiable risks factors for cancers. However, sensitization campaigns for the general public are organized by the NACFAC during special days and events, such as during the month of October ("Octobre Rose"). Moreover, under the private initiative of civil society organizations (CSO), some sensitization campaigns are conducted within the community or professional and academic settings. These efforts do not cover the

national territory and a large majority of Cameroonians are not yet informed and are continually exposed to risks factors of cancers.

Immunization

Human Papilloma Virus (HPV)

In 2015, Cameroon successfully completed the pilot phase to introduce the HPV vaccine for girls aged 9 - 13 years. However, this vaccine has not yet been added into the routine EPI though it is one of the most effective strategy to reduce the incidence of cervical cancer. The MOH is planning to introduce this vaccine into the EPI in 2020. The cost of the bivalent and quadrivalent vaccine remains high for the population of Cameroon (~XAF 35,000.00 per dose) and advocacy should be done to promote a better access for all social strata[19].

Hepatitis B Virus (HBV)

Immunization against HBV is integrated into routine EPI. However, for children born from an infected mother, the birth dose is still borne by the family and the cost is very high. On the other hand, the national guidelines on the management of HBV exposed newborns is not avaialbale in all HFs. The promotion of HBV vaccine and the evaluation of the immunological response are not yet optimum in Cameroon.

Screening

Cameroon doesn't have a national screening programme for breast and cervical cancers. Some public hospitals and two (2) denominational structures, namely, the Cameroon Baptist Convention Health Services (CBCHS) and the Presbyterian Church in Cameroon Health Services (PCCHS) are doing routine screening and treatment of precancerous lessions of the cervix in some cities (Bamenda, Mbingo, Kumbo, Douala, Mutengene, Kumba, Kribi, Bafoussam, Yaounde and Limbe). Sporadic screening campaigns are organized in outreaches by the NACFAC and some CSOs. However, numerous precancerous lessions cannot be treated due to lack of equipment. Continuous screening will enable a decrease in the incidence and mortality due to cancer.

Epidemiological Surveillance

The epidemiological surveillance of cancers is necessary for priority decision-making in cancer control. However, this has not been effective in Cameroon since 2012, because the Yaounde cancer registery was interrupted. Nevertheless, data on suspected cases of breast, cervical and prostate cancers is documented in the DHIS-2 platform.

[19] Adi J. Price, BA1; Paul Ndom, MD2; Etienne Atenguena, MD2; Jean Pierre Mambou Nouemssi, BA2; and Robert W. Ryder, MD3. Cancer Care Challenges in Developing Countries. Cancer 2011;000:000–000. VC 2011 *American Cancer Society*

2.5 Diagnosis and Treatment of Cancer in Cameroon

The diagnosis of cancer relies on a large range of clinical and para clinical arguments. It is therefore important for any health system to have laboratories for pathological, biological and biochemical analyses as well as medical imaging and nuclear medicine services.

Diagnosis

Pathology services

The diagnosis of most cancers relies on pathological findings. Anatomo-pathology laboratories, are distributed across the country as such: 3 in public Health Facilities (Douala, Yaounde, Buea) and 3 in private structures (Bamenda, Mbingo and Bafoussam). The other regions with no pathology laboratory send them their specimens for analysis even though there is no standard sample transport system in place. In some instances the quality of the specimens are altered and this has an effect on the quality of the result.

Immunohistochemistry, a technique needed for specific diagnosis and treatment is available only at the Centre Pasteur of Cameroon (CPC) and is not affordable to most cancer patients. Moreover, the timeline for results return is long.

Medical Imaging

Medical imaging services are available in most HFs of category 1 to 4. Basic equipment include a standard radiograph and ultrasound equipment. The CT Scan and MRI devices recommended for investigating metastasis are available only in general and central hospitals and in 3 regional hospitals (Ebolowa, Garoua and Bafoussam). Medical imaging is thriving in the private sector but remains mostly located in the cities of Douala and Yaounde.

Table 4: Distribution of Medical Imaging services equipped with a scanner and/or MRI

HF	CT SCAN	MRI
Yaounde General Hospital (YGH)	Non functional	None
Yaounde Gyneco-Obstetric & Pediatric Hospital (YGOPH)	Functional	None
Yaounde University Teaching Hospital (CHUY)	Non functional	Non functional
Essos Hospital Center (CHE/CNPS)	Non functional	None
Yaounde Central Hospital (HCY)	Functional	None
Yaounde Military Hospital (HMY)	Functional	Functional
Yaounde Emmergency Center (CURY)	Functional	None
Douala General Hospital (DGH)	Functional	Functional
Laquintinie Hospital, Douala (HLD)	Non functional	None
RH Bafoussam	Functional	None
RH Ebolowa	Functional	None
RH Limbe	Functional	None
RH Garoua	Functional	None
Norweyan Hospital Ngaoundere	Functional	None
Total	**10/14 functional**	**2/3 functional**

Given that cancer is a long-term condition, patients should regularly do these medical examinations as part of their follow-up. However, the current level of affordability hinders appropraite case management.

Laboratories for biological and biochemical analyses

All categories 1 to 4 HFs have biological analyses laboratories which do basic medical analyses in haematology, biochemistry, bacteriology and parasitology. Apart from private laboratories, only laboratories of tertiary hospitals carry out the analysis of tumor markers for the surveillance of cancers. Molecular biology analyses are not available.

Nuclear Medicine Service

Cameroon does not have a functional nuclear medicine service. This service would help conduct bone scintigraphy and screen for sentinel lymph nodes, as well as metabolic radiotherapy. Positron Emission Tomography is also not available in Cameroon.

Treatment and Palliative Care [20]

The management of cancers is multidisciplinary and requires preliminary meetings of personnel from different disciplines. In Cameroon, only the General Hospitals in Douala and Yaounde have the authorized platform for cancer management. Nevertheless the management of cancers generally begins at the peripheral hospitals, despite the absence of national guidelines for management of Cancers. Several treatment modalities are being used for the treatment of cancers in Cameroon.

Surgery

Surgical management of some cancers is effective in Cameroon, especially in the general and central hospitals and those ranking as such. Though many surgeons have been trained in performing surgical procedures for frequent cancers (radical or conservative mastectomy, Wertheim, colpohysterectomy, bilateral adnexectomy, omentectomy, hemicolectomy, lymph node dissection …), the country lacks certified surgeons in oncology. Besides, the capacity of most HFs does not allow for some surgical procedures to be conducted, even when skilled human resources is available.

Radiotherapy

Cameroon has a single functional radiotherapy service equipped with a Cobalt 60 radiation unit (EQUINOX) which achieves 2D radiotherapy. The modern 3D radiotherapy permits a better alignment of the irradiated volume and the tumor size is not available in our public health facilities. During cancer treatment, over 50% of patients will need radiotherapy, thus

[20] World Health Organization - Country profiles for noncommunicable diseases (NCDs), 2018. https://www.who.int/nmh/countries/cmr_fr.pdf

provision of radiotherapy services is far lower than demand. The lone equipment is being overused and waiting times reach up to 3 months. It is a problem that needs an urgent solution. Moreover, there exists a service with functional 3D radiotherapy at a private institution Bekoko, close to Douala. However, the impact on patient management remains limited due to limited affordability as result of high cost of services.

Chemotherapy and targeted treatments

These treatments are offered in the medical oncology units. Since 2005, the Ministry of Public Health partially subsidises the purchase of cancer drugs. However, the budgetary allocation is heavily insufficient because less than 10% of national needs are covered. The efficacy of targeted therapies and drugs for supportive therapy have changed the prognosis of most cancers but these medicines are often not available because of their high costs..

Day hospitals for chemotherapy, when available, do not always meet international standards. Drugs are prepared at the point of care in most HFs and anti-cancer medicines are sometimes administered under the supervision of unskilled personnel.

Table 5: Health facilities offering chemotherapy

No.	Health facility	
1	HGY, Yaounde General Hospital	June 11, 1993
2	HGD, Douala General Hospital	2012
3	HCY, Yaounde Central Hospital	2013
4	HLD, Hopital Laquintinie de Douala	2000
5	Mbingo Baptist Hospital	2006
6	Bonassama District Hospital	March,2017
8	Saint Martin de Porres	April, 2019
9	HGOPED	March, 2020
10	Mother and Child Centre of the Chantal Biya Foundation	2000

Palliative Care

In Cameroon, palliative care is included neither in the minimum nor in the complementary health package provided by HFs (Health Facilities). For 4 years, the MOH has been supporting and subsidizing the Cameroon Conference on Palliative Care, a platform for exchange among palliative care stakeholders. Very few public HFs have a palliative care unit and continuous supply in opioids is a recurrent issue, thus complicating the management of severe pain. The holistic management of cancers, which involves physical, psychological, social and spiritual concerns is not effective in most HFs. A large number of patients die in pain and without help due to the absence of a home care system such as the “home-based visit” model recommended for resource-limited countries. Though CSOs and denominational organizations contribute to the provision of palliative care in Cameroon,

this activity should be coordinated by the MOH to ensure its implementation throughout the country.

Taking into consideration what has already been said, and given that Cameroon has not developed a cancer control strategy on the one hand, and considering the increasingly high incidence and lethality rates of cancers in Cameroon, coupled with the lack of prevention and management mechanisms on the other hand, it is urgent for the country to provide a coordinated response to this pathology. This national strategic plan to prevent and control cancer is aligned to the vision of the 2016-2027 Health Sector Strategy (HSS), which is also aligned to the Cameroon 2035 Vision and the Growth and Employment Strategy (GES). This will mainly involve contributing to improving the health status of the populations. Implementing this strategy seeks to save about 75 000 human lives and reduce the suffering of their families in the next five years. It is therefore consistent with the political vision of our country expressed by the Head of State, who declared that there is a need to work towards “a medical assistance mechanism which will leave no Cameroonian without care, regardless of their means”. Thus, implementing this strategy shall be an investment for the development of the country rather than an expenditure.

3. METHODOLOGY

3.1 Procedures

The development of this strategic plan to prevent and control cancers is based on a participatory and multisectoral approach. It is led by the NACFAC, with the technical and financial support of WHO. It has benefitted from the participation of various experts from public and private structures. Besides the MOH, the following institutions have contributed:

- Different Ministries including the Ministry of Finance, the Ministry of Women's Empowerment and the Family, the Ministry of Social Affairs, the Ministry of Basic Education, the Ministry of Secondary Education, the Ministry of Higher Education,

- Non-Governmental Organisations including WHO, USAID, UNICEF, UNAIDS, UNFPA, CHAI, the National Agency for Radioprotection and African Synergies.

3.2 Approach

In orderto to align this document to the national strategies and the countrie's vision, the approach used consisted of exploiting reference documents such as the Growth and Employment Strategy (2010-2020), the 2016-2027 Health Sector Strategy and the National Health Development Plan (2016-2020). The approach focused on literature reviews, workshops, interviews and consultations. Data compiled from this approach has enabled the following:

- Situational analysis of the cancers and defining priorities for 2020-2024 ;
- Define the vision and goals of this strategic plan;
- Identify priority interventions and strategic approaches ;
- Estimate the cost of implementation ;
- Outline monitoring and evaluation elements.

4. INSTITUTIONAL FRAMEWORK

4.1 Global reference framework

During the 66th World Health Assembly in Geneva in May 2013, WHO adopted the 2013-2020 Global Action Plan for the prevention and control of non-communicable diseases. This plan proposes 9 voluntary global targets by 2025 including: the reduction by 25% the risk of premature deaths attributable to cancers, cardiovascular diseases, diabetes or chronic respiratory diseases.

On 25 September 2015, the United Nations General Assembly adopted the new Sustainable Development Goals (SDG), an action plan to reinforce universal peace with greater freedom, and ensure that no one is left behind. The third SDG on health, in its item 3.4, has as objective, to reduce by one third, through prevention and treatment, the rate of premature deaths due to non–communicable diseases, including cancers by 2030.

At the 70th WHO World Assembly in April 2017, 177 member states, including Cameroon, reiterated their commitment to develop policies and plans for the control of non-communicable diseases in order to guarantee rapid diagnosis and provide accessible quality care at an affordable price for all cancer patients.

4.2 National reference framework

In 2009, Cameroon developed a "Vision 2035": "**Cameroon: an emerging, democratic and united country in diversity**". Implementing this vision shall be done in phases, the first, during the development of the 2010-2019 Growth and Employment Strategy (GES). The second phase of this document is scheduled for 2020-2029. One of the selected objectives is human development which covers the health component in article 240 of the GES. This stipulates that disease control shall follow an integrated approach, having as main goal to significantly reduce the morbidity, notably among poor and vulnerable populations. Actions carried out shall be centered around the control of non-communicable diseases, among others.

The 2016-2027 Health Sector Strategy (HSS) aligned with the GES is the reference document of the health sector. Its vision states that: **"Cameroon, a country where universal access to quality health services is ensured for all social strata by 2035 with the full participation of communities"**. Strategic component No. 2 on disease prevention has as specific objective the reduction by at least 10%, the prevalence of major non-communicable diseases, including cancers. Implementation strategies equally envisage

strengthening cancer prevention as cancers represent an increasingly heavy burden for the health system.

The implementation of the HSS into phases is broken down in the National Health Development Plan (NHDP) and focuses on cancer prevention interventions. Addressing these health issues involves: advocating for more resources for cancer, reinforcing immunization of young girls 9 - 13 years against HPV, enhancing immunization against HBV and sensitizing the populations on the community measures for the prevention. With regards to cancer management, the HSS envisages an improvement of the diagnosis and decentralising the management of chronic non-communicable diseases through task shifting at the peripheral level.

The implementation of this plan will enable Cameroon achieve it vision by 2035, where a holistic management of cancers is available. This plan therefore needs to be aligned with the HSS and work towards achieving the general objective. To this effect, the strategic components and interventions selected, have been aligned to the HSS and NHDP. Table 6 shows the relationship between the HSS strategic components, NHDP interventions and the specific objectives of this plan.

Table 6: Foundation and alignment of the NSPCaPC with the 2016-2027 HSS

STRATEGIC COMPONENT	STRATEGIC SUB-COMPONENT	INTERVENTIONS OF THE 2016-2027 HSS (NHDP)	SPECIFIC OBJECTIVES of the National Strategic Plan for the Prevention and Control of Cancers
DISEASE PREVENTION	2.4 : Prevention of Non-communicable diseases	2.4.9: Strengthening Cancer prevention	By 2024, increase primary prevention interventions by 25% through communication for behaviour change in favour of cancer control
CASE MANAGEMENT	3.1 : Curative management of communicable and non-communicable diseases	3.1.6: Improving the diagnosis and case management of non-communicable diseases	By 2024, increase by 25% the number of early detected and treated cancers
			By 2024, increase the efficacy and effectiveness of treatments with a 10% rise in the general healing rate.

Table 7: Representation of cancer control response in Cameroon

CASE MANAGEMENT STRUCTURES	STRATEGIC LEVEL	UNITS FOR MONITORING & USE OF KNOWLEDGE	STAKEHOLDERS AND COMMUNITY INVOLVEMENT
NCaI National Reference Centres for Cancer Control (DGH, YGH)	MOH, SSPH, SG, DLMEP, DSF, DPML,DOSTS, DROS NCaCC	HCs, HCs, CPP/DEP, NPHO, DROS	MINISTRIES, TFPs, CIVIL SOCIETY
Referral hospitals (Cancer management units)	**INTERMEDIATE LEVEL** RDPH Regional operational units	CANCER REGIONAL CENTRES	REGIONS, RFPH
DH, SMC (TESTING CENTRES FOR PRECANCEROUS LESIONS AND EARLY DIGNOSIS OF CANCER)	**OPERATIONAL LEVEL** Health District District management team HF	DHIS 2	COUNCILS, HCs, DHCs, CBOs,CSOs

5. STRATEGIC GUIDANCE

5.1 Vision

"By 2035, the holistic management of cancers will be available in Cameroon", this is the vision that spurs our commitment for cancer control, starting with the implementation of this strategic plan, which is in line with the national and international commitments .

5.2 Objectives

General objective

The general objective of this Plan is to reduce by 10%, the cancer related morbidity and mortality by 2024, and attenuate its socio-economic impact on the development of the country.

Specific objectives

These will involve:

Specific objective 1 : By 2021, develop and implement a National Cancer Control Policy in Cameroon throughout the implementation period of the National Strategic plan for Cancer Prevention and Control ;

Specific objective 2 : By 2024, increase primary prevention interventions by 25%, through communication for behaviour change in favour of cancer control ;

Specific objective 3 : By 2024, increase by 25%, the number of cancer cases detected and treated early ;

Specific objective 4 : By 2024, increase the efficacy and effectiveness of treatments with a 10% rise in the general healing rate;

Specific objective 5 : By 2024, produce strategic information on the epidemiology of cancers ;

Specific objective 6 : By 2024, build the institutional capacities in programme planning and management at all levels (governance).

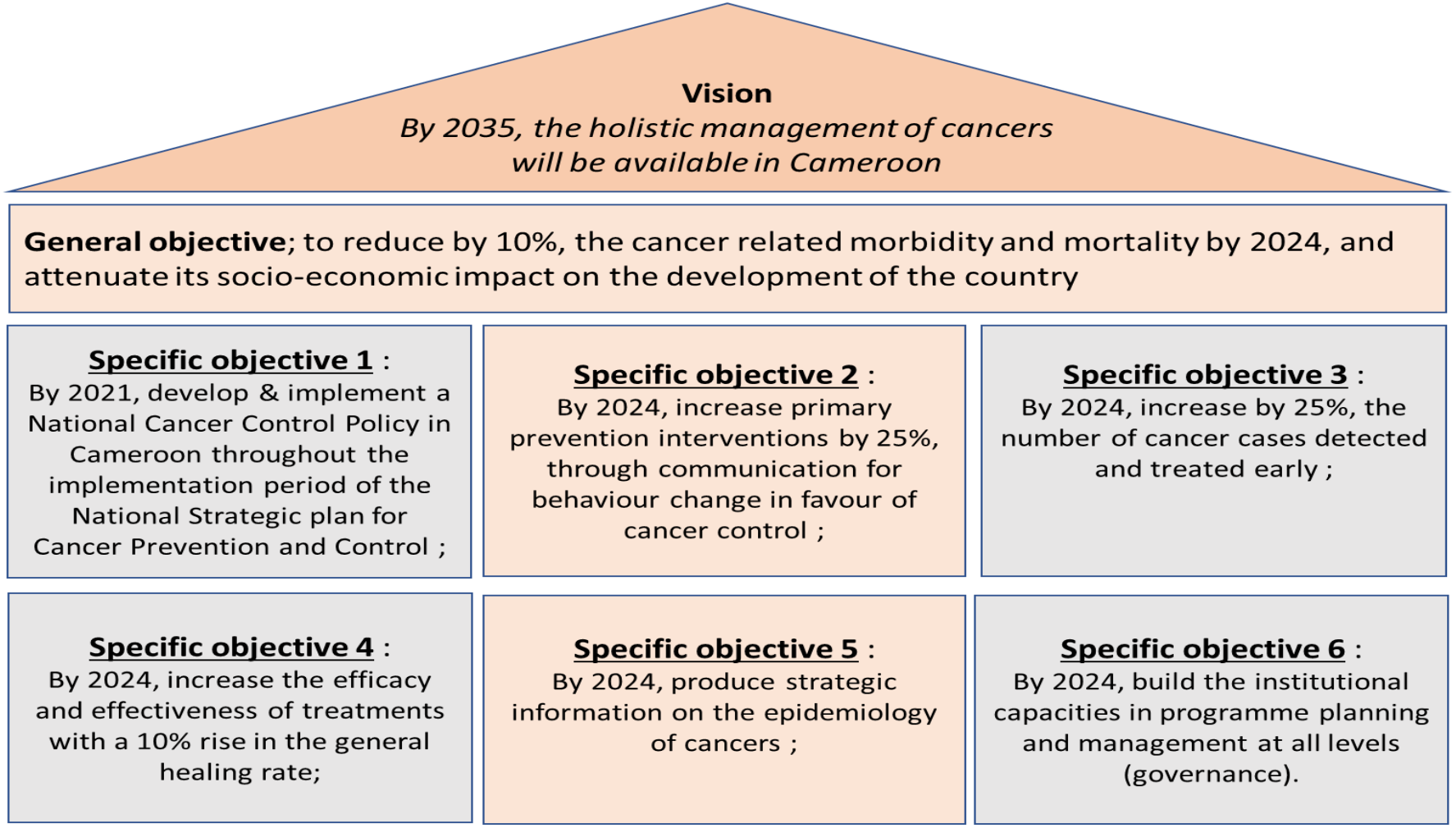

Figure 7: Vision and objectives of the National Strategic Plan for the prevention and fight against Cancers

5.3 Priority Interventions and Approach

Guiding Principles

The guiding principles of the national cancer control policy are:

i. Working within a network to better promote the cancer control policy and the strategic plan;

ii. Sharing experiences and reducing the duplication of efforts;

iii. Intersectoral collaboration through developing public-private partnerships including civil society and international institutions in planning.

Decision-making, administration, advocacy and medical practice should be taken into account while drafting the national cancer control policy to justify the priorities in achieving universal health. The main non-communicable diseases share common risks factors and this should be emphasised while developing the policy, strategic planning and networking on cancer.

When planning for cancer prevention and control, advocacy is an essential strategy aimed at influencing reflection, the actions of the public and decision-makers at all levels. With information and awareness-raising by the public and key decision-makers, cancer control champions may have an impact on the adoption of principles that have beneficial effects on the situation of cancer.

Priority Interventions (PI)

Priority interventions of the specific objectives summarized within a strategic framework

<u>Specific objective 1</u> :

By 2021, develop and implement a National Cancer Control Policy in Cameroon throughout the implementation period of the 2020-2024 National Strategic plan for Cancer Prevention and Control (NSPCaPC).

- PI 1 : By 2021, develop, produce and disseminate strategic and operational documents including implementation guidelines
- PI 2 : By 2024, improve by 25% the performance rate of teachings and research on cancer in Cameroon
- PI 3 : By end of 2020, reorganize the National Cancer Control Programme ;
- PI 4 : By 2024, construct the National Cancer Institute (NCaI).

Specific objective 2 :

By 2024, increase primary prevention interventions by 25% through communication for behaviour change in favour of cancer control

- PI 1 : Social mobilization for cancer prevention;
- PI 2 : Advocacy for Cancer prevention and treatment ;
- PI 3 : Information, Education and Communication (IEC) on cancer prevention ;
- PI 4 : Communication for behaviour change in favour of cancer prevention ;
- PI 5 : Immunization and strengthening screening of precancerous cases.

Specific objective 3 :

By 2024, increase by 25% the number of early detected and treated cancers

- PI 1 : Strengthen secondary prevention through early diagnosis of curable cancers ;
- PI 2 : Strengthen secondary prevention through the rapid treatment of early diagnosed cancers

Specific objective .4 :

By 2024, increase the efficacy and effectiveness of treatments with 10% increase in the general healing rate.

- PI 1 : Improve the treatment quality of cancer cases;
- PI 2 : Have good palliative care services.

Specific objective 5 :

By 2024, produce strategic information on the epidemiology of cancers .

- PI 1 : Produce routine data on cancer ;
- PI 2 : Reactivate and extend epidemiological surveillance on cancers ;

Specific objective 6 :

By 2024, build institutional capacities in programme planning and management at all levels (governance).

- PI 1: Improve planning and monitoring of the programme activities ;
- PI 2: Improve the functionality of the NACFAC ;
- PI 3: Capacity building.
- PI 4: Reinforce research.

5.4 Strategic Framework

The general objective of this plan is to reduce by 2024, cancer-related morbidity and mortality by 10% and attenuate its socio-economic impact on the development of the country. This objective targets the general population.

Specific Objective 1:

By 2021, develop and implement a National Cancer Control Policy in Cameroon throughout the implementation period of the 2020-2024 National Strategic plan for Cancer Prevention and Control (NSPCaPC).

Rationale :

The analysis of the epidemiological situation and the national response to cancers reveals that prevention and cancer control in general in Cameroon is facing organizational setbacks. Few policy documents are available and clinicians do not work conducive environment. National targets are not set and political guidelines are awaited. Teaching remains at a very embryoninc stage and the country has limited qualified staff in prevention and management, compared to the burden of the disease on the health system. Moreover, treatment costs are still unaffordable to patients. Community participation seems indispensable for cancer control and adequate measures are needed to reduce human and economic losses.

To attain this objective, it will be important to :

- provide policy and operational planning documents to all stakeholders ;
- conduct advocacy with policy-makers and partners ;
- organise and participate in conferences on cancer-related themes ;
- make use of commemorative events (4th February, 15th February, March, 15th September, October, Novembre);
- establish relationship with media to disseminate information on the disease ;
- respond to the concerns of the populations.

Moreover, the existing expertise is not effectively used; the few available experts are assigned various tasks thus reducing the time they should devote to cancer patients. This is likely to extend the treatment duration, increase the side effects and possibly death.

Most African countries do not have a training programme in oncology as it is viewed as a super-specialty in most medical domains such as gynecological oncology, medical oncology and pediatric oncology. Indeed, this requires prior specialty in other fields before specializing in oncology.

In most institutions, time dedicated to teaching oncology to students in medicine, nursing, and other paramedical staff is quite insufficient, barely six hours for students in medicine

and four hours for nursing students/paramedical staff. The study of oncological conditions is generally integrated in the normal curriculum and not considered as a special field on its own. Besides, we note the need to include community health workers (CHW) in the specifications for awareness-raising on cancer.
There is little, or even no branch of knowledge in oncology for other healthcare providers in the health system. On the one hand, it is recommended that training programmes in health institutes, studies in nursing care and paramedical studies should be reviewed to include training in cancer prevention, detection, cure and care, and on the other hand ongoing training of cancer experts should be effective.

This specific objective therefore envisages to carry out the four (4) priority interventions:

1. By 2021, develop, produce and disseminate strategic and operational documents including implementation guidelines;
2. By 2024, improve by 25% the performance of courses and research on cancer in Cameroon;
3. By the end of 2020, reorganize the NACFAC ;
4. By 2024, construct the National Cancer Institute (NCaI).

For each intervention, priority activities were identified as shown in the table below.

Table 8: Priority Interventions: and their corresponding activities for objective 1

PI 1 By 2021, develop, produce and disseminate strategic and operational documents including implementation guidelines.
• Develope and validate policies and guidelines on the different cancers (children, women & adults) ; • Develope and validate policies and guidelines on palliative care ; • Print and disseminate guidelines for cancers and pallaitive care
PI 2 : By 2024, improve by 25% the performance of courses & research on cancer
• Develope and implement a plan for health promotion on cancer in schools and colleges • Develop a training curriculum on palliative care • Training of 25 trainers in palliative care • Extend cancer training/learning curriculum for students in 8 health training institutions • Support research in cancer • Institute local and regional training in oncology
PI 3 : By the end of 2020, reorganize the NACFAC
• Restructure the legal framework of the NACFAC • Integrate cancer prevention and control activities in the minimum health package at all levels of care with focus on primary health care. • Integrate cancer prevention and control activities in the health programmes of NGOs/associations [local and international]. • Establish collaboration with other health programmes (malaria, schistosomiasis, HIV/AIDS, hepatitis B, etc.) to strengthen the health system.
PI 4 - By 2024, construct the National Cancer Institute (NCaI)
• Prepare decision-making document on the creation and organization of a National Cancer Institute (NCaI) • Develop the project to establish the NCaI (setting up the coordination unit, steering committee, project implementation unit and a task force). • Acquire site for the construction of the NCaI. • Conduct feasibility, technical and financial studies • Recruite and train human resources for the NCaI • Procure equipment (biomedical, office furniture and other) of the NCaI. • Purchase commodities (drugs, and other accessories) for the starting phase ; • Appointment of the contracting authority and conducting civil engineering woorks • Develope a robust maintenance plan ; • Raise awareness through communication of NCaI services to the population.

Specific objective 2 :

By 2024, increase primary prevention interventions by 25% through communication for behaviour change in favour of cancer control.

Rationale :

Primary prevention

Prevention seeks to minimize and eliminate the possibility of exposure to carcinogens and reduce biological risks factors in the community. This represents the greatest and cheapest opportunity to fight against cancer in the long term. It focuses on raising public awareness on the risk factors and life style which may lead to the development of cancer.

Cancer prevention is both a political and a medical responsibility. To prevent this disease, we should know the factors likely to increase the risk of developing cancer and take measures to reduce these factors. Prevention should be part of a long term plan, as the benefits of investment in prevention will not be evident before many decades or in the next generation. Measures to promote prevention and health should be well coordinated. Moreover, various effective measures in cancer control equally apply to the control of cardiovascular diseases and other chronic diseases.

The general population, NGOs and the Government should all engage in reducing and/or eliminating the environmental factors of cancer. In Africa, notably in Cameroon, priority should be given to behavioural and environmental factors.

Awareness-raising on cancer may be done through educating the public and learners. The methods below may be used:

Immunization

To date, two vaccines which offer protection against high risk HPV types 16 and 18 were approved and most countries have either one of these vaccines, or both:

- The bivalent vaccin (protection against types 16 and 18 only)
- The quadrivalent vaccin (which offers additional protection against types 6 and 11 which are responsible for 90% of benign ano-genital warts also called condylomes).

Both vaccines contain virus-like particles (VLP) similar to human papilloma virus. Given that these VLP vaccines do not contain a virus, they cannot cause HPV infection. They boost the development of antibodies against VLP and due to the similarity between VLP and HPV virus, which will prevent HPV infection in the event of prior exposure.

Vaccines should be administered before HPV infection occurs. A young girl may become infected with HPV not long after becoming sexually active. Given that the vaccination of

young girls against HPV is an important primary prevention intervention against cervical cancer, it should be done before the beginning of sexual ativity. The vaccines do not treat an already present HPV infection or any HPV-related disease nor do they have an effect on the evolution of the disease (precancerous lesions and cancer) when administered to a HPV-infected women during vaccination.

WHO recommends to routinely administer HPV vaccine to young girls aged 9 to 13 years, because in most countries, they are not yet sexually active. In Cameroon, the target age range for this vaccine is identical to that recommended by WHO.

The five (5) priority interventions below have been selected to reach these specific objectives:

1. Social mobilization for cancer prevention ;
2. Advocacy for cancer prevention and treatment ;
3. Information, Education and Communication (IEC) on cancer prevention ;
4. Communication for behaviour change in favour of cancer prevention;
5. Immunization and strengthening the screening of precancerous cases.

For each intervention, the priority activities below shall be conducted:

Table 9: Priority Interventions: and their corresponding activities for objective 2

PI 1 : Social mobilization for cancer prevention
• Develop a communication strategy for the prevention and control of cancers. • Develop implementation guidelines for social mobilization for cancer
PI 2 : Advocacy for cancer prevention and treatment
• Advocate for the prevention of cancer and improvement of cancer control services • Build an investment case for fund-raising • Advocate for resource mobilization for cancer prevention and the improvement of cancer control services • Organize national and regional cancer control days
PI 3 : Information, Education and Communication (IEC) on cancer prevention
• Develop sensitization documents for the community (health education) on cancer, prevention methods, auto-detection, early diagnosis and management possibilities • Conduct community sensitization (health education) on cancer, prevention methods, auto-detection, early diagnosis and management possibilities
PI 4 : Communication for behaviour change in favour of cancer prevention
• Develop of communication for behaviour change tools on cancer ; • Develop and implement a training programme for the community and primary health

care (PHC) workers on prevention, self-detection, screening and management possibilities (cancer treatment and palliative care) ; • Organize communication for behaviour change sessions in sites and in the community ; • Strengthen collaboration with local media to disseminate messages from sites.
PI 5 : Immunization and strengthening the screening of precancerous cases
• Sensitize the population on the importance of HBV and HPV vaccines • Purchase screening kits (Ampfire) and vaccination kits for HBV and HPV • Organization of vaccination campaigns against Hepatitis B and HPV with the EPI • Publication of annual statistics on immunization and screening for HBV and HPV

Specific objective No.3 :

By 2024, increase by 25% the number of cancers detected and treated early

Rationale :

This will involve promoting secondary prevention efforts and providing extended screening and early diagnosis services.

Screening for precancerous lesions and early detection of cancer

Many types of common cancers in Africa can be easily detected at the precancerous stage where they can be cured. These include cervical, breast, mouth, throat, larynx and skin cancers. Pediatric cancers also fall within this category.

Secondary prevention involves early screening and diagnosis of cancer when curable. Screening involves breast self-examination (BSE) in which each individual constantly monitors the signs and symptoms of cancer, whereas screening is done by health professionals intermittently or periodically, just like for cervical cancer, using Visual Inspection with Acetic Acid (VIA) and clinical breast examination (CBE).

Cancer screening

Cancer screening aims to detect precancerous lesions before the individual starts feeling them. To do this, some prerequisites are needed, namely:

- Design sensitization campaigns to encourage people to care for their own health;
- Work in synergy with the Ministries of Education to include cancer screening methods in the school curricula;
- Develop and implement national screening programmes for persons at risk ;
- Educate the public and learners on self-screening methods such as BSE and the 7 cancer warning signs;
- Identify the cancers most likely to be detected at an early stage.

Specific cancers

Breast Cancer

Rationale: Breast cancer is the second most common type of cancer among African women. Many patients go to the hospital at an advanced stage of the disease, because national mammography screening programmes are expensive and not easily affordable to most women in most African countries. Clinical breast examination (CBE) and BSE should be encouraged as an integral part of policy programmes on safe motherhood, maternal health, family/population planning.

Cancer control Implementation Plan: Considering the limitations of both methods available to us (CBE and BSE), it will be necessary to equip regional hospitals with mammographs, ultrasounds and MRI.

Main objective*:* To enable at least 80% of women aged 40 years and above to receive screening with mammography.

Strategies

- Equip each regional hospital with a mammograph ;
- Establish health training to raise awareness on screening through BSE (begining with schools). Train primary healthcare agents in the practice of CBE and teach BSE.

Evaluation : The programme will reduce the number and over-all percentage of cases of invasive breast cancers at an advanced stage (stage II+) of the disease. The long term effects of this plan will indicate a gradual decrease in the incidence and mortality due to breast cancer.

Early diagnosis and guidance : When they initially come to hospital, more than 80% of the patients in Africa present with incurable cancer [21],[22]. This is a major issue which may be mitigated through training of health professionals in educating the general public on the early signs and symptoms.

Cervical cancer

Rationale : Cervical cancer is the most common cancer among african women. Late presentation of symptoms is frequent. Many women living in rural areas do not have access to a screening in their lifetime and considering that pap smear is technically difficult to

[21] Cancer Country Profile in 2014, WHO. https://www.who.int/nmh/countries/2014/cmr_en.pdf

[22] World Health Organization, Regional Office for Africa. Training manual on strategic planning for the prevention and control of cervical cancer in Africa. (2017)

perform and very expensive, visual inspection methods such as VIA and VILI examinations should be promoted.

Implementation Plan : For poor women at high risk of developing cervical cancer in Africa, one of the methods to guarantee screening of at least 80% of these women aged 25 to 59 years is to have a decentralized service at the peripheral level of the health system. A programme of mobile screening services will be very useful and should be implemented in collaboration with maternal and child health/family planning units of the MOH, as an integral part of maternal health, as well as family/population planning.

Implementation objectives

i. Initiate health education to increase awareness of early signs and symptoms;
ii. Establish a clear policy for regular screening of women aged over 25 years.

Strategies

i. Identify women aged 25 to 65 years for screening;
ii. Train community health workers on how to use a checklist for high-risk groups who may be referred for screening;
iii. Train health personnel at the peripheral level in examining the cervix and carry out VIA/VILI at the level of first referral health facilities;
iv. Ensure the availability of equipment for VIA/VILI for gynaecological examinations;
v. Train doctors and nurses in VIA/VILI techniques, colposcopy, cryotherapy, thermocoagulation and loop electrosurgical excision procedure (LEEP);
vi. Create laboratories with histopathology services at regional level;
vii. Establish a link between the identification of the abnormality and the orientation for diagnosis, treatment and follow-up.

The programme will reduce the number and overall percentage of cases of invasive cervical cancers with an advanced stage (stage II+) of the disease. Long-term effects of this plan shall result in the decrease of the incidence and mortality from cervical cancer.

Early diagnosis and referral : More than 80% of patients in Africa have incurable cancer at their first visit. This is a major problem that can be alleviated by educating the general public about the early signs and symptoms, by training health professionals in cancer and by implementing rapid referral procedures to hospitals with adequate diagnostic and treatment facilities.

Prostate cancer

Rationale: Prostate cancer is the second most diagnosed cancer in men and the 5th cause of death from cancer in the world. There is a difference in the incidence of this disease depending on the region. This is partly explained by an unbalanced access to means of

screening and diagnosis. In Sub-Saharan Africa, patients are diagnosed at an advanced stage of the disease. In a country with limited resources like Cameroon, where the vast majority of health structures and specialized care are not accessible, systematic screening, although controversial in the world, through the dosage of PSA could significantly reduce mortality from prostate cancer.

Main objective : To diagnose prostate cancer at an early stage in health facilities

Implementation plan

i. Systematically sensitize men from the age of 40 years on prostate cancer screening
ii. Systematically screen all men from the age of 45 years
iii. Harmonize screening and diagnosis of prostate cancer

Strategies

i. Establish a protocol for prostate cancer screening and diagnosis
ii. Organize prostate cancer screening and diagnosis campaigns in the community every 3 to 6 months
iii. Develop videos, posters, IEC in health facilities
iv. Improve access to total PSA dosage in equipped health facilities
v. Open a prostate cancer registry

Evaluation

i. Carry out a study on sensitized patients over 5 years to assess the impact
ii. Conduct quarterly or bi-annual evaluation to ensure compliance with protocols
iii. Do an update of the actions every 3 months.

Childhood cancers

Rationale: Lymphomas, Wilms tumor, retinoblastoma, acute leukaemia, sarcomas and neuroblastomas are the most common cancers that occur in children, mainly in the first ten years of life. Most of these cancers are curable if diagnosed and treated early. Burkitt's lymphoma and Wilms tumor have a high cure rate if diagnosed early. Education about these tumours will be integrated into child health programmes.

Main objective : To ensure that most childhood cancers are detected early by health care personnel at all levels.

Implementation plan

i. Educate health care personnel on the importance of early diagnosis of childhood cancer;

ii. Educate parents to recognize some signs or symptoms that may lead to the suspicion of cancer;

iii. Train health care personnel to recognize retinoblastoma, Burkitt's lymphoma and other childhood cancers and provide timely referrals.

Strategies

i. Include a module on childhood cancers in the integrated management of childhood infections (IMCI) training programme.
ii. Train primary health care workers in early detection of childhood cancers.

Evaluation : The programme will reduce the number and overall percentage of cases of childhood invasive cancers with an advanced stage (stage III) of the disease. Long-term effects of this plan shall indicate a gradual decrease in the incidence and mortality from childhood cancers.

Two (2) priority interventions have been selected to achieve this specific objective:

- Strengthening of secondary prevention initiatives through the early diagnosis of curable cancers;
- Strengthening of secondary prevention initiatives through the rapid treatment of early diagnosed cancers.

In each of these interventions, the following priority activities shall be carried out:

Table 10: Priority Activities per interventions:for objective 3

PI 1: Strengthening of secondary prevention initiatives through the early diagnosis of curable cancers
• Strengthen existing histopathology services; • Create new histopathology services in regions where they do not exist; • Harmonize cancer staging; • Organize workshop on capacity building of stakeholders on cancer staging; • Collaborate with surgery, gynaecology, radiology and laboratory departments located within the Permanent Screening and Early Diagnosis Centres (PSEDCs) for rapid intervention when needed; • Set-up a sample transport system and rapid analysis of samples; • Create a database on the analysis of images from PSEDCs.
PI 2: Strengthening of secondary prevention initiatives through the rapid treatment of early diagnosed cancers
• Provide commodities necessary for the early management of cancers; • Development of a cancer management guide

Specific objective 4 :

By 2024, improve the effectiveness and efficacy of treatments with a 10% increase in the overall cure rate

Rationale :

Focus shall be on ensuring quality cancer treatment services and providing good palliative care services.

Cancer treatment

The first step in cancer management is an accurate diagnosis. This requires a combination of clinical assessments and thorough diagnostic investigations, including endoscopy, histopathology, imaging, cytology and laboratory analaysis. After confirmation of the diagnosis, a thorough evaluation is required to verify the level of spread of the cancer (staging). The purpose of cancer staging is to:

i. Facilitate the choice of therapy;
ii. Facilitate the assessment of prognosis;
iii. Facilitate the exchange of information;
iv. Determine when to discontinue therapy;
v. Standardize the design of treatment protocols.

The basic principles of cancer treatment are the same all over the world. However, the emphasis laid on treatment will depend on local disease patterns, that is, the most common types of cancer and the relative proportions of early and late stages at diagnosis. Specific approaches to cancer therapy adopted in each country will also depend on the availability of human, physical and financial resources, as well as the political will to bring about the necessary change in cancer management.

The main treatment methods are surgery, radiotherapy, chemotherapy (including hormonal therapy) and psychosocial support. Each of these methods has a well-established role but effective management must be multidisciplinary. Hence, the need for a National Cancer Institute. Aside surgery for diseases of very limited extent or precancerous lesions, oncology services depend on a good tertiary hospital infrastructure with services for rapid diagnosis and staging of the disease.

The main goals of cancer treatment are cure, useful life extension and improving the quality of life. Cure is defined here as the attainment of a normal lifespan. It includes three important components:

a) Cure with respect to all evidence of disease (complete remission);

b) Attainment of a stage of minimal or no risk of recurrence or relapse;

c) Restoration of functional health (physical and psychosocial).

Effective and affordable therapy

Most African countries do not have adequate infrastructure and facilities for cancer treatment (surgery, chemotherapy, radiotherapy and immunotherapy). In addition, in most cases, there is a limitation in adequately trained health workers, adequate supplies of drugs

and replacement of obsolete radiotherapy equipment, as well as adequate maintenance of such equipment. As quality treatment is very expensive, policies to ensure adequate government funding of these services to improve the current situation are imperative.

Palliative care services

Cancer care in Africa is different from that in developed countries: 80% to 90% of patients have incurable cancers at the time of diagnosis; less than 5% of cases are prevented and only 10 to 15% of cases are curable, when appropriate treatment is given.

Palliative care is an approach that improves the quality of life for patients/families facing a life-threatening disease. It prevents and relieves suffering through early identification, assessment and appropriate treatment of pain and other physical, psychosocial and emotional problems. In Africa, 70% to 80% of patients in the late stages of their cancers require palliative care in the earliest stages of their disease management. Contrary to popular belief, cancer patients can lead a normal life and work full-time for many years, even if they are not cured. Thus, the lack of capacity to take the most appropriate symptom relief measures in most cancer patients in Africa is a serious ethical dilemma [23],[24].

WHO has emphasized the need to prioritize pain and symptom control through palliative care. This service is relatively affordable as the drugs used are cheaper, but not often available in developing countries. Faced with such a situation, the most appropriate approach for African countries is to ensure that good, accessible and affordable palliative care is made available to cancer patients and other patients with chronic diseases. They should also be informed that palliative care is possible at low cost and is important to improve the quality of life for cancer patients and other patients with chronic diseases.

Considerable expertise is required to ensure high quality treatment for terminal care. In Africa, little expertise is available in palliative care as this approach is not prioritized in medical training. As a consequence, there is a shortage of basic palliative care supplies, resulting in unnecessary suffering for cancer patients. Two priority interventions with activities have been suggested to achieve this specific objective as shown in the table below:

[23] World Health Organization, Regional Office for Africa. Training manual on strategic planning for the prevention and control of cervical cancer in Africa. (2017)

[24] World Health Organization - Country profiles for noncommunicable diseases (NCDs), 2018. https://www.who.int/nmh/countries/cmr_fr.pdf

Table 11: Priority Activities per intervention for objective 4

PI 1: Improvement of the quality of treatment of cancer cases
• Establish multidisciplinary cancer management committees • Develop a harmonized treatment guidelines for common cancers in the country • Ensure the continued availability and accessibility of drugs for chemotherapy • Strengthen existing radiotherapy services (Douala and Yaounde) • Strengthen existing medical oncology services • Create 8 chemotherapy day hospitals progressively spread across the 10 regions
PI 2: Creation of appropriate palliative care services
• Strengthen supply of strong opioids and other essential drugs in palliative care • Establish a national coordinating body for palliative care activities

Specific objective 5 :

By 2024, produce strategic information on the epidemiology of cancers.

Rationale :

The aim shall be to establish reliable and sustainable sources of data collection and use them to improve prevention and treatment programmes. Civil status statistics, cancer registries and sample surveys shall be carried out to accurately measure the burden of cancer (incidence, morbidity, mortality, prevalence and survival), identify and record key prevention and care interventions, and evaluate actions taken. To this end, the availability of data collection tools and the implementation of a cancer data management plan should be ensured.

Specifically, for civil status statistics, this would involve creating communication gateways with the National Civil Status Registration Office (BUNEC) and the Regional and Local Authorities in order to ensure the reliability of the said data. It shall also involve making cancer registries effective within the community and at the level of health facilities, since cancer is becoming a notifiable disease.

The generation of knowledge through cancer research must be an integral part of the public health service. It can be used as a tool to structure the introduction of new technologies and drug therapies that are often resource-intensive. The medical knowledge base consists of scientific studies published in recognized journals, which are critically assessed by a number of independent reviewers before acceptance for publication. Cameroon has not yet sufficiently established its own organizations to control the flow of information on cancer

through interdisciplinary journals. This is particularly important for the comprehensive evaluation of new treatment methods, which can be very expensive and unaffordable.
The aim of cancer research in Cameroon is to identify and evaluate ways to reduce cancer morbidity and mortality and improve the quality of life of cancer patients. The main categories of research are epidemiological research; clinical research; psychosocial/ behavioural research and health systems and health policy research.

There is a notable lack of experience and interest among health professionals in conducting cancer research. There is little enthusiasm, for example, for research on infection-related cancers such as cervical carcinoma, gastric cancer, hepatocellular carcinoma (HCC), Kaposi's sarcoma, Burkitt lymphoma, etc. which are among the most common cancers in Cameroon.

Three priority interventions with activities have been selected for this specific objective as illustrated in the table below:

a. Production of routine data on cancer;
b. Reactivation and extension of epidemiological surveillance of cancers;
c. Strengthening of Research.

For each of these interventions, the priority activities below were identified and validated.

Table 12: Priority Activities per intervention for objective 5

PI 1: Production of routine data on cancer
• Obtain updated population census data (number, age, gender) to the NACFAC; • Reactivate the two population cancer registries in Yaounde and Douala; • Assign staff to the Yaounde and Douala registry services; • Train staff of the registry services; • Provide equipment and consumables to the registry services; • Creation and extension of the hospital cancer registry services (adults and children); • Develop, validate and disseminate data collection tools.
PI 2: Reactivation and extension of epidemiological surveillance of cancers
• Training of councils & HFs on completing and registration of death certificates; • Develop, disseminate publications of epidemiological cancer surveillance data; • Affiliation of Cameroon's cancer registries to African and global networks.
PI 3: Strengthening Research
• Define, implement and monitor research priorities, • Conduct situational analysis of recurrent cancers for the country; • Educate the population based on socio-environmental risk factors; • Transform operational research results into action; • Build capacity on research, including cancer clinical trials

Specific objective 6 :

By 2024, improve institutional capacities on planning and programme management at all levels (governance).

Since its creation in 1992, its reorganization in January 2002 and despite the efforts made in the fight against cancer, the NACFAC faces several challenges which hinders progress towards attaining its objectives of eradicating cancer in Cameroon

These difficulties are, for example, weaknesses in prevention, diagnosis and effective patient management, a glaring lack of skills in program planning and management and also a lack of material and financial resources. The latter being important, since it supports operations and the implementation of activities.

Indeed, careful planning of activities and resources is crucial because it focuses program efforts towards priorities, permits appropriate allocation of human, material and financial resources, necessary for successful implementation. However, the program currently faces difficulties in program planning and management, while the implementation of this strategic plan will require the NACFAC to have strong management skills. It is thus necessary to strengthen the individual and organizational capacities of the NACFAC.

Therefore, it should be added that in terms of accountability and results-driven management, institutions can only produce effective results if they have the means and resources necessary for functioning. An inventory of the NACFAC reveals lack of office equipment, persistent connectivity problems strongly impacting internal and external communication, and a lack of some basic utilities hampering the smooth conduct of activities.

Achieving the results of objective 6 will have the effect of improving the program operations and providing necessary equipment and capacities to rigorously and innovatively drive the program. Objective 6 is structured into three priority interventions listed below.

Three priority interventions have been selected for this specific objective:

a. Improve planning and monitoring of programme activities;
b. Improve the functionality of the NACFAC;
c. Human resource capacity building.

For each of these interventions, the priority activities in the table 13 were identified and validated.

Table 13: Priority Activities per interventions for objective 6

PI 1: Improve planning and monitoring of programme activities
• Develop monitor, implement and review of the Annual Work Plan (AWP) of the programme; • Mobilize funds for research and NAFAC activities not taken into account by the AWP; • Communicate results of the work of the NACFAC; • Supervise cancer control activities in screening, registry and management centres.
PI 2: Improving the functionality of the NACFAC
• Renovation of the NACFAC headoffice; • Acquisition of office equipment and rolling stock • Improvement of the internet line and updating of the NACFAC website; • Improvement of the archiving system.
PI 3: Human Resource Capacity building
• Capacity building of programme staff on management and leadership; • Translation and validation of the strategic plan; • Mid-term review and planning of the NSPCaPC for the 2025-2029 strategic period.

6. IMPLEMENTATION, MONITORING AND EVALUATION

The implementation of the 2020-2024 NSPCaPC shall be carried out through Annual Work Plans developed according to the NSPCaPC guidelines. These plans shall be developed under the coordination of the National Secretariat of the NACFAC with the participation of all sectors other than the MOH which interact in the prevention, financing or treatment of cancers, including palliative care. All sectors at risk of generating cancers, such as sectors that handle radioactive rays, shall also be involved. Annual Work Plans shall aim at the effective implementation of this Strategic Plan.

Monitoring and evaluation of the 2020-2024 NSP shall be carried out within the framework of a National Monitoring and Evaluation Plan appended to this document. At the regional and operational level, Focal Points shall be in charge of coordinating activities and monitoring-evaluation. It is envisaged that these annual operational plans shall be results-oriented. The various coordination and implementation structures shall produce monthly, quarterly, bi-annual and annual reports according to the guidelines of the national monitoring and evaluation system. The preparation and implementation of operations in the Regions shall refer to the guidelines defined by the central level. In addition to planning, monitoring and evaluation tools, these guidelines take into account a series of criteria used to allocate the estimated budgets and the interventions to be carried out. It shall also be necessary to implement programmes of targeted interventions for the benefit of specific groups. Eventually, cancer control activities will have to be integrated into sectoral, regional and municipal development plans. This integration approach shall be progressively developed from the start of the implementation of the 2010-2024 NSP.

The flow of information shall be linked to the National Health Information System (NHIS) and the data shall be reported through the DHIS-2, the conventional platform for reporting health data by the MOH.

Monitoring and evaluation shall be an integral part of the implementation process and shall aim to assess the effectiveness and efficiency of interventions through indicators and outcomes. It should enable stakeholders at different levels to continuously monitor and improve their performance in the implementation of the strategic plan**.** To measure the effectiveness of the implementation of the plan, indicators shall be filled in on a regular and continuous basis, to enable detection of shortcomings and identify solutions for improvement. Hence the monitoring and evaluation mechanism shall help to stimulate creativity and innovation through the analysis of collected data.

6.1 National M&E System

The main M&E stakeholders at the different levels are presented in figure 8.

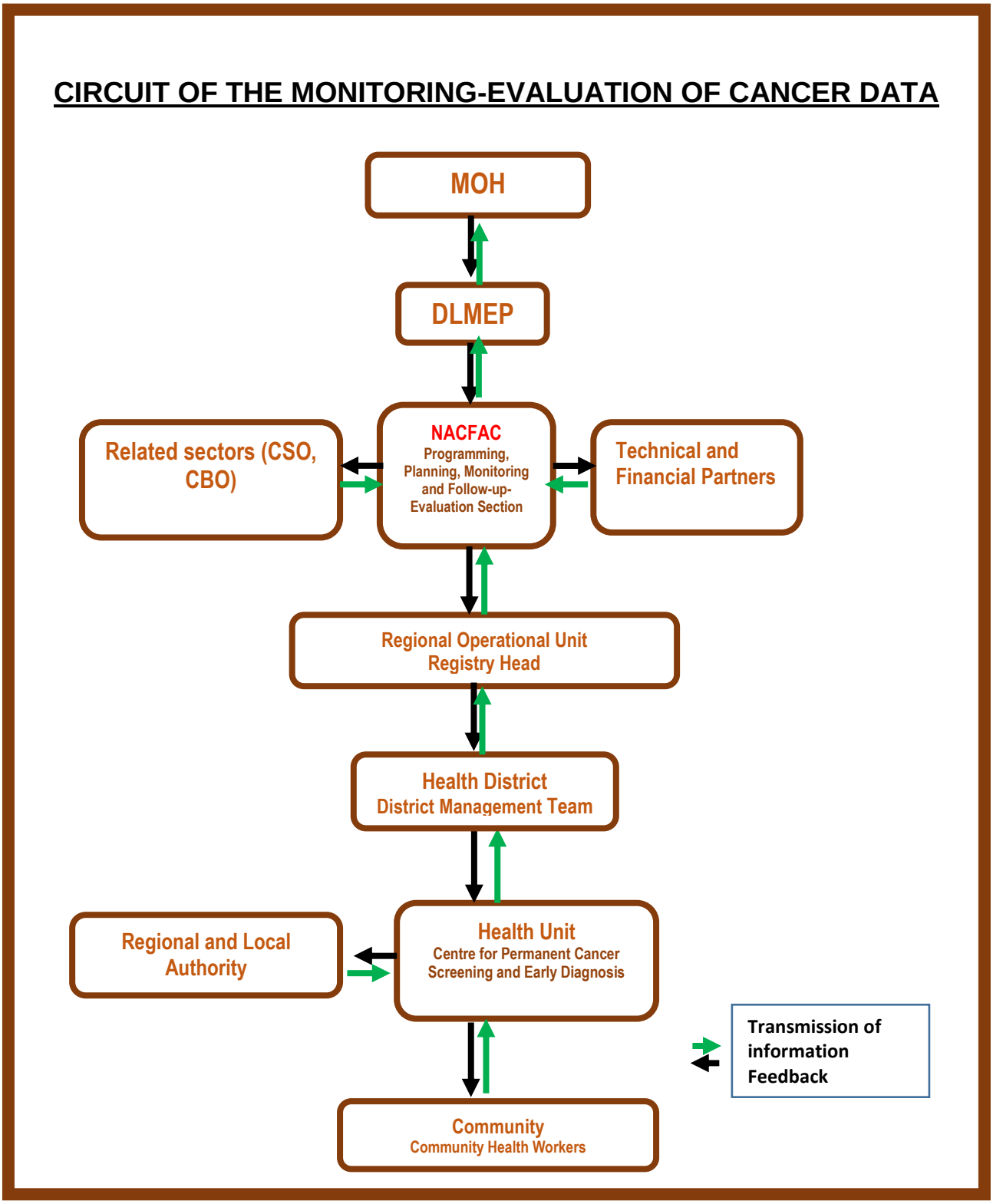

Figure 8: Monitoring and evaluation mechanism in Cameroon, 2020-2024

Considering the impact on the population, supervision and evaluation of projects will an important element for any programme. Supervision sessions shall be carried out by specialists through field visits, meetings and communication with sub-committees. For effective monitoring and evaluation, cancer data must be reliable hence the need for a monitoring and evaluation section of the strategic plan whose objectives :

- Specify the organization, the functioning, the roles & responsibilities of stakeholders;
- Define the mechanisms for M&E
- Define the M&E indicators
- Specify the flow of information for decision-making;
- Identify the sources of information for M&E.

The main objective of the evaluation is to draw lessons to enable modification of strategies, with the aim of improving results. The results of the NACFAC can be evaluated in terms of both short and long term projects. These outcomes should determine whether the objectives have been achieved at a given point in time. This evaluation shall cover the following areas:

- Population coverage in screening
- Primary preventive measures
- Early treatment and diagnosis
- Palliative Care
- Cancer surveillance
- Research
- Training
- Infrastructural development
- Cost-effectiveness of the different strategies

Two evaluations shall be carried out, one at mid-term and the other at the end of the implementation of the Strategic Plan. The evaluation of this programme shall be internal and external. The internal evaluation must be carried out annually by the NACFAC in collaboration with the Ministry of Public Health. The external evaluation will be carried out by international organizations such as WHO, UNICEF, IAEA etc... It shall be done every three years. The evaluation reports, whether internal or external, shall reflect achievements, failure to achieve objectives, constraints and future plans.

Success criteria (performance indicators) for this programme are as follows:

a. Decrease in mortality and morbidity rates due to cancer.
b. Decrease in the proportion of patients seen at an advanced stage of the disease.
c. Increase in the percentage of conservative surgery
d. Decrease in treatment costs to the health care system.
e. Improvement of the quality of life of the patients.

6.2 Monitoring and Evaluation Framework

Indicator	Baseline and target						Sources	Method	Frequency	Person in charge
	Baseline	2020	2021	2022	2023	2024				
Specific objective 1: Establish a national cancer control policy in Cameroon by 2021 and make it functional throughout the NSPCaPC implementation period										
PI 1. Development, production and dissemination of strategic and operational documents including implementation guidelines by 2021										
Policy and guidelines document on different categories of cancers available	*No documents (2018)*	Document available	-	-	-	-	Workshop report Policy	Routine	Annually	**NACFAC**
Palliative care development policy document available	*No documents (2018)*	Document available	-	-	-	-	Workshop report Policy	Routine	Annually	**NACFAC**
Implementation document of various policies available	*No documents (2018)*	Document available	-	-	-	-	Workshop report Policy	Routine	Annually	**NACFAC**
PI 2. By 2024, 25% improvement in the teaching and research performance in oncology in Cameroon										
Health promotion plan in schools on cancer available	*No documents (2018)*	Promotion plan available	-	-	-	-	Workshop report Policy	Routine	Annually	**NACFAC**
Training guide for palliative care in the country available	*No documents (2018)*	Training guide available	-	-	-	-	Workshop report Policy	Routine	Annually	**NACFAC**
Number of trained trainers on palliative care: 02 per region and 05 at the central level	0 (2018)	-	10	-	15	-	Training report	Verification	Annually	**NACFAC**
Number of faculties that have included Cancer in practicals, training/learning programmes for students	n/a	1	1	2	2	2		Verification	Annually	Faculties **NACFAC**
Local and regional specialized training programme for candidates interested in oncology available	No specialized training programme	-	Training programme available	-	-	-	Document	Verification	Annually	**NACFAC**
PI 3. By 2020, reorganization of the National Cancer Control Programme										

Instrument reorganizing the NCaCC available	n/a	New instruments available	-	-	-	-	Legal instruments	Verification	Annually	**NACFAC**
Number of health systems with cancer prevention activities	0 (2018)	-	1	2	3	3	Action plans	Verification	Annually	**NACFAC** Focal points
Number of health programmes engaged in cancer prevention activities	n/a	-	1	2	3	5	Action plans	Verification	Quarterly	**NACFAC** Focal points
PI 4. Construction of the National Cancer Institute										
50 service providers trained with different profiles	n/a	-	-	20	30	-	Training reports	Supervision	Annually	**NACFAC**
50 service providers recruited at different levels	n/a	-	-	20	30	-	Recruitment reports	Supervision	Annually	**NACFAC**
Number of communication and awareness-raising actions on the NCaI carried out with the population	n/a	-	-		5	5	Communication Log	Verification	Annually	**NACFAC**
Specific objective 2: By 2023, increase primary prevention interventions, including communication and promotion for cancer control by 25%.										
PI 1. Social mobilization for cancer prevention										
Communication strategy document available	No communication strategy available	Communication strategy available	-	-	-	-	Strategy	Verification	Annually	**NACFAC**
PI 2. Advocacy for cancer prevention and treatment										
Number of advocacy actions carried out per month (40 actions/one advocacy action monthly)	n/a	4	12	12	12	-	Action reports	Routine	Monthly	**NACFAC**
Number of resource mobilization actions carried out per month (40 actions/one advocacy action per	n/a	4	12	12	12	-	Action reports	Routine	Monthly	**NACFAC**

month)										
PI 3. Information Education and Communication (IEC) for cancer prevention										
40 actions/one awareness action per month	n/a	4	12	12	12	-	Action reports	Routine	Monthly	**NACFAC**
PI 4. Communication for behaviour change for cancer prevention										
Number of Advocacy Kits acquired/Acquisition reports	n/a	10		30	50	-	Advocacy Kits	Verification	Annually	**NACFAC**
Number of health education modules on cancer for the general public	n/a	5000	-	5000	-	-	IEC modules	Verification	Annually	**NACFAC**
Number of training sessions held	n/a	1	4	4	4	4	Training modules Training reports	Supervision	Annually	**NACFAC**
Number of IEC sessions	n/a		100	200	200	300	Session reports	Supervision	Annually	**NACFAC**
Number of collaboration agreements with the media	n/a	2	10	15	20	25	Agreements	Supervision	Annually	**NACFAC**
PI 5. Vaccination and strengthening of screening for precancerous cases										
Number of Kits (1,000,000)	n/a		200.000	200.000	200.000	400.000	Kits	Verification	Annually	**NACFAC**
Number of campaigns	n/a	1	2	2	2	2	Campaign reports	Verification	Annually	**NACFAC**
Number of national campaigns	n/a	1	2	2	2	2	Number of campaign reports	Verification	Annually	**NACFAC**
Specific objective 3: By 2024, increase the number of cancers screened and treated early by 25%.										
PI 1. Strengthening of secondary prevention initiatives through the early diagnosis of curable cancers										
Number of enhanced histopathology services (15)	n/a	1	4	4	4	2	Training reports	Supervision	Annually	**NACFAC**
Number of Centres for Education, Permanent Screening and Early Diagnosis (100)	n/a	-	50	-	50	-	Equipment	Supervision	Bi-annual	**NACFAC**
Number of equipped	n/a	-	50	-	50	-	Equipment	Supervision	Bi-annual	**NACFAC**

Centres for Education, Permanent Screening and Early Diagnosis (100)										
Number of health workers trained in knowledge of early screening techniques (1000)	n/a	50	250	250	250	250	Training reports	Supervision	Bi-annual	**NACFAC**
Number of collaboration agreements	n/a	2	10	10	10	10	Agreements	Supervision	Bi-annual	**NACFAC**
Number of samples transported from the Regions and analysed	n/a	1000	5000	10000	15000	20000	Samples	Supervision	Bi-annual	**NACFAC**
Database on image analysis available	n/a	-	Database available	-	-	-	Database	Verification	Annually	**NACFAC**
PI 2. Strengthening of secondary prevention initiatives through the rapid treatment of cancers detected at an early stage										
Number of trained staff	n/a	100	250	1000	1500	2000	Strengthening plan Training reports	Verification	Annually	**NACFAC**
Guide to the management of early cancer available	No guide available (2018)	-	01 guide available	-	-	-	Management guide	Verification	Annually	**NACFAC**
Number of kits available drugs, materials	n/a	1000	5000	10000	15000	20000	Kits	Supervision	Annually	**NACFAC**
Specific objective 4: Improve the efficacy of treatment with a 10% increase in the general cure rate and efficiency with a 50% reduction in the average cost of comprehensive care for 95% of cancers screened nationwide										
PI 1. Strengthening the quality of treatment of cancer cases										
Number of multidisciplinary cancer management committees (25)	n/a	2	10	13	-	-	Committees' reports	Routine	Annually	**NACFAC**
Document of quality assurance mechanisms to monitor the proper management of cancer patients and compliance with	No mechanism available (2018)	-	Quality assurance mechanism available	-	-	-	Quality assurance documents	Verification	Annually	**NACFAC** Consultant

ethics										
% Chemotherapy grant	0% (2018)	10%	20%	40%	70%		90%	Annual budget	Verification	Annually	**NACFAC** MOH
Number of radiotherapy services strengthened in Douala and Yaounde	n/a	-	1	1	-		-	n/a	Verification	Annually	**NACFAC**
Number of radiotherapy services created in Bertoua, Garoua and Bamenda	0 (2018)	-	-	1	1		1	n/a	Verification	Annually	**NACFAC**
Number of nuclear medicines services rehabilitated/created	n/a	-	1	1				n/a	Verification	Annually	**NACFAC**
Number of oncology services strengthened	n/a	-	2	4	4		-	n/a	Verification	Annually	**NACFAC**
IP 2. Production of good palliative care services											
Percentage of stock out											
Percentage of facilities complying with standards	-	-	-	-	-		90%	Quality control reports	Verification	Annually	**NACFAC**
Number of faculties with revised/cancer curricula	n/a	-	1	2	5		10	Curricula	Verification	Annually	**NACFAC** Faculties
Percentage of health areas with palliative care programmes			10%	15%	20%		25%	Care programmes	Verification	Annually	**NACFAC**
Specific Objective 5 : By 2023, satisfactory production of strategic information											
IP 1. Production of routine data on cancer											
Number of updated data report obtained	n/a	1	1	1	1		1	Data reports	Verification	Annually	**NACFAC**
Number of functional population cancer	n/a	2	2	2	2		2	Service note to establish cancer	Verification	Annually	**NACFAC** MOH

registries in Yaounde and Douala							registries			
Number of personnel assigned to the registries	n/a	10	10	10	10	10	Service Note of assignment	Supervision	Annually	**NACFAC** MOH
Number of personnel trained in operating registries	n/a		10	10	10	10	Training reports	Supervision	Annually	**NACFAC** MOH
Number of Kits available in the registries	n/a	1000	1000	1000	1000	1000	n/a	Supervision	Annually	**NACFAC** MOH
Number of advocacies on data collection for registrers	n/a	100	200	200	200	200	Advocacy reports	Supervision	Annually	**NACFAC**
IP 2. Reactivating and popularizing epidemiological surveillance of cancers										
Percentage of councils and health facilities cmpleting and registering death certificates	n/a		10%	20%	30%	50%	Death certificates	Supervision	Annually	**NACFAC** Councils
Report on Risk Factor Prevalence Study of Cancer	n/a		1	1	1	1	Report	Verification	Annually	**NACFAC** Consultant
Study report on cancer-related infections	n/a		1	1	1	1	Report	Verification	Annually	**NACFAC** Consultant
Number of annual cancer reports	n/a	1	1	1	1	1	Report	Verification	Annually	**NACFAC** Consultant
Cameroon cancer registries affiliated to African and global networks of registries.	n/a		1	1			Affiliation note	Supervision	Annually	**NACFAC** Councils
Number of published articles	n/a	5	10	15	20	25	Articles	n/a	Annually	**NACFAC**
IP 3. Strengthening Research										
Study Report on	n/a		1		1		Report	Verification	Annualyl	**NACFAC**

Educational Needs for Healthy Behaviours										Consultant
Report of country surveys to assess the number of staff involved in cancer prevention and control	n/a		1		1		Report	Verification	Annualyl	**NACFAC** Consultant
Rapport on situation analysis of recurrent cancers	No report on the situation of cancer in Cameroon		1			1	Report	Verification	Annually	**NACFAC** Consultant
Number of people trained in cancer research			1	1	1	1	Training report	Verification	Annually	**NACFAC** Consultant
Number of research funded by WHO		1	2	2	2	2	Annual Budget	Verification	Annually	WHO **NACFAC**
Percentage of (NSPCaC) funding/Volume of funds mobilized						100%	Annual Budget	Verification	Annually	**NACFAC** WHO CHAI
Number of people empowered in cancer research		25	25	25	25	25	Training report	Verification	Annually	**NACFAC** Consultant

6.3 Estimated budget

Funding is critical and essential to the implementation of the National Strategic Plan for Cancer Prevention and Control (NSPCaPC). It is therefore necessary to highlight in a concise, clear and accurate manner the information with regards to the following:

- estimated overall cost to implement the plan
- annual cost necessary to achieve the various objectives,
- different outputs.

Methodology

The activities budgeted were mainly based on prices provided in the Cameroon Mercuriale 2019 and making reference to the price applied by other programmes as well as previous experience gained by the NACFAC. The table below shows the different sources of funding for the implementation of this national strategic plan.

The various sources of funding for the Strategic Plan are contained in the table below:

Table 14: Sources of funding for the implementation of the national strategic plan

Sources	2020	2021	2022	2023	2024	Total	Contribution (in %)
State (MOH)							
WHO	7,822,000	62,576,000				70,398,000	
IAEA	522,690,000	112,660,000	100,215,000	146,406,255	0	881,971,255	
UNICEF							
CHAI							
[Source 6]							
[Source 7]							
Total Financing Available	FCFA -	FCFA -	FCFA -	FCFA -	FCFA -	FCFA -	0%
Total cost of the NCaCP	6,212,177,764	11,643,621,000	13,238,645,000	11,452,662,553	9,939,460,000	**52,486,566,317**	
Total Resources Required	6,212,177,764	11,643,621,000	13,238,645,000	11,452,662,553	9,939,460,000	**52,486,566,317**	
GAP To be mobilized	6,212,177,764	11,643,621,000	13,238,645,000	11,452,662,553	9,939,460,000	**52,486,566,317**	

Structure of the budget in relation to budgetary programmes

The different budget structures are shown in the table below:

Table 15: Different budget structures

	Budget Programmes	Specific objectives	Year	Cost	Percentage of budget
General objective of the strategic plan : By 2024, reduce by 10% the morbidity and mortality caused by cancer to mitigate its socio-economic impact on development.	**Health promotion & Disease Prevention**	**Specific Objective No. 2 :** By 2024, increase by 25% primary prevention interventions through communication for behaviour change in favour of cancer control.	2020-2024	FCFA 12,679,809,211	**24.16%**
	Case Management	**Specific Objective No. 3:** By 2024, increase by 25% the number of early detected and treated cancers..	2020-2024	FCFA 5,650,655,000	**10.77%**
		Specific Objective No. 4: By 2024, improve the effectiveness and efficiency of treatment with a 10% increase in the overall recovery rate	2020-2024	FCFA 30,932,510,001	**58.93%**
	Governance and Institutional support to the health sector	**Specific objective No. 1** : By 2021, establish by making functional in Cameroon, a national cancer control policy during the implementation period of the National Strategic Plan for Cancer Control (2020 - 2024).	2020-2021	FCFA 2,251,928,000	**4.29%**
		Specific Objective No. 5: By 2024, produce strategic information on the epidemiology of cancers.	2020-2024	FCFA 362,726,000	**0.69%**
		Specific objective No. 6: By 2024, improve institutional capacities for programme planning and management at all levels.	2020-2024	FCFA 608,938,106	**1.16%**
	TOTAL			**FCFA 52,486,566,318**	**100%**

The following table lists the conditions for success and threats.

Opportunities and Threats

Conditions for success	Threats
Involvement of Regional and Local Authorities (RLAs) in the decentralization process	Social crises (situation in the South-West and North-West, the Bokoharam sect, and the situation of refugees in East Cameroon). Impact of major Health Crisis (COVID-19)
Commitment of TFPs through their financing and expertise	Non involvement of the community
	Natural disasters

Table 16 shows the budget summary of the National Strategic Plan for Cancer Prevention and Control. The amounts are in local currency (FCFA).

Table 16: Budget summary of the National Strategic Plan for Cancer Prevention and Control (NSPCaPC) (*Amount in local currency: FCFA)*

SPECIFIC OBJECTIVES	2020	2021	2022	2023	2024	TOTAL	%
Specific Objective 1 : By 2021, put in place a national cancer control policy in Cameroon and make it functional throughout the implementation period of the National Strategic Plan for Cancer Control (NSPCaC)	299,090,000	573,729,000	608,690,000	581,729,000	188,690,000	2,251,928,000	**4.29%**
Specific Objective 2 : By 2023, increase by 25% primary prevention interventions, including communication and promotion for cancer control.	179,454,211	325,397,500	4,171,227,500	4,023,875,000	3,979,855,000	12,679,809,211	**24.16%**
Specific Objective 3 : By 2024, increase by 25% the number of early detected and treated cancers.	1,887,810,000	21,600,000	939,065,000	1,843,500,000	958,680,000	5,650,655,000	**10.77%**
Specific Objective 4 : By 2023, improve treatment efficacy with a 10% increase in the general cure rate and efficiency with a 50% reduction in the average cost of global treatment for 95% of cancers detected throughout the country.	3,746,355,000	7,446,950,000	7,641,491,667	6,080,031,667	6,017,681,667	30,932,510,001	**58.93%**
Specific Objective 5 : By 2023, satisfactory production of strategic information	94,950,000	91,090,000	63,818,000	77,440,000	35,428,000	362,726,000	**0.69%**
Specific Objective 6 : By 2024, improve institutional capacities for programme planning and management at all levels (governance).	79,156,553	232,800,000	52,430,000	183,071,553	61,480,000	608,938,106	**1.16%**
Total cost of the Strategy Total cost of the Strategy	**6,286,815,764**	**8,691,566,500**	**13,476,722,167**	**12,789,647,220**	**11,241,814,667**	**52,486,566,318**	**100.00%**
	12%	**17%**	**26%**	**24%**	**21%**	**100%**	

The total budget of the Strategic Plan broken down by year in local currency (FCFA) and in dollars is presented in the table below:

Table 17: Total Budget

Year	Amount (in local currency)	Amount (in USD)	%
2020	6,286,815,764	10,827,501.95	12%
2021	8,691,566,500	14,969,096.71	17%
2022	13,476,722,167	23,210,356.55	26%
2023	12,789,647,220	22,027,038.07	24%
2024	11,241,814,667	19,361,275.20	21%
Total	**52,486,566,318**	90,395,268.48	100%

Source : Costing tools for the NSPCaPC (1 $ = 580.634 FCFA in date of 06/24/2020 https://www1.oanda.com/currency/converter/*

Figure 9 illustrates this annual distribution by raising the peak expenditure in the third year.

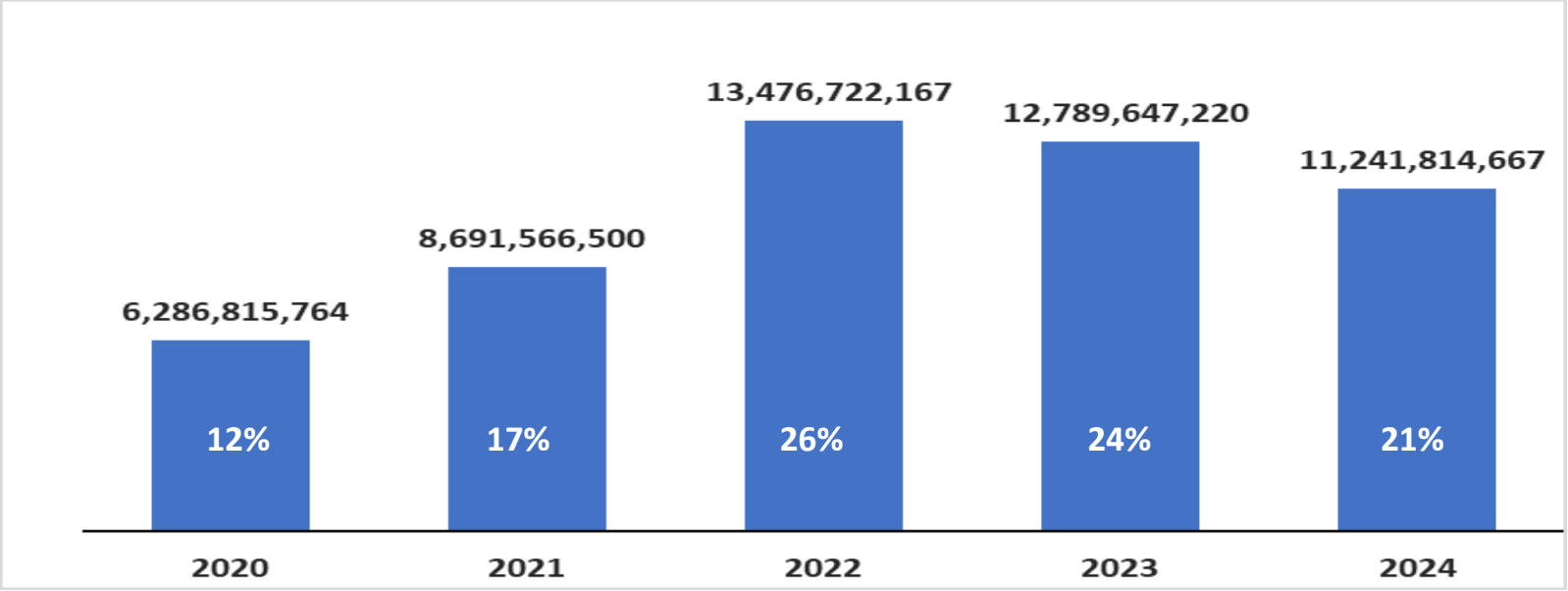

Figure 18: Annual distribution of the global budget (in FCFA)

The total budget broken down by specific objectives is presented in Table 18.

Table 19: Distribution of budget by specific objectives (FCFA)

Specific objectives	Total
Specific Objective 1 : By 2021, put in place a national cancer control policy in Cameroon and make it operational throughout the implementation period	**2,251,928,000**
Specific Objective 2 : By 2023 increase by 25% primary prevention interventions, including communication and promotion for cancer control,.	**12,679,809,211**
Specific Objective 3: By 2024, increase by 25% the number of early detected and treated cancers.	**5,650,655,000**
Specific Objective 4 : By 2023, improve treatment efficacy with a 10% increase in the general cure rate and efficiency with a 50% reduction in the average cost of global treatment for 95% of cancers detected throughout the country.	**30,932,510,001**
Specific Objective 5 : By 2023, satisfactory production of strategic information	**362,726,000**
Specific Objective 6 : By 2024, improve institutional capacities for programme planning and management at all levels (governance).	**608,938,106**
TOTAL	**52,486,566,318**

7. OPERATIONAL FRAMEWORK

Activities	Persons in charge of implementation	Annual cost (x1000)	2020 (x1000)	2021 (x1000)	2022 (x1000)	2023 (x1000)	2024 (x1000)	Total cost per activity (x1000)
Specific Objective 1 : By 2021, put in place a national cancer control policy in Cameroon and make it operational throughout the implementation period of the NSPCaPC								
IP 1. By 2021, development, production and dissemination of strategic and operating documents including implementation guidelines								
Development and validation of policy and guidance documents on different categories of Cancers and palliative care (children, women and adults)		30,000	30,000	-	-	-	-	30,000
Prepare a policy for the development of palliative care		15,000	15,000	-	-	-	-	15,000
Develop implementation guidelines		15,000	15,000	-	-	-	-	15,000
IP 2. By 2024, the performance of teaching and research in oncology in Cameroon will have improved by 25%.								
Development and implementation of health promotion plans on cancer in primary schools, high schools and Colleges		15,000	-	15,000	-	-	15,000	30,000
Development of a reference framework and training manual for palliative care in the country		15,000	-	15,000	-	-	15,000	30,000
Training of 25 palliative care trainers to ensure continuous training of health		20,000	-	20,000	-	20,000	-	40,000

professionals at the operational level								
Extend coverage of cancer-related disciplines through practicals as part of the curriculum for students in 8 health training institutions		8,000	-	8,000	16,000	16,000	16,000	56,000
Setting up of a technical group to support cancer researchers		3,600	-	3,600	3,600	3,600	3,600	14,400
Initiation and facilitation of local and regional specialized training for candidates interested in oncology		-	-	-	-	-	-	-
IP 3 . By 2020, reorganization of the National Cancer Control Programme								
Restructuring the legal framework of the NACFAC		-	-	-	-	-	-	-
Integration of cancer prevention and control activities into the minimum package at all levels of care implementation with a focus on primary health care		80,000	-	80,000	-	-	-	80,000
Integration of cancer prevention and control into the health programmes of NGO and Associations		5,970	5,970	5,970	5,970	5,970	5,970	29,850
		30,000	30,000	30,000	30,000	30,000	30,000	150,000
Establish collaboration with other health programmes (e.g. malaria,		1,040	1,040	1,040	1,040	1,040	1,040	5,200

schistosomiasis, HIV/AIDS, EPI, etc.) to strengthen the health system.		1,040	1,040	1,040	1,040	1,040	1,040	5,200
		1,040	1,040	1,040	1,040	1,040	1,040	5,200
		3,039	-	3,039	-	3,039	-	6,078
IP 4. Construction of the National Cancer Institute								
Drafting of the decision document creating and organizing a National Cancer Institute (NCaI)		-	-	-	-	-	-	-
Developing the project to establish NCaI (Setting up the Coordination Unit: a steering committee, a project implementation unit, and a working group).		-	200,000	300,000	500,000	500,000	100,000	1,600,000
Developing the project to establish NCaI (Setting up the Coordination Unit: a steering committee, a project implementation unit, and a working group)		-	-	-	-	-	-	-
Acquiring a site for the construction of INCa		-	-	-	-	-	-	-
Carrying out feasibility studies		-	-	-	-	-	-	-
Recruitment and Training of NCaI Human Resources		-	-	-	-	-	-	-

Drafting and validation of an NCaI procedures manual		90,000	-	90,000	-	-	-	90,000
Drafting and validation of an NCaI procedures manual		-	-	-	-	-	-	-
Providing NCaI with biomedical equipment		-	-	-	-	-	-	-
Providing NCaI with furniture and other equipment		-	-	-	-	-	-	-
Acquiring commodities (drugs) for the start-up phase		-	-	-	-	-	-	-
Conducting Civil Engineering Works		-	-	-	-	-	-	-
Designating a contracting authority		-	-	-	-	-	-	-
Preparing the servicing and maintenance plan		-	-	-	50,000	-	-	50,000
Promotion and communication of NCaI's activities and services to the population.		-	-	-	-	-	-	-
Specific Objective 2 : By 2023, increase by 25% primary prevention interventions, including communication and promotion for cancer control.								
IP 1. Social mobilization for cancer prevention								
Develop a communication strategy for cancer prevention and control among sensitized individuals and communities		7,750	7,750	-	-	-	-	7,750

Developing guidelines for the implementation of social mobilization against cancer		4,900	4,900	-	-	-	-	4,900
IP 2. Advocating for cancer prevention and treatment								
Conducting Advocacy for Cancer Prevention and improving Cancer Control Services		1,500	1,500	1,500	1,500	1,500	1,500	7,500
Developing a communication and advocacy strategy		1,010	1,010	1,010	-	-	-	2,020
Developing an investment case for mobilization of funds		2,800	2,800	-	-	-	-	2,800
Advocacy for resource mobilization for cancer prevention and improvement of cancer control services		3,660	3,660	3,660	-	-	-	7,320
Strengthening prevention in cancer control		5,940	5,940	-	-	5,940	5,940	17,820
Organizing National and International Cancer Days (4 February - World Cancer Day; 15 February - International Paediatric Oncology Day; 8 March; June - National Week; September- Childhood cancer awareness month; Pink October		5,000	5,000	5,000	5,000	5,000	5,000	25,000
		5,000	5,000	5,000	5,000	5,000	5,000	25,000
		5,000	5,000	5,000	5,000	5,000	5,000	25,000
		5,000	5,000	5,000	5,000	5,000	5,000	25,000

		5,000	5,000	5,000	5,000	5,000	5,000	25,000
		12,400	12,400	12,400	12,400	12,400	12,400	62,000
IP 3. Information Education and Communication (IEC) for cancer prevention								
Develop community awareness (health education) materials on cancer, methods of prevention, self-detection, early diagnosis and opportunities for care; Community awareness (health education) materials on cancer, methods of prevention, self-detection, early diagnosis and opportunities for care.		7,750	7,750	-	-	-	-	7,750
		3,000	3,000	-	-	-	-	3,000
		3,475	3,475	-	-	-	-	3,475
		8,750	8,750	-	-	8,750	-	17,500
		2,625	2,625	2,625	2,625	2,625	2,625	13,125
Conducting annual community sensitization campaigns		10,000	10,000	10,000	10,000	10,000	10,000	50,000
IP 4. Communication for behavioural change for cancer prevention								
Develop IEC materials for health education on cancer for the general public		50,000	-	50,000	-	50,000	-	100,000
Develop and implement a training programme for the community and PHC workers on cancer prevention, self-detection, screening, and palliative		211,043	-	211,043	211,043	-	-	422,085

cancer management (treatment and care) options.								
Organize IEC sessions in permanent screening and pre-cancer diagnosis centres and in the community.		-	-	-	-	-	-	-
Strengthen collaboration with the local media for the dissemination of messages from the permanent screening and pre-cancer diagnosis centres.		1,660	1,660	1,660	1,660	1,660	1,660	8,300
IP 5. Vaccination and enhanced screening of precancerous cases								
Sensitizing on the importance of vaccination against HBV and HPV		15,730	15,730	1,500	2,000	1,000	15,730	35,960
Acquisition of screening kits (Ampfire)		59,004	59,004	-	-	-	-	59,004
Acquisition of vaccination kits against hepatitis B and HPV		3,900,000	-	-	3,900,000	3,900,000	3,900,000	11,700,000
Organizing immunization campaigns against HBV and HPV in collaboration with the EPI		2,500	2,500	2,500	2,500	2,500	2,500	12,500
Publication of annual statistics on vaccination and screening of hepatitis B and HPV		2,500	-	2,500	2,500	2,500	2,500	10,000
Specific Objective 3 : By 2024, increase by 25% the number of early detected and treated cancers.								
IP 1. Strengthening secondary prevention initiatives through early diagnosis of treatable cancers								

Strengthen existing histopathology services		15,180	15,180	-	15,180	-	15,180	45,540
		21,600	21,600	21,600	21,600	-	-	64,800
		900,000	900,000	-	-	900,000	-	1,800,000
Establish additional histopathology services in underserved regions		2,285	-	-	2,285	-	-	2,285
		43,500	43,500	-	-	43,500	43,500	130,500
		900,000	900,000	-	900,000	900,000	900,000	3,600,000
Harmonizing the staging of cancer		7,530	7,530	-	-	-	-	7,530
IP2. Strengthening secondary prevention initiatives through the rapid treatment of early-detected cancers								
Provision of services with drugs and materials necessary for the early management of cancer.		-	-	-	-	-	-	-
Developing a Cancer Management Guide		-	-	-	-	-	-	-
Specific Objective 4 : By 2023, improve the treatment efficacy with a 10% increase in the general cure rate and efficiency with a 50% reduction in the average cost of global treatment for 95% of cancers detected throughout the country.								
IP 1. Strengthening the treatment quality of cancer cases								
Set up multidisciplinary cancer management committees		3,375	3,375	-	3,375	3,375	3,375	13,500

Development of harmonized treatment guidelines for common cancers in the country		7,500	-	7,500	7,500	7,500	7,500	30,000
		7,530	-	-	7,530	7,530	-	15,060
Ensuring the continuous availability and accessibility of chemotherapy drugs for cancer		4,070	4,070	4,070	4,070	4,070	4,070	20,350
		2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	10,500,000
		252,000	252,000	252,000	252,000	252,000	252,000	1,260,000
		8,140	8,140	8,140	8,140	-	-	24,420
Financing chemotherapy drugs		-	100,000	250,000	300,000	200,000	150,000	1,000,000
Strengthening existing Radiotherapy services (Douala and Yaounde)		4,820	-	4,820	-	4,820	-	9,640
Opening of 3 other Radiotherapy services (Bertoua, Garoua and Bamenda)		800,000	-	800,000	800,000	-	-	1,600,000
Rehabilitating the Yaounde Nuclear Medicine Center and Launch a Nuclear Medicine Service in Douala		140,000	-	140,000	140,000	140,000	140,000	560,000
Strengthening existing medical oncology services and create 8 chemotherapy day		2,600,000	-	2,600,000	2,600,000	-	-	5,200,000

hospitals progressively across all 10 regions		146,667	-	-	146,667	146,667	146,667	440,000
		1,950,000	-	-	-	1,950,000	1,950,000	3,900,000
IP 2. Production of good palliative care services								
Developing quality assurance mechanisms to monitor the provision of palliative care to cancer patients and ethic compliance		6,560	6,560	-	-	-	-	6,560
Ensuring the uninterrupted availability of strong opioids and other essential drugs in palliative care		4,070	4,070	4,070	4,070	4,070	4,070	20,350
		1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	6,300,000
		8,140	8,140	-	8,140	-	-	16,280
Establishing a national coordinating body for palliative care activities		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
		16,350	-	16,350	-	-	-	16,350
Specific Objective 5 : By 2023, satisfactory production of strategic information								
IP 1. Production of routine data on cancer								

Provide the National Cancer Control Committee with updated data on the population census (number, age, gender).		-	-	-	-	-	-	-
Reactivation of the 2 population cancer registries of Yaounde and Douala		-	-	-	-	-	-	-
		9,500	9,500	-	-	-	-	9,500
		2,500	2,500	-	-	-	-	2,500
Posting of staff in the Yaounde and Douala Registry services		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
Capacity-building of the registry personnel Provision of equipment and consumables to registry services		12,900	12,900	12,900	-	-	-	25,800
Provision of equipment and consumables to registry departments		6,400	6,400	6,400	-	-	-	12,800
		11,200	-	11,200	11,200	-	-	22,400
		-	-	-	-	-	-	-

		1,200	-	1,200	1,200	1,200	1,200	4,800
		6,060	-	6,060	6,060	6,060	6,060	24,240
		1,880	-	-	1,880	1,880	1,880	5,640
Creation and extension of cancer registry services in hospitals (adults and children)		6,400	6,400	6,400	-	-	-	12,800
		11,200	-	11,200	-	-	-	11,200
		-	-	-	-	-	-	-
		1,200	-	1,200	1,200	1,200	1,200	4,800
		6,060	-	6,060	6,060	6,060	6,060	24,240
		1,880	-	-	1,880	1,880	1,880	5,640
IP 2. Reactivating and popularizing epidemiological surveillance of cancers								
Strengthening the capacities of councils and health facilities on completing and registration of death certificates		6,760	6,760	6,760	6,760	6,760	6,760	33,800
Drafting/dissemination/publication of epidemiological surveillance data on		5,310	5,310	5,310	5,310	5,310	5,310	26,550

cancer								
		250	-	-	250	250	250	750
Affiliation of Cameroon cancer registries to African and global networks.		1,328	-	-	1,328	-	1,328	2,656
		3,500	3,500	3,500	3,500	3,500	3,500	17,500
IP 3. Strengthening Research								
Defining research priorities, planning, implementing and Monitoring research activities		32,000	32,000	-	-	32,000	-	64,000
Conducting a situation analysis of recurrent cancers for the country		3,000	3,000	-	-	3,000	-	6,000
Educating the population about socio-environmental risk factors		4,070	4,070	-	4,070	-	-	8,140
Translating operational research results into action		5,730	-	-	5,730	5,730	-	11,460
		7,390	-	-	7,390	-	-	7,390
Capacity building on research, including cancer clinical testing at all levels of the health system		2,610	2,610	-	-	2,610	-	5,220
		12,900	-	12,900	-	-	-	12,900

Specific Objective 6 : By 2024, improve institutional capacities for programme planning and management at all levels (governance).								
IP 1. Improving the planning and monitoring of programme activities								
Developing, monitoring, reviewing and implementing the Annual Work Plan (AWP) of the programme.		5,730	5,730	5,730	5,730	5,730	5,730	28,650
		4,070	4,070	4,070	4,070	4,070	4,070	20,350
Mobilizing funds for research and NACFAC activities not covered by the AWP		2,660	2,660	-	-	2,660	-	5,320
Disseminating results of the work of the NACFAC		2,410	2,410	-	-	-	-	2,410
		20,800	20,800	20,800	20,800	20,800	20,800	104,000
Supervision of cancer control activities in screening, registry and management centres		6,320	-	6,320	-	6,320	-	12,640
		830	830	830	830	830	830	4,150
		6,000	6,000	6,000	6,000	6,000	6,000	30,000
IP 2. Improve NACFAC functioning								
Renovating the NACFAC head office		50,000	-	-	-	50,000	-	50,000
Purchase of office equipment								

		17,362	17,362	-	-	17,362	-	34,723
Purchase of rolling stock		150,000	-	150,000	-	-	-	150,000
Improving the internet line and updating the NACFAC website		10,000	10,000	10,000	10,000	10,000	10,000	50,000
Improving the archiving system		15,000	-	15,000	-	-	-	15,000
IP3. Capacity building								
Capacity building of programme staff on management and leadership skills		5,000	-	5,000	5,000	5,000	5,000	20,000
		9,050	-	9,050	-	9,050	-	18,100
		45,250	-	-	-	45,250	-	45,250
Translation and validation of the Strategic Plan		1,875	1,875	-	-	-	-	1,875
		1,690	1,690	-	-	-	-	1,690
Mid-Term Review and Planning of the NSPCaC for the 2025 - 2029 Strategic Period		5,730	5,730	-	-	-	-	5,730
		9,050	-	-	-	-	9,050	9,050

CONCLUSION

Cancer is a major public health concern in our country. Isolated and sporadic actions exist in the field to deal with this scourge, but they are still insufficient. The Ministry of Public Health established the National Cancer Control Committee in 1990 and it was reorganized in 2002 to address this situation. Since then, the Committee has undertaken actions that remained limited due to the absence of a strategic orientation. This strategic plan aims at intensifying primary and secondary prevention, improving management, supportive therapies and research. This plan is intended to be a reference document for all those involved in this field. The commitment of all and the support of our partners is essential to halve the morbidity and mortality caused by cancer in Cameroon.

We believe that “By 2035, the holistic and optimal management of cancer will be a dream come true in Cameroon”.

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