REPUBLIQUE DU SENEGAL

One People-One Goal-One Faith

MINISTRY OF HEALTH
AND SOCIAL ACTION

DIRECTORATE GENERAL OF HEALTH

DISEASE CONTROL DIRECTORATE

NON-COMMUNICABLE DISEASES DIVISION

SUMMARY

ACRONYMS AND ABBREVIATIONS

PLAN STRATEGIQUE DE LUTTE CONTRE LE CANCER 2015 - 2019

ACRONYMS AND ABBREVIATIONS

ANSD: National Agency for Statistics and Demography

CAP : poison Control Center

CS **:** Health Center

AD : Artificial Depigmentation

DC : Cosmetic Depigmentation

DHIS2: District Health Information System

DLM: Department of Disease Control

DLMNT: Division for the Control of Non-Communicable Diseases

DPEE : Department of Forecasting and Economic Studies

DS **:** Health District

DSIS **:** Division of Statistics and Health Information

DHS **:** Demographic and Health Survey

EPS **:** Public Health Establishment

FAR **:** Woman of Reproductive Age

gats : global adult tobacco survey

gyts : global youth tobacco survey

HPV **:** Papilloma virus

IVA : visual inspection of the cervix using acetic acid

IVL : visual inspection of the cervix using the lugal

LNME : National List of Essential Medicines

MDGs : Millennium Development Goal

WHO: World Health Organization

GDP : Gross domestic product

NAP : National Supply Pharmacy

PNDS: National Health Development Program

PES : Emerging Senegal Plan

RGPHE: General Census of Population and Housing, Agriculture and Breeding

RM **:** Medical Region

SNEIPS : National Health Education Service

HBV : hepatitis B virus

HIV : Human immunodeficiency virus

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PREAMBLE

I- GENERAL CONTEXT

I-1. Physical Environment

Senegal, a Sudano-Sahelian country located in the extreme west of the African continent, is limited to North by the Republic of Mauritania, to the East by Mali, to the South by Guinea-Bissau and the Guinea and to the West by the Atlantic Ocean. It is crossed by Gambia which is an enclave of land located between the regions of Kaolack and Ziguinchor, on the lower course of the river of the same name.

Covering an area of 196,722 square kilometres, Senegal has a great opening on the Atlantic Ocean with its 700 kilometers of coastline. It is a flat country; altitude exceeds rarely 100 meters and the highest point, Mount Assiriki is located in the southeast of the country, at a height of 381 meters.

Hydrographically, the country is crossed from east to west by four rivers: the Senegal, the Gambia, Casamance, Saloum and their tributaries. This network is completed by some temporary watercourses and a significant contribution from Lake Guiers in the north of the country.

I-2. Administrative organisation

The administrative, territorial and local organization of Senegal is fixed by the decree of 10 September 2008. The territory thus goes from 11 to 14 administrative regions with as last latest creations, Kaffrine, Kédougou and Sédhiou from the former regions respectively of Kaolack, Tambacounda and Kolda. The regions are subdivided into departments (in number of 45).

However, law 2013-10 of December 28, 2013 confers full communalization in the framework of act 3 of decentralization. Thus with the new general code of local authorities local authorities, there are no more arrondissements and the former rural communities and communes of borough are now considered as full-function municipalities and are numbering 552.

These administrative entities are run by administrative authorities or local elected officials who, in the context of decentralization, are the first partners of those responsible health structures as well as any stakeholders in the field.

I-3. Economy

Senegal has embarked on a new development model through a strategy which aims for emergence in solidarity by 2035 (Emergent Senegal Plan: PSE). This strategy constitutes the frame of reference for economic and social policy. She emphasizes the creation of wealth and jobs, strengthening of governance, development of strategic sectors with significant impacts on improving the well-being of populations particularly through the protection of vulnerable groups and the guarantee of access to essential services.

The indicators for the period 2005-2011 reveal a relative stagnation of poverty, e.g. partly plied by a per capita GDP growth rate of around 0.5% on average per year. Although the incidence of poverty has fallen slightly, it has been accompanied by an absolute increase in the number of poor over the period. Poverty is higher in rural areas than in urban centres. These results highlight the fragility of the Senegalese economy and its ability, in the long term, to sustainably improve the living conditions of the people. In addition, according to the Department of Forecasting and Studies (DPEE), of 3,738 billion in 2014, the projected public debt is estimated at 4 109 billion in 2015. The outstanding total public debt will therefore experience a growth of 9.9% compared to 2014. However, this debt remains in line with community standards since it is projected at 49.9% of GDP in 2015.
Thus, the prospect of achieving all the MDGs by 2015 is getting further and further away, particularly in terms of poverty reduction and for the health sectors (mortality mother and child, fight against diseases), education (completion of the elementary cycle ment) and sanitation **(EDS CONTINUE 2014).**

I-4. Demographics

The population of Senegal recorded in 2013 is 13,508,715 inhabitants, of which 6,735,421 men and 6,773,294 women. This population in 2002 was 9,858,482 inhabitants, ie an average annual intercensal growth rate between 2002-2013 of 2.5%. With 4 958,085 in 1976 and 6,881,919 in 1988, the intercensal growth rates were res respectively 2.7% and 2.5% for 1976-1988 and 1988-2002.
The Senegalese population is characterized by its great youth: half of the population is aged under 18 (17 for men versus 19 for women). In addition, those under 20 represent 52.7%. Children under the age of 15 are 42.1% of the general population. The proportion is higher among boys (43.6%)

than among girls (40.5%). Furthermore, 3.5% of the population is aged 65 and over. That is to say that the demographic dependency coefficient is high. It corresponds to 84 inactive people (under 15 and 65 and over) per 100 active people (15 to 64).

In the population, there is near equality between the number of men and that of women. women. Indeed, the overall sex ratio is 99.7 men for 100 women.

For the age groups 15-64 years and 65 years or more, the trend is reversed in favor of women with respectively 95 and 94 men for 100 women. This situation could explained by a differential migration in favor of men for the age group 15-64 years old. Beyond the age of 65, in addition to migration, this could be explained by an expectation longer life in women.

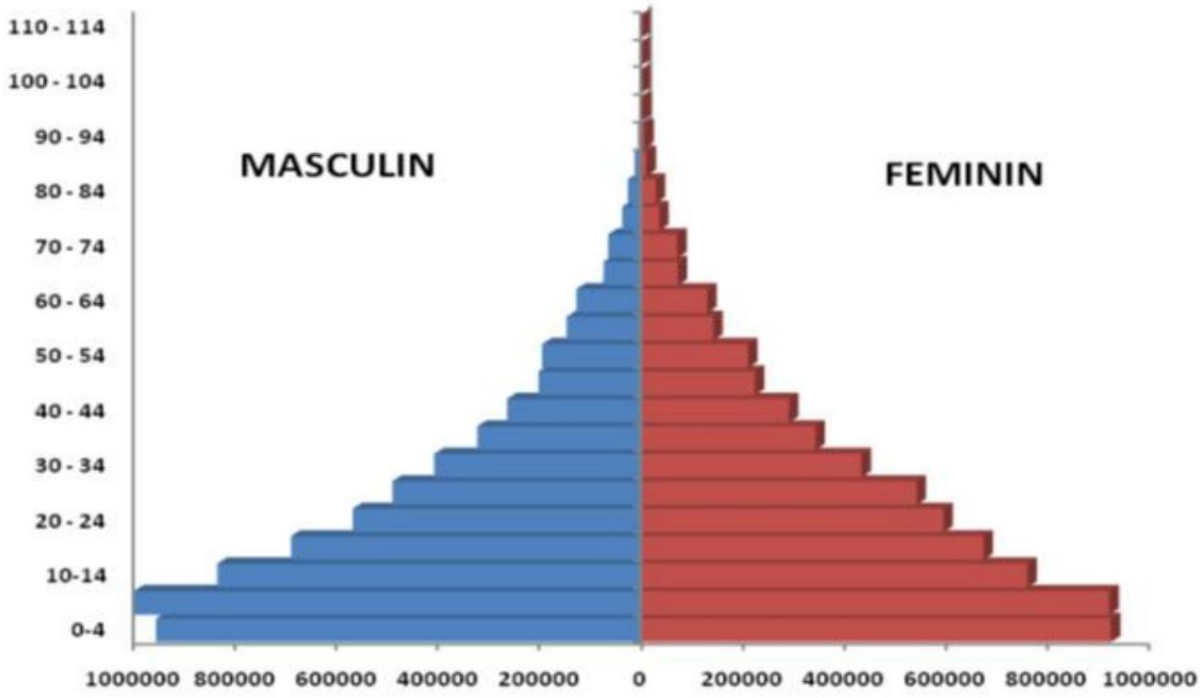
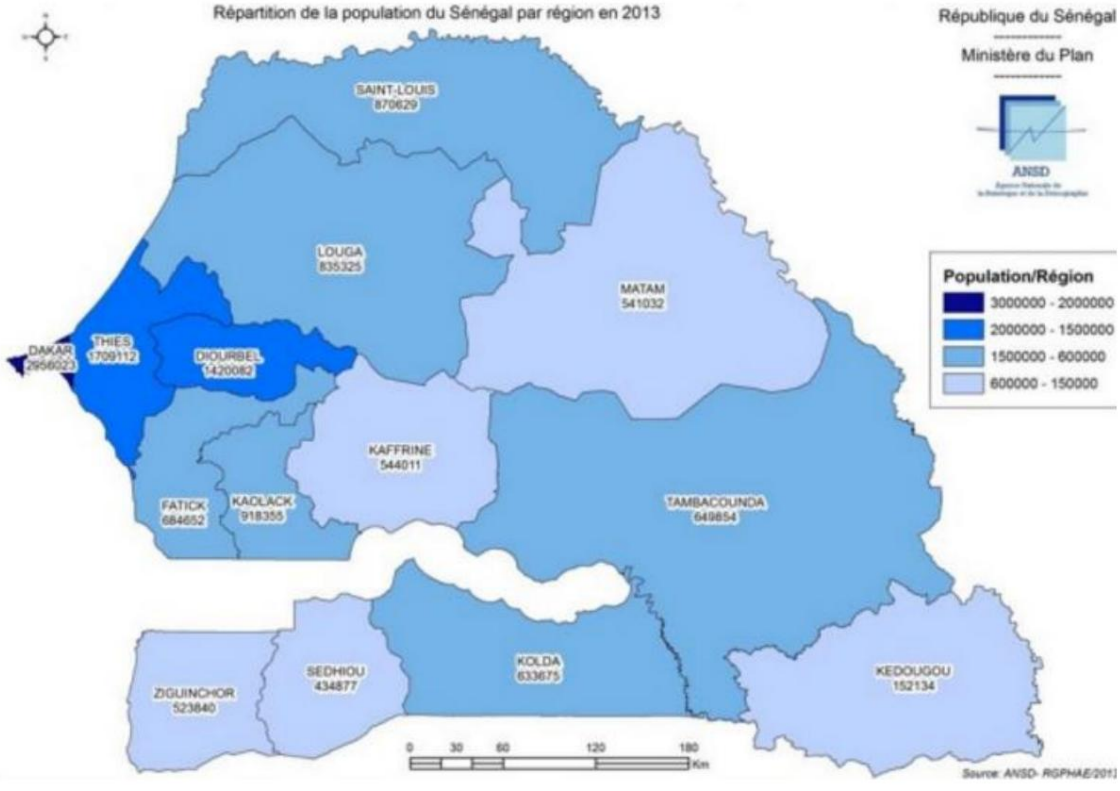


Figure 1: Age pyramid in Senegal in 2013 *(Source RGPHAE 2013)*

The density of the population which was 50 inhabitants per km² in 2002, increased to 65 inhabitants per km² in 2013. The Dakar region stands out from the others with a density of 5,404 inhabitants per km². Its population was 2,956,023 inhabitants in 2013, i.e. almost a quarter of the total population (23%) on an area representing only 0.3% of the country. The Tambacounda region, which represents the largest region of the country (21.5% of the area of the country), has only 5.0% of the population of Senegal, i.e. a density of 15 inhabitants in km².

The population of Senegal in 2013 is mostly rural with 7,048,624 (55% against 59.3% in 2002). The urban population is 5,824,977 inhabitants, i.e. an urbanization rate of 45%. In 2002, this rate was 40.7%. This rate hides huge regional disparities.
The Dakar region with an urbanization rate of 96%, brings together almost half of the po urban population of the country (49%), it is followed by far by the region of Thiès with 49% of urbanization rate, representing 14% of the urban population. The three regions of Diourbel, Fatick and Kaffrine are the least urbanized with a rate of 16% each. The share of the popu urbanization increased from 23% in 1960, to 40% in 1988 and 41% in 2002, which attests to a continuous increase since 1960.



<u>Figure 2:</u> Distribution of the population of Senegal by region in 2013 *(Source RGPHAE 2013)*

I-5. Behaviours, customs and attitudes

The low level of education of the majority of the population, the behaviors adopted by the population are unhealthy.
They are characterized by poor compliance with the rules of hygiene, the environment, insufficient information on sexuality, contraceptive methods, mode of trans mission and prevention of certain diseases such as sexually transmitted infections diseases including HIV/AIDS.

Smoking affects a large part of the population and particularly affects teenagers descents. Most smokers get their supplies easily at retail within 100m of their home. This phenomenon is encouraged by innovative forms of advertising in the form promotion by contact and proximity advertising (vehicles painted in the colors of the mar ques, offer of gadgets, raffles and various games, sponsorship of sporting and cultural events real).

Artificial depigmentation (AD) also called cosmetic depigmentation (DC) or depigmentation voluntary pigmentation (DV) consisting of the use of depigmenting products either by direct application to the skin or systemically (injection) with a view to obtaining a skin clarity is an ingrained practice, with prevalences of 67% reported in some tain districts of Dakar. The main products are based on **corticosteroids** (propionate of clobetasol and bethamethasone), **hydroquinone,** mercury **and** glutathione . Even if he it is essentially a female practice, more and more men are taking up AD.

The use of traditional medicine is very marked in the population. The majority of patients begin or end their care in traditional medicine. Most of time the patient is taken to a "modern" care structure only in the terminal phase. This shows the importance given to traditional medicine by the population and the weight beliefs about the choice of their therapeutic options **(PNDS 2009-2018).**

II- HEALTH SITUATION

II-1. Organization of the health system

ÿ **The public health sector**

The public health system is organized according to a pyramidal structure with three levels: central, intermediate constituted by the Medical Regions and peripheral called district sanitary.

ÿ **Central Level**

The central level includes, in addition to the Cabinet of the Minister, the General Secretariat, the Directorates and related Services.

ÿ **Intermediate level:** The Medical Region (RM)

Senegal has 14 medical regions. The medical region, whose area of intervention cor responds to that of the administrative region, ensures the coordination, supervision, inspection and control of public and private health facilities in the region. She organizes the colla technical coordination between all the regional health structures and assists them in their task administration, management and planning. However, Medical Regions play dif this role due to insufficient capacity and human resources and lo gistics.

ÿ **Peripheral level:** Health District (DS)

Senegal has 76 health districts which constitute a health subdivision close to the populations. The district is the most peripheral operational unit of the health pyramid. It applies medicine in its four-dimensional aspect: curative, preventive, social and educative. The district is made up of one or more health centers **(89)** and encompasses a bucket of health posts **(1257)** themselves supervising health huts.
The Hospitals of the University Hospital Centers (CHU) and the Training and health research (UFR), EPS level 3 in general, are managed in collaboration with the Ministry of Higher Education who use them as application structures for medical education

Two level 3 EPS have a special status:

- ÿ The MAIN hospital in DAKAR, with military status
- ÿ The AbassNDAO Hospital, structure of the CITY of DAKAR

Figure 3: Senegal health pyramid

- ÿ **The private health sector**

Like the public sector, it is an integral part of the health system and is natural also under the authority of the Ministry of Health and Social Action.

However, we note that the private sector is not sufficiently involved in the process development, implementation and evaluation of health policies and programs. And yet, private health services are used by the wealthy as well as the poor. poor and favorably influence the priority indicators of the sector. The collaboration between the private sector and the public sector is formalized with the establishment of the Alliance du Private health sector

- ÿ **Traditional medicine and pharmacopoeia**

Traditional medicine and pharmacopoeia constitute, by our sociocultural realities, real, sometimes the first recourse to care.

Traditional medicine centers exist and operate outside the supervision and control of the Ministry of Health. Activities at the level of these structures must be supervised in order to promote early referral to care structures.

ÿ **Service offer and referral system - counter referral**

The care offer matches the architecture of the healthcare pyramid. At the top, the hospital constitutes referral, follow-up of the health center at the intermediate level and the health posts at the peripheral.

This system is supplemented by the private sector offer at all levels of the pyramid. At community level, the system is complemented by material community initiatives on the ground, among other things, through the development of health huts.

The referral/counter-referral system presupposes the existence of clear, shared procedures, validated and approved which describe the conditions under which any patient who comes into contact with the health system moves up the ladder as appropriate. The already developed system of should be made operational once the criteria listed above are met.

This system remains insufficient to democratize access to care. It is really necessary that the health center and the hospital play their role of reference respectively at the district level and at the regional/national level.

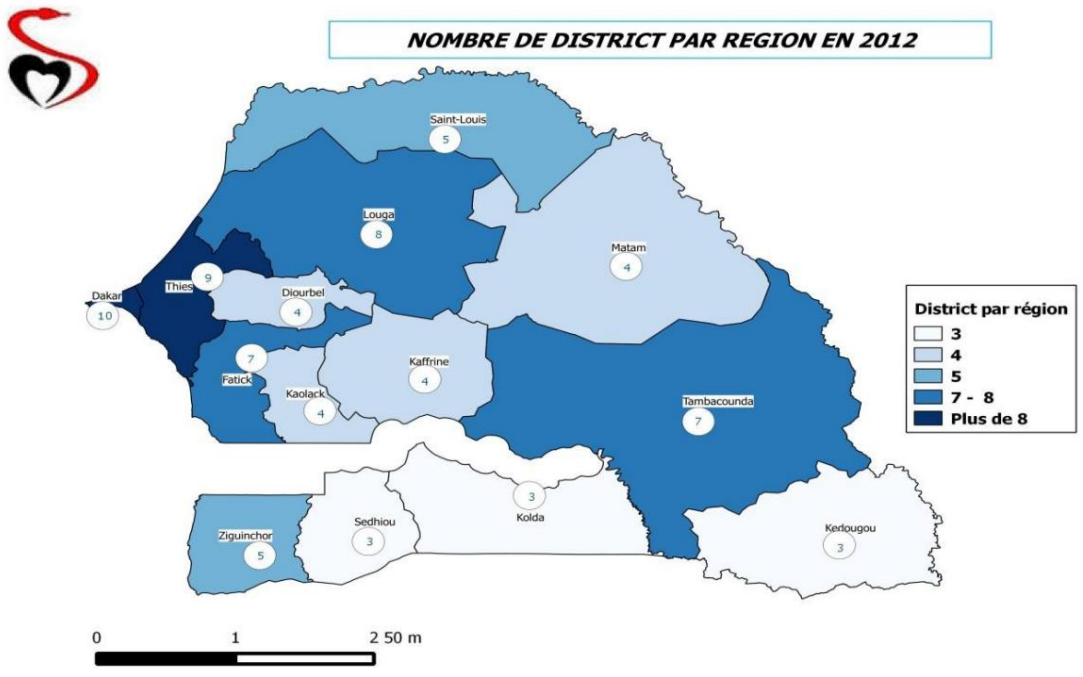


Figure 4: Distribution of health districts by region in 2012 *(Source DSISS)*

II.1.1. governance and leadership

Today there is a political will to take charge of Non-Transmitted Diseases
(NCD) in a context of epidemiological transition, marked by an increase
NTMs.

To this end, a division in charge of the fight against NCDs was created within the MSAS pre
managing cancers.

A focal point has been appointed to support the Division in the various promotional activities
tion, prevention, screening and treatment of cancers.

The MSAS works in close collaboration with various national and international institutions.
nationals in the fight against cancer.

II.1.2. Human resources

The development of human resources in the sector required the development in 1996 of a
national health personnel training plan. This plan was reinforced in 2002 by
the opening of Regional Training Centers, the creation in 2003 of the Department of Res
Human Sources (HRD) and the implementation of a contracting policy.

Despite the efforts made to increase the workforce, the coverage indicators in per
sonnel show that we are still very far from the WHO standards. This situation stems from
essentially three factors: (i) the insufficient number of staff admitted at the level of the structures
training, particularly in universities; (ii) lack of control over the recruitment process
ment in the public service which is within the competence of the ministry in charge which, in defining
tive, decides on the timetable and the nature of the personnel to be recruited; (iii) insufficient me
incentives to retain staff and achieve better geographic distribution.

However, significant efforts have been made in the recruitment of health workers.
Thousands (1000) health workers between 2013 and 2015.

Table I: Breakdown of socio-professional categories according to standards

Socio categories professional	**WHO standards**	**National Ratio**
Doctors	1/10,000 inhabitants	1/29,900
State midwives	1/300 FAR	1/3 821
State nurses	1/3,000 inhabitants	1/ 3,952

II.1.3. Infrastructure, equipment and maintenance

ÿ **Sanitary infrastructure**

Many efforts have been made in the construction and rehabilitation of sanitary structures.

between 2010 and 2014. This resulted in the commissioning of the Fatick hospital,

Ziguinchor, the Children's Hospital of Diamniadio and the Regional Hospital Center of Matam.

The health centers of Makacoulibantang, Pété, Medina Gounass, Samine, etc.

Senegal currently has twenty-three (35) hospitals.

The number of health centers is eighty-nine (89) distributed in 76 health districts.

silent.

In addition, six dialysis units have been built and equipped.

At the community level, there are health huts which constitute the first resort of

care mainly in rural areas and which carry out many preventive and promotional activities

tional.

Table II: Distribution of health facilities by region *(Source DSIS)*

ME regions dicales	**Hospitals**				**Districts sanitary**	**Centers of health**	**Posts of health**
	EPS3	**EPS2**	**EPS1**	**Hospitals private**			
Dakar	9	0	3	0	10	22	162
Thies	0	1	2	2	9	10	153
Louga	0	1	1	0	8	10	88
Saint Louis	0	2	1	0	5	7	110
matam	0	2	0	0	4	5	75
Diourbel	1	1	1	0	4	6	110
Fatick	0	1	0	1	7	8	89
Kaolack	0	1	0	0	4	4	90
kaffrin	0	0	1	0	4	4	51
Tambacounda	0	1	0	0	7	7	86
Kedougou	0	0	0	1	3	3	29
Sedhiou	0	0	1	0	3	2	43
Kolda	0	1	0	0	3	3	71
Ziguinchor	0	2	0	0	5	5	100
Total	**10**	**13**	**10**	**04**	76	**98**	**1257**

ÿ **Equipment**

There is an improvement in the technical platform of health structures, the strengthening of means of supervision and the improvement of the conditions for the evacuation of patients. All the new posts and health centers built were equipped according to standards.

The ministry has two medical trucks for mobile consultations and a park ambulances equipped for the needs of the Emergency Medical Assistance Service (SA MU).

Some hospitals have been equipped with heavy equipment (Angiography, Scanner, mammography phy, central oxygen, Magnetic Resonance Imaging (MRI), digital radiography ric, Gamma camera SPECT

However, Magnetic Resonance Imaging, Angiography and Gamma Camera do not are only available in Dakar. The Gamma camera of the nuclear medicine department acquired as part of a cooperation project of the Government of Senegal with the Interna Agency of Atomic Energy, was installed in 2009 at the Grand Yoff General Hospital (HOGGY) ex CTO, and she is functional.

The following table provides a summary of the situation of heavy equipment on the extent of the territory in 2015.

Table III: Heavy equipment acquired by DIEM between 2012 and *2015 (Source DIEM)*

Designation	**Number**	**Comments**
Scanners	11	Functional
mammographs	08	Functional
X-ray table with digitizer	17	-
Ultrasounds	50	Functional
Medical ambulances	136	-
Generators	20	Functional
Steam sterilizers	10	Functional
Other vehicles	45	-
Morgue	09	Functional

This heavy equipment is mainly concentrated in five regions, namely Dakar (75%), Saint Louis, Thiès, Diourbel and Kaolack.

The southern and southern regions are almost devoid of it, forcing the populations to carry out long distances to confirm their diagnosis.

Figure 5 shows the geographical distribution of heavy equipment according to the regions.

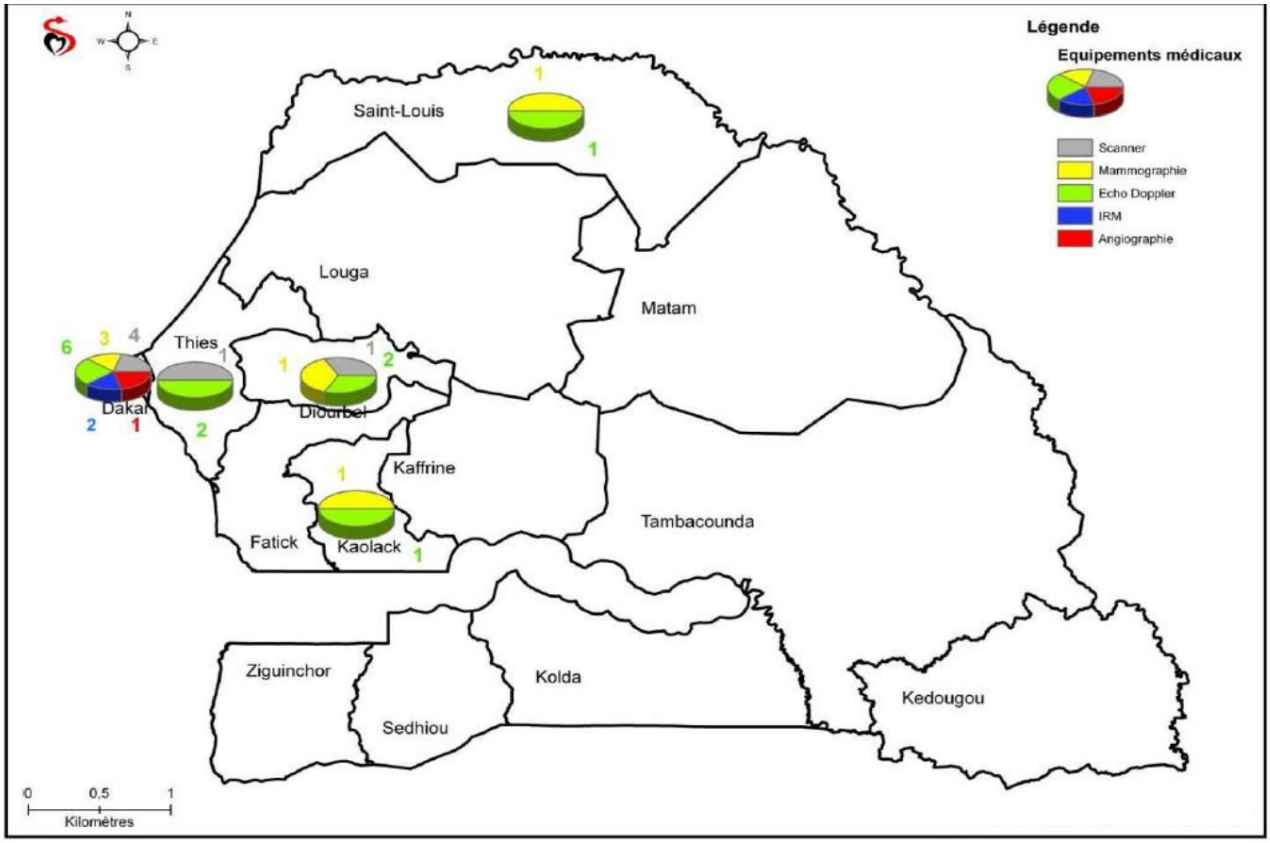


Figure 5: Breakdown of heavy medical equipment by region *(Source Health Card 2011)*

ÿ **Medication management**

The management of drugs, essential resources for the functioning of the structures, is geared towards achieving the objectives of the essential drugs policy and the Bamako Initiative (IB) whose guiding ideas are based on the following bases:

- ÿ availability of drugs;
- ÿ accessibility of medicines;
- ÿ rational use of drugs;
- ÿ increase in the efficiency of services;
- ÿ continuity of services.

To do this, the ministry has set up a drug supply system
essentials, which, in accordance with the lists defined by type of structure, allows the populations
to benefit from quality generic drugs at a lower cost. Thus, the pharmacy
National Supply (PNA) and its subdivisions that are the Ré Pharmacies
gionales d'Aachat (PRA) ensure the supply of the health districts and
hospitals with medicines and essential products.

ÿ **Maintenance**

Shortcomings were noted in the normal functioning of activities in hospitals,
medical regions and health districts where there is a Technical Maintenance Service
(STM). This situation stems from a lack of organization (equipment plan, organi
gram, information system for maintenance), but also a staff shortage
qualified.

II.1.4. Financial resources

Funding in the health sector comes mainly from the State, Partners
Technical and Financial, populations and Local Communities.
The State allocates 11.7% of its operating budget to the MSAS.
Until 2015, 25,000,000 cfa were allocated to cancer; this amount contributed to
organization of the Tumor Registry.
In the medium term, it is expected that an amount of one billion five hundred thousand
lions for the subsidy of products, anti-cancer drugs and painkillers.
In addition, the Technical and Financial Partners, civil society actively participate in the
fight against cancer by financing continuing education, the training of specialists,
equipment, and awareness-raising activities.

II.1.5. The health information system

The reconstruction of the health information system resulted in the establishment of DHIS2
since 2013. Thus, the system has updated data online.
The national tumor registry has been set up in hospitals in the Dakar region and
its generalization is planned in the other regions by the end of 2015.
A web application called REGSEN makes it possible to record the data of the
cancer.

II.1.6. Services

They encompass curative, preventive, promotional and palliative care. For the fight against cancer curative care is at the forefront.

Offers of care for chemotherapy, radiotherapy and surgery are only made at level of certain level 3 EPS.

Regarding cancer prevention in Senegal, there are screening practices that tents shy on the whole territory.

And finally, in the context of palliative care, the organization is not yet formalized at the calf structures.

II-2. Health policy

The Government is now relying on the Emerging Senegal Plan to put in place by 2023 a set of reforms to accelerate the process of structural transformation sus capable of accelerating economic and social emergence.

Senegal understood very early on the importance of the health sector in economic activity.

The country has reaffirmed this desire by article 14 of the constitution and by the ratification of the international texts such as the Universal Declaration of Human Rights, the Charter of the OAU, the Convention on the Rights of the Child and the Framework Convention on Tobacco Control (WHO) etc.

The health policy remains based on primary health care and takes into account the commitments Senegal's international commitments vis-à-vis sub-regional, regional and health issues such as the Sustainable Development Goals (SDGs) This health policy revolves around the following points:

- ÿ Guaranteed access to quality health care for the entire population regardless of status socio-economic;
- ÿ The deepening of decentralization and local health governance;
- ÿ The promotion of health risk insurance coverage (CMU);
- ÿ The protection of vulnerable groups;
- ÿ Strengthening the Public-Private Partnership;
- ÿ The promotion of multisectorality;
- ÿ Alignment of external aid with national health priorities;
- ÿ The results-based management culture.

Several reforms and initiatives in the field of health financing will contribute,
with the reorganization of the Ministry, to create an environment conducive to the development
sanitary.

II-3. State of health of the population

The health situation in Senegal has improved in recent years. hope
life expectancy is 66 years for women and 63 years for men. The main causes of
deaths are linked to malaria, acute respiratory diseases, non-transmitted diseases
sible, etc.

Globally, between 2000 and 2012, cancers ranked fourteenth on the list
of the main causes of death *(WHO global statistics 2014).*

In Senegal, 34% of deaths are attributable to NCDs *(WHO 2011).*

Analysis of the 2010 cancer register revealed 1,697 cases of cancer.

Cancer has become a major public health issue on a planetary scale, both in
developed than developing countries and one of the main causes of death.

In Senegal, most patients are seen at the advanced stage of cancer. This situation can
be largely explained by the absence of early detection programs, the absence
appropriate diagnostic and treatment infrastructure in many regions. That
results in a high proportion of people whose disease is diagnosed at an early stage
very advanced.

III- STATE OF PLAY

III-1. context

During the 114th session of **the WHO** Executive Board *(EB114/3 of 1 April 2004),* the following recommendations were made to member countries:

- ÿ avoid and reduce the exposure of populations to risk factors for tumors preventable;
- ÿ for cancers that can be detected and treated early, reduce the delay in seeking care by 50% in order to increase the chances of survival, reduce mortality and improve the quality of life of subjects;
- ÿ for cancers likely to be cured, or not opposing a long survival of the sick, provide appropriate care in order to increase the chances of life, reduce the mortality and improve the quality of life of subjects;
- ÿ for advanced cancers, focus on reducing pain and other symptoms, and improve the quality of life of patients living with cancer and their families.

According to these WHO recommendations, the fight against cancer is a comprehensive plan that includes all aspects that contribute to reducing the occurrence of the disease but also its morbidity and his mortality. It is therefore difficult to break down the portion dedicated to prevention and that devoted to treatment.

It is agreed that the surest way to reduce the impact of non-communicable diseases lies in prevention and that intervention measures must emphasize the overall control of risk factors. These risk factors being an integral part of the today's society and being linked to various aspects of national politics, it will be necessary to invest sufficient resources to create and maintain a set of integrated and coordinated measures data that will make it possible to reduce the level of exposure of Senegalese and possibly reduce mortality, morbidity and disability rates.

The fight against cancer must therefore be carried out along 5 axes :

1. **prevention,**
2. **early detection,**
3. **care,**
4. **patient support**
5. **institutional strengthening.**

III-2. Epidemiology of cancers in Senegal

According to the World Health Organization (WHO), the main factors that contribute to increasing incidence of cancer in the African Region are tobacco use, excessive alcohol consumption, poor diet, physical inactivity, pollution and the action of infectious agents.

The prevalence of cancer in Senegal is not known, however we have data by essentially hospital cells. Since 2010, the national register has been set up tumors (REGSEN) in the generalization phase.

All types of cancer are found in Senegal. According to GLOBOCAN, the number of nou calf cancer cases expected is 6,800 each year.

Thus in 2010, 1,697 cases of cancer were recorded mainly in level EPS 3 from Dakar.

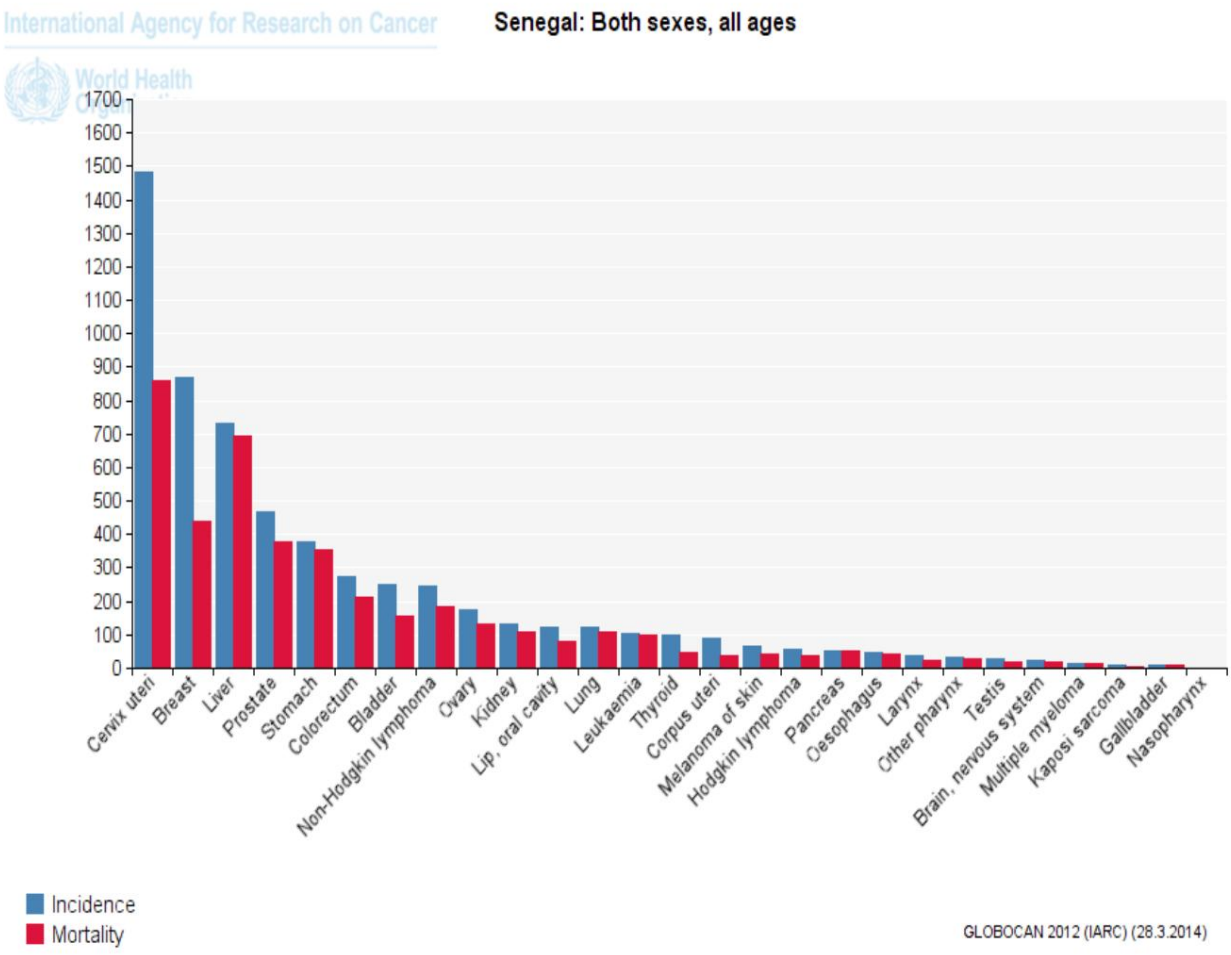


Figure 6: Prevalence of cancers by location *(GLOBOCAN 2012)*

III-2.1. In adults

According to REGSEN, the registration of tumors in 2010 in the EPS of the Dakar region shows that the main organs affected are the uterus (body and cervix), breast, pharynx, liver and prostate.

This is illustrated by the figure below.

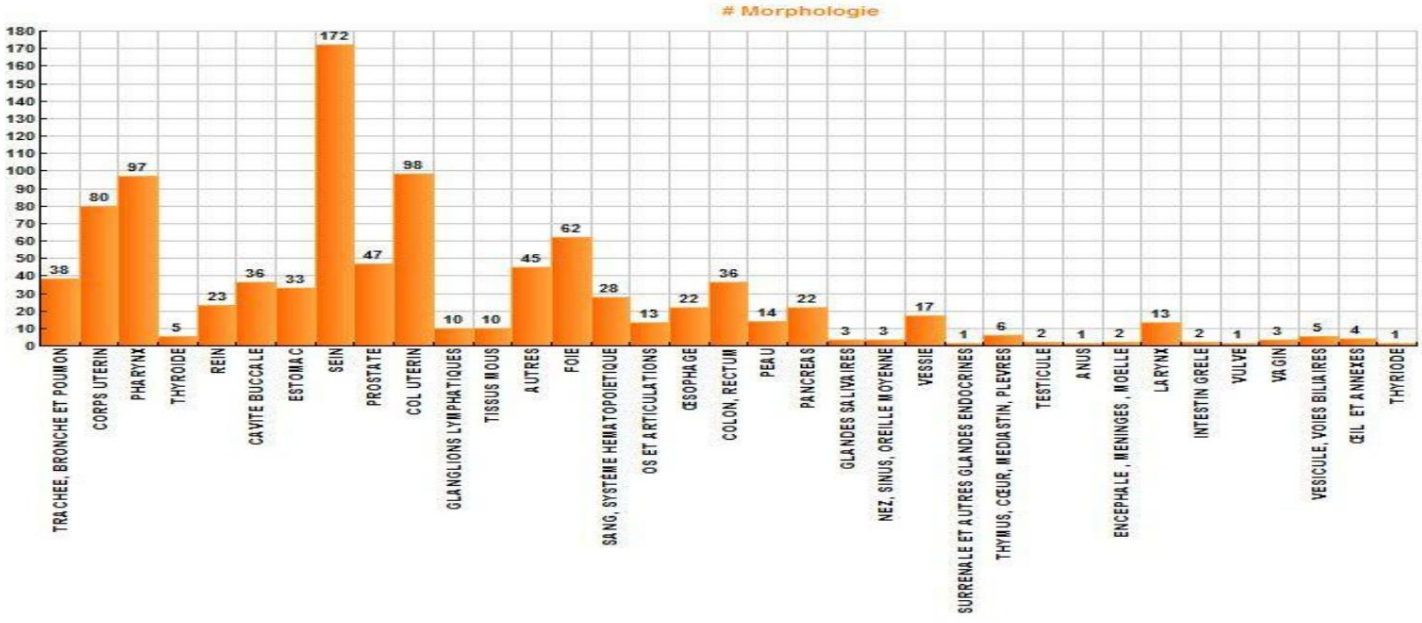


Figure 7: Breakdown of cancer cases by site *(Source REGSEN 2010)*

The distribution according to sex showed a female predominance with 595 tumors diagnosed in women compared to 356 in men. This is materialized by Fig.
re 9

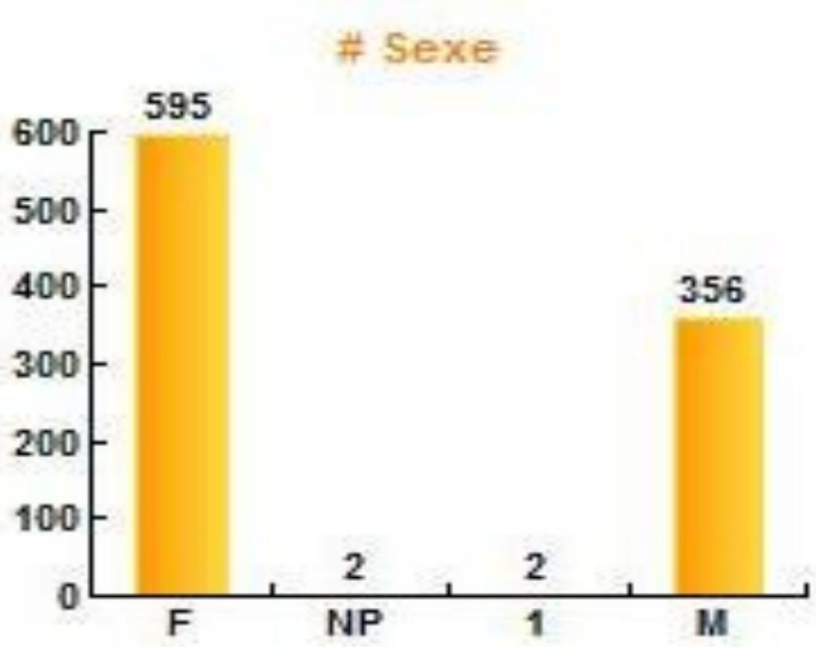


Figure 8: Breakdown of cancer cases by gender *(Source REGSEN 2010)*

III-2.2. In children

Pediatric oncology is taking an increasingly important place in our pediatric services.
diatry and childhood cancers are characterized by high mortality, especially in the countries
emerging.
Pediatric oncology activity was formalized in 2000 with the creation of a Unit
of Pediatric Oncology (UOP) in the pediatric department of the CHU/HALD in Dakar.
This is the fruit of the desire of those responsible for pediatrics in Senegal to bring together in one
the same place the health personnel concerned and to pool the material resources available. It was
the first UOP of Senegal and the sub-region. She was born under the aegis of
Franco-African Pediatric Oncology Group founded by Professor Jean Lemerle.

The development of the UOP has gone through 3 main stages:

1) 2001 – 2005: Gradual implementation of 5 protocols by the GFAOP (Groupe Fran
Pediatric Oncology Co-African); availability and free anti-cancer drugs
reuses; staff training ; functional organization of the UOP.

2) 2005 – 20012: My Child Matters (MCM) program; Rehabilitation and equipment
of the POU; staff training ; psychological support project; material support
to families.

3) 2013 – 2015: Ongoing 3-year action plan supported by the MCM Program, which
implements 5 projects:
ÿ Decentralization of pediatric oncology activity in the regions;
ÿ Development of pediatric palliative care; Renovation of the UOP;
ÿ Development of a sector for intensive care and palliative care;
ÿ Organization of a parents' house.

The impact of these activities was firstly the recognition, by the medical profession, the authorities
public and the civil community, of pediatric oncology as a health problem.

In Senegal, a country of nearly 13 million inhabitants, about 50% of the population is aged
less than 20 years old. Eight hundred new cases of pediatric cancer are expected there every
year.

A growing number of children with cancer have been treated: Two hundred and fifteen in 2013. This information is shown in Table IV.

Table IV: Distribution of the number of hospitalizations and type of cancer per year ***(Source UOP/HALD)***

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Nombre de cas / Types de cancer	40	60	99	63	135	113	135	152	141	215
Néphroblastome (Rein)	15	24	26	11	42	28	22	33	31	47
Lymphomes (Ganglions)	14	13	23	16	26	13	22	29	23	17
Leucémie (Sang)	0	5	15	9	16	12	18	26	22	44
Rétinoblastome (Œil-Rétine)	0	1	16	11	27	15	27	22	24	23
Maladie de Hodgkin (Ganglions)	5	4	5	4	11	12	14	16	15	16
Hépatoblastome Foie	1	2	2	2	0	2	2	1	2	4
Ostéosarcome Ewing (OS)	0	0	0	1	4	4	5	3	9	4
Neuroblastome (Syst. Sympathique)	0	1	1	2	1	2	2	5	1	12
Autres	5	10	11	7	8	25	23	17	14	48

The implementation of adapted protocols and the subsidy of treatments including chemotherapy free thanks to the GFAOP has made it possible to offer all the children appropriate care. The very encouraging results (Table V) with survival rates ranging from 51% to 74% for certain cancers, shows the feasibility of treatment.

Table V : Breakdown of survival rate by type of cancer *(Source UOP/HALD)*

Principaux cancers	Statistiques de l'UOP de Dakar (2008 – 2010)		
Nom	Nombre de cas	Fréquence Relative (%)	Survie Globale (%)
Néphroblastome	75	22	74
Rétinoblastome	62	19	51
Leucémies	45	13	59
Lymphomes (Burkitt)	40	12	71
Mie de Hodgkin	31	09	65

The psychological care program has made it possible for the children to be more comfortable, their family and staff; group sessions, individual support on the one hand, repeated interactions with physicians including announcements, counseling and interviews allow greater adherence to the care process, a reduction in number of defaulters and a better cure rate.

Every effort made for good pain management and availability morphine powder, recreational activities and consideration of material needs and finances make it possible to have a more serene atmosphere in the service and able to face to the daily challenges that arise.

III-2.3. Risk factors

The causes of cancers are not exactly known. In this area, we talk more about what who can participate, promote, contribute, hence the term enabling factors or factors of risks. According to the process, cancer arises from a single cell. The transformation from a normal cell to a tumor cell is a multi-step process. There are classically an evolution towards a precancerous lesion then towards a malignant tumour. According to the WHO, about 30% of cancers are due to the five main risk factors com behavioral and dietary: a high body mass index, low consumption fruits and vegetables, lack of physical exercise, smoking and consumption of alcohol.

- **Factors related to the hygiene of life (diet, behaviors: alcohol ism, smoking, artificial depigmentation)**

Nowadays, several studies have proven the influence of diet and behavior of the individual in the occurrence or avoidance of cancer.

Today, it is confirmed that being overweight, which leads to obesity, is a contributing factor for cancer. An unbalanced diet is unhealthy and contributes if it is too meaty to a high probability of occurrence of cancer in an individual. Thus, the com position of our meals would contribute for 40 to 60% to the appearance of malignant tumours.

Differences in behavior in favor of certain substances would be a source of skin cancer.
all orders and of all topography. It's about :

- ÿ smoking, which is responsible for a quarter of cancer deaths worldwide and would be the leading cause of cancer;
- ÿ the excessive consumption of alcohol which is responsible for approximately 10,000 deaths by cancer. This risk depends on the dose consumed and not on the type of alcohol: equal, all types of alcohol are equally carcinogenic.
- ÿ In addition to metabolic and vascular complications (diabetes, endocrine diseases niennes and hypertension), artificial depigmentation is responsible for skin cancer associated with mortality.

ÿ **Environmental factors (pollution, profession)**

The real impact of atmospheric, chemical and electromagnetic pollution on health and occurrence of cancers remains a concern because the link exists and is established. In Senegal, badly Due to the lack of data, there are laws relating to the protection of the environment.
The use of pesticides in food and non-food agriculture is highly in criminalized in the appearance of certain cancers and the degradation of the environment.
The impact of mercury-based lightening products on the environment is now well established: the mercury contained in soaps, creams and other cosmetic products is fina partially discharged into wastewater. It then reaches the environment where it is methylated and enters the food chain as toxic methyl mercury in fish.

ÿ **Biological factors (age, genetics)**

Beyond environmental factors, cancer may be linked to genetic factors. Of the Familial forms exist for rare tumors but also for frequent tumors such as breast or colon cancer. Between 5 and 10% of cancers are directly inherited from a relative. No data in this sense is available in our country.
Aging is another fundamental factor in the development of cancer. In our context, the progress recorded in health, nutrition and the level of education have meant that life expectancy has increased and there are more and more elderly people. Thereby, the health problems of the elderly arise with acuteness with regard to pa chronic theologies.

ÿ **Other factors**

Asbestos is the best known risk factor, but there are others such as
ionizing radiation, radon, silica, metals or aromatic hydrocarbons
polycyclic ticks.

Some carcinogens owe their toxicity to a direct action on genes, which
leads to mutations and triggers a process of cancerization. This is for example the case
ionizing radiation. For these agents, any dose is likely to cause harm
Magi. Other agents do not act directly on genes but promote proliferation.
tion of tumor cells.

The emission of fine diesel particles, certain toxic gases such as carbon dioxide
bone are also incriminated. Electromagnetic waves are also implicated.

III-3. Response from Senegal

Cancer and chronic non-communicable diseases in general have a negative impact on
the general health of the population, leading to loss of income and huge expenses
health because they mainly affect the economically productive age group.
Most people with cancer do not have access to screening, diagnosis
early, treatment or palliative care.

Faced with an increasing burden of noncommunicable diseases, the health systems of countries
with low resources struggle to provide adequate prevention and treatment services
prayed for cancer. Indeed, no cancer care offer is available at the first and
second level of care in the health pyramid. In addition, the treatment costs dis
ponibles are expensive and spread over several years.

In Senegal, there is no national program to fight against cancer, however we note
at the institutional level:

- The appointment of a focal point for the fight against cancer, as well as a focal point for the fight
  anti tobacco ;
- An institutional grant in the amount of 25,000,000 FCFA annually allocated
  cancer control activities;
- The establishment of the national tumor registry since 2010, and the registration in
  line which has been in effect since 2013;
- The inclusion of anticancer drugs, morphine and its derivatives in the
  national list of essential medicines since 2013;

- The introduction of anti-cancer drugs into the distribution circuit of the PNA since 2013 ;
- The GATS (Global Adults Tobacco Survey) survey conducted in 2015.

III-4. Situation of the fight against cancer in Senegal

In Senegal, the fight against cancer is not sufficiently structured. An analysis of the if current situation allows us to make the following observation:

ÿ **Means of struggle**

ÿ **Human resources**

At this level, there is a lack of human resources for the fight against cancer. which are mainly located in the Dakar region, as shown in the table below.

Table VI : Distribution of human resources according to geographical location

Specialties	Amount	Geographical location	Observations
Pathologist	08	Dakar	
Radiotherapist	02	Dakar	01 in training
Chemotherapist	02	Dakar	01 in training
pediatric oncologist	02	Dakar	
hemato oncologist	03	Dakar	
Pneumo oncologist	04	Dakar	
Surgical oncologist and organ surgeons	04	Dakar	
Medical physicists	03	Dakar	
Manipulative technicians radiotherapy	03	Dakar	
Nuclear doctors	03	Dakar	
Psycho oncologist	01	Dakar	

ÿ **The technical means of support**

The equipment available for the fight against cancer is among others:

- 1 cobalt therapy device;
- 1 simulator;
- ÿ 1 2 D dosimetry system;
- 1 gamma camera;
- ÿ 1 high-speed brachytherapy.

ÿ **Types of intervention**

ÿ **Diagnosis**

The public services of Pathological Anatomy (Grand Yoff General Hospital, Prin cipal, A. Le Dantec Hospital, Faculty of Medicine) and private (Pasteur Institute) ensure the definite diagnosis of cancer. They are all located in Dakar and receive samples from all over the country.

These laboratories use basic conventional methods (staining with Hematoxylin-eosin-saffron and histochemical stains) as well as the cytology of cancer screening. Immunohistochemical, cytogenetic and biological techniques molecular are not practiced there. The medical biology laboratories of these different hospitals perform blood smears. Tumor markers (PSA, ß HCG, CA 125, CA-19-9, CA-15-3, ACE) are mostly dosed there.

Medical imaging departments in hospitals contribute to the diagnosis of tumors by ra conventional diography, ultrasound or computed tomography, sometimes medical imaging nuclear and by nuclear magnetic resonance.

ÿ **Screening**

In Senegal there are screening practices which remain timid throughout the territory. However, civil society organizes periodic screening campaigns for cervical cancer uterus and breast. For primary prevention, in the EPI there is a vaccine against hepatitis B (Pentavalent). The private sector also administers the same vaccine in addition to hepatitis B at birth. In the (Complete Multi-Annual Plan) PPAC of the Department of Prevention 2012-2016 the introduction in the public sector of the vaccine against hepatitis B at birth.

The same applies to the cervical cancer vaccination demonstration project in uterus (HPV) which is currently underway in two pilot health districts (Méckhé and West Dakar).

Sometimes mass screening campaigns localized to a district or a city are organized. nished by civil society.

ÿ **The treatment (and its monitoring)**

- ***the University Hospitals of Dakar :*** medical treatment by chemotherapy is provided by different services: Cancer Institute, surgical services, gyneco-obstetrics, Pediatrics, Medical internal decine, dermatology, clinical hematology. It must be recognized that the patterns treatment are not standardized.

  Surgical treatment is possible in the Surgery departments (General, Visceral, Orthopedic, Urological, ENT and Maxillofacial, Pediatric, Ophthalmological, Neu o-surgery and obstetrical gynecology).

  Only one radiotherapy service is available (cobalt therapy).

  In nuclear medicine (metabolic radiotherapy) in curative and palliative treatment des cancers is partially available with some adjustments needed to hospitalization of patients for radiation protection reasons.

- ***regional hospitals:*** the available technical platform allows some surgical procedures,but at varying levels of performance.

- ***the Health Centers*** have a minimum package of activities (Pre and births, assisted deliveries, vaccination, child growth monitoring children, management of STIs, HIV/AIDS, IEC and FP) and rarely surgical units them.

ÿ **Promotional activities**

The Ministry of Health and Social Action through SNEIPS and organized civil society periodically on World Days Against Cancer, Tobacco. To that added to the realization throughout the month of October of promotional and preventive activities related to breast cancer, and commonly known as " **Pink October** ".

ÿ **Palliative care**

The organization is not yet formal at the structural level. However there are individual initiatives for the management of palliative care in certain level 3 EPS particularly in the context of the management of pain by morphine and nutritional support.

The management of patients with metastatic bone pain (cancer of the prostate, breast, thyroid, liver) requires a multidisciplinary approach. At the patients with painful generalized bone lesions, radiological products bone-tropic pharmaceuticals, not yet introduced into routine practice in Senegal, represent an alternative to be considered.

The Senegalese Association for Palliative Care and Support (ASSOPA) was created since 2013 with the aim of promoting palliative care.

Effective end-stage cancer pain management faces challenges linked to legislation in force which sometimes makes drugs, in particular opiates, inaccessible, although medical access to oral morphine has increased in Africa, the United States and Europe over the past ten years. Some international organizations like *Human Rights Watch* are working at the political level to improve access to these opiates in countries where they are not available and to facilitate their distribution adapted.

The offer of psycho-oncological care includes psycho-social interventions and tiered psychotherapeutics. Given the importance of psychosocial themes in any management of oncological patients, many players other than professionals of psycho-oncology are also concerned with psycho-oncological subjects (medicine, care, social counselling, religious support, physiotherapy, dietetics, etc.).

Although many oncology patients are able to control these problems alone or with the help of their social network, we detect a need for treatment or psychological advice social in more than half of the people concerned during their illness. It exists currently only one psycho-oncological support program in Senegal within the Unit of Pediatric Oncology (UOP) at Aristide Le Dantec Hospital (HALD).

ÿ **Partnership in the fight against cancer**

ÿ **Interdisciplinarity**

The Multidisciplinary Consultation Meetings (RCP) bring together a set of special lists during staffing of oncology files for therapeutic decisions. These RCPs are practiced in level 3 EPS in charge of cancer.

ÿ **Multisectorality**

There is collaboration with civil society (LISCA, LISTAB, NGOs, Women's Associations nines) which intervenes in the field of prevention and screening. Tech partners institutions such as the INCA (National Cancer Institute) and the International Energy Agency Atomic (IAEA) intervene in the equipment and capacity building of the person health nel. However, cooperation with the pharmaceutical industry is weak.

III-5. Situational Analysis

For each area of intervention, the strengths, weaknesses, opportunities and threats are pri its into account

GOVERNANCE and LEADERSCHIP			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREAT**
ÿ Political will to deal with NCDs ÿ Creation of the division of tackling NCDs ÿ Appointment of a focal point in charge of the fight against cancer ÿ Listing, among the priorities of the PNDS 2009-2018, the fight against cancer both under the heading of chronic diseases in general and that of reproductive health (cervical cancer) in particular ÿ Existence of a well-organized health system that can facilitate decentralization cancer management	ÿ Lack of framework for institute consultation between the differences rent actors intervene ing in the fight against cancer ÿ Insufficient political anchoring at the highest level for the fight against can cer ÿ Non-capitalization of company shares civil by the Ministry of Health ÿ Lack of implementation of the law against tobacco.	ÿ Emerging Senegal Plan ÿ Collaboration with different institutes national and international the fight against cancer ÿ Cooperation with Civil society (NGOs, Community Organizations res de Base, associations for the fight against Tobacco and can cer) ÿ Strong cohesion so cial	ÿ Lack of distribution of roles between the different ins titles ÿ Ta Industry Lobby bac.

HUMAN RESSOURCES			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREAT**
ÿ Existence of specialists in the field of can cer ÿ Granting of scholarships for training for specialization	ÿ Lack of specialists working in the field cancer ÿ Concentration of specialists in the Dakar region ÿ Insufficient number of training scholarships granted ÿ Insufficient qualified personnel for the maintenance of equipment ÿ Insufficient training of the health personnel on palliative care ÿ Training needs not taken into account in the field of cancer in the development plan	ÿ Partnership with national institutions and international organizations for the training of specialists. ÿ Existence of a national psycho-oncology development program	ÿ Departure of qualified personnel for lack of adequate motivation (brain drain). ÿ New professions not taken into account by the Public service

FINANCIAL RESOURCES			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREAT**
	ÿ No budget allocated to cancer ÿ Financial inaccessibility of cancer drugs.	ÿ CMU	ÿ State dependent on foreign contributions res.

INFRASTRUCTURES / EQUIPMENT / MAINTENANCE			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREAT**
ÿ Existence of structures cancer diagnosis ÿ Existence of an institute of cancer offering in the same place for the 3 modalities of cancer management (Surgery, Radiotherapy, and Chemotherapy) ÿ Registration of anti-cancer drugs in the list of medications essential elements ÿ Registration of cancer drugs in the PNA's product portfolio.	ÿ Inadequate structures ÿ Insufficient pla technical table for diagnosis ÿ Concentration of tic diagnostic structures in the region of Dakar ÿ Insufficient pla technical system for the maintenance of equipment ÿ Absence of policy renewal of equipment.	ÿ Existence of collaborators tion with the institutions national and international.	ÿ Strong dependence on the outside for the resupply of inputs and equipment (spare parts).

INFORMATION SYSTEM			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREAT**
ÿ Implementation of the tumor register since 2013 at the level of the 10 hospitals in Dakar (REGSEN) ÿ Existence of gift born on the prevalence of smoking in Senegal (survey GATS) ÿ Existence of personnel dedicated to the management of information sanitarian.	ÿ Absence of preliminary study ence of NCD risk factors at national level nal (STEP survey) ÿ Insufficient national data on cancer (non-extension of REG SEN to other regions) ÿ Lack of information on risk factors for occupational cancers (asbestos, wood wax, tannins, etc.) ÿ Non-integration of REG SEN at DSIS level	ÿ Existence of DHIS2 ÿ Partnership with ADIE for securing REGSEN	

SERVICES			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREAT**
ÿ Introduction of the vaccine nation against hepatitis B in the EPI ÿ Demonstration project HPV vaccine in 2 health districts ÿ Free anticancer bad in children.	ÿ Absence of standardized protocols for early detection and management of cancer cer ÿ Geographical inaccessibility of anti-cancer drugs and painkiller ÿ Weakness of the detection early treatment of cases ÿ Lack of coverage policy for palliative care. ÿ Inadequate form in the field of psycho oncology	ÿ Vote of the law against tobacco ÿ Collaboration with TFPs for carrying out surveys CAP on needs in palliative care ÿ Partnership with pharmaceutical laboratories for the availability of innovative drugs	ÿ First resort of traditional medicine patients ÿ Perpetuation of free cancer drugs in children.

III-6. Challenges

- Set up a national committee for the fight against cancer;
- Set up the tumor register at the national level;
- Conduct national prevalence surveys of cancer risk factors;
- Improve the prevention and early diagnosis of cancers;
- Set up regional cancer care centers staffed with qualified personnel.
  sufficient and quality health;
- Make anticancer and painkiller drugs accessible through a subsidy.
  tion and promote the supply of nuclear medicine with radiopharmaceuticals
  ceuticals
- Increase the number of specialists for cancer treatment;
- Build a new modern and efficient cancer institute;
- Integrate palliative care into the service offer.

THE FIVE-YEAR PLAN FOR THE FIGHT AGAINST CANCER

I- THE STRATEGIC FRAMEWORK

A. VISION

Make Senegal a country where every citizen has access to a preventive, curative and quality rehabilitative against cancer.

B. GUIDING PRINCIPLES

1. Adoption of the multisectoral approach in all cancer control activities cer
2. Targeting groups most at risk in IEC/BCC activities
3. Equity in the cancer service offer
4. Respect for the gender and human rights approach
5. Holistic approach in the care of the person with cancer
6. Diagnostic and therapeutic interventions based on scientific evidence
7. Results-Based Management

C. PRIORITIZATION

1. Priority interventions

a) National scale-up of the tumor registry

Current epidemiological data on cancers are patchy, limited to hospitals. Dakar region rate.

b) Development of a communication plan

The ignorance of cancer and its risk factors by the populations explains in largely the late referral to health structures.

c) Early detection of breast and cervical cancers

The incidence and mortality of breast and cervical cancers remain high. Their die Early tecting and treatment can significantly reduce these indicators.

d) Subsidy for cancer drugs and availability of morphine

The cost of anti-cancer drugs remains high compared to the average income of populations. The train Analgesic treatment is crucial in the advanced stages.

e) Creation of infrastructure and installation of suitable equipment

The health system suffers from insufficient and unsuitable infrastructures for dia
diagnosis and treatment of cancer.

f) Development of palliative care involving psycho-oncology

2. Priority targets

a) Women (35 to 55 years old)

b) Children and adolescents

c) Albinos

D. PURPOSE AND IMPACT RESULT

1. Purpose

The aim of this national cancer control plan is to reduce mortality attributable to
cancers and improve the quality of life of patients.

2. Impact results

- ÿ The prevalence of cancers detected at an advanced stage, which was 75%, is reduced to 25%.
- ÿ The survival rate of cancer patients treated is 30%

E. STRATEGIC AXES

The **5 strategic axes** are:

- ÿ primary prevention;
- ÿ the development of human resources;
- ÿ early detection;
- ÿ diagnostic and therapeutic management;
- ÿ epidemiological surveillance and research.

Axis 1: Primary prevention

Products	Effects	Impact
- Number of children vaccinated against the HBV virus - Number of girls aged 9 – 13 vaccinated against HPV - Number of people made aware of the risks of infection associated with cancers	*Prevalence of infection-related cancers reduced by 30%*	The survival rate of cancer patients treated load is 30% Cancer prevalence detected at an advanced stage reduced from 75% to 25% by 2020
- Number of teenagers / young people aged 15-24 made aware of the harmful effects of tobacco - Number of smokers aged 25 and over helped with smoking cessation - Anti-smoking measures applied	*- Prevalence of active smoking among adolescents / young people aged 15-24 reduced by 25% by 2020* *- Prevalence of 25-year-old smokers is reduced by 25% by 2020*	
- Number of people informed about healthy lifestyle - Number of adolescents / young people aged 15-24 made aware of the harmful effects of the alcohol - Number of women made aware of the harmful effects of artificial depigmentation	*25% of the population adopt a healthy lifestyle by 2020*	
- Number of albinos informed about the risks of UV rays - Number of protection kits distributed to albinos - Number of handlers informed about the potential risks of contaminated products carcinogenic substances depending on their environment - Number of health professionals trained in permanent compliance with the rules of safety, monitoring and radiation protection when using sources of ionizing radiation - Number of radiation protection specialists - Environmental and hygiene codes are applied - Nuclear safety rules are applied	*25% of the population at risk are protected against risks environmental by 2020*	

Strategic axis 2: Human resources development

Products	Effects	Impact
ÿ Number of general practitioners trained in the early detection of prostate and cervical cancers and breast ÿ Number of anatomical doctors – pathologists competent in the early diagnosis of cancers of the prostate, cervix and breast ÿ Number of radiologists skilled in the early diagnosis of breast cancer ÿ Number of midwives trained in early detection of cervical and breast cancers ÿ Number of ana-path technicians trained in the early detection of cervical cancers and breast ÿ Number of nurses trained in early detection of cervical and breast cancer	*50% of healthcare providers trained in detection of the most common cancers by 2020*	The survival rate of pa cancer patients taken care of load is 30% Prevalence of cancers tected at an advanced stage reduced from 75% to 25% by 2020
ÿ Number of Promotion and Prevention Agents and Community-Oriented Care Agents on the first symptoms of the most common cancers and early referral	*60% of community actors oriented to prevention cancers by 2020*	
ÿ Number of physicians and surgeons specializing in oncology ÿ Number of organ surgeons ÿ Number of doctors and general surgeons competent in oncology ÿ Number of pediatricians competent in oncology ÿ Number of doctors specializing in anatomo-pathology- Number of doctors specializing in nuclear medicine- Number of radio pharmacists ÿ Number of nuclear medicine imaging technicians ÿ Number of medical physicists ÿ Number of radiotherapy technicians ÿ Number of nurses competent in chemotherapy ÿ Number of laboratory technicians competent in ana-path ÿ Number of nurses competent in palliative care and pyscho-oncology	*50%of healthcare providers trained in the management cancer burden by 2020*	

Products	**Effects**	**Impact**
ÿ Number of general practitioners trained in the early detection of prostate and cervical cancers and breast ÿ Number of anatomical doctors – pathologists competent in the early diagnosis of cancers of the prostate, cervix and breast ÿ Number of radiologists skilled in the early diagnosis of breast cancer ÿ Number of midwives trained in early detection of cervical and breast cancers ÿ Number of ana-path technicians trained in the early detection of cervical cancers and breast ÿ Number of nurses trained in early detection of cervical and breast cancer	*50% of healthcare providers trained in detection of the most common cancers by 2020*	Patient survival rate cancer patient treated is by 30% Prevalence of detected cancers late stage tees reduced from 75% to 25% by 2020
ÿ Number of Promotion and Prevention Agents and Community-Oriented Care Agents on the first symptoms of the most common cancers and early referral	*60% of community actors oriented to the pre cancer prevention by 2020*	
ÿ Number of physicians and surgeons specializing in oncology ÿ Number of organ surgeons ÿ Number of doctors and general surgeons competent in oncology ÿ Number of pediatricians competent in oncology ÿ Number of doctors specializing in anatomo-pathology- Number of doctors specializing in nuclear medicine- Number of radio pharmacists ÿ Number of nuclear medicine imaging technicians ÿ Number of medical physicists ÿ Number of radiotherapy technicians ÿ Number of nurses competent in chemotherapy ÿ Number of laboratory technicians competent in ana-path ÿ Number of nurses competent in palliative care and pyscho-oncology	*50%of healthcare providers trained in the management cancer burden by 2020*	

Strategic axis 3: Early detection

Products	Effects	Impact
ÿ Number of screening sites for precancerous lesions of the functional cervix	*50% of the population at risk screened precancerous lesions of the cervix the womb by 2020*	Patient survival rate cancer patients taken care of is 30%
ÿ Number of health structures equipped with a mammography	*30% of the target population benefit from a mammography by 2020*	Prevalence of cancers detected at an advanced stage reduced by 75% to 25% by 2020

Strategic axis 4: Diagnostic and therapeutic management

Products	**Effects**	**Impact**
ÿ Number of treatment sites for precancerous lesions of the cervix ÿ Number of anapath laboratories set up ÿ Number of structures specializing in the management of adult cancer ÿ Number of structures specializing in the management of childhood cancer ÿ Number of health facilities with a technical platform nic brought up to standard for the treatment of cancer ÿ Number of cases diagnosed ÿ Number of cancer cases treated	*100% of cancer cases detected are treaties* *80% of expected cancer cases are diagnosed* *80% of cancer cases diagnosed are treated*	Patient survival rate cancer patient treated is by 30% prevalence of detected cancers late stage tees reduced from 75% to 25% by 2020
ÿ Number of patients receiving palliative care with assistance in supportive psychotherapy being at least at score 2 of the sta who performance tut ÿ Number of palliative care patients receiving WHO level 3 analgesics	*The quality of life of 50% of patients related to palliative and psycho oncology is improved*	

Strategic axis 5: Epidemiological surveillance and research

Products	**Effects**	**Impact**
ÿ The national tumor registry is available and functional ÿ Number of public hospitals equipped for the registration of cancer ÿ Number of private clinics equipped for registration cancer ÿ Number of registrars trained on cancer registration	*80% completeness of epid data on cancer by 2020* *50% of the population is covered by a tumor registry by 2020*	Patient survival rate cancer patient treated is by 30% Cancer prevalence detected at an advanced stage is reduced from 75% to 25% by 2020

II- MEASURES AND ACTIVITIES OF THE PLAN

has. Strategic axis 1: Primary prevention

Lines of Action	Measures	Activities	Products
Development of a communication plan	Improving the attitudes and skills of the population with regard to cancer and its risk factors	ÿ Organize a workshop to develop the communication plan ÿ Organize a communication plan validation workshop ÿ Organize public awareness campaigns on the	A communication plan is available
Fight against cancer-related infections	Prevent infections related to cancer	risks of infections associated with cancers, in particular the HPV and HBV viruses; ÿ Develop a program for vaccination tion against HPV viruses	ÿ Number of children vaccinated against the HBV virus (PEV) ÿ Number of people made aware of the risks of infection associated with cancers ÿ Number of girls aged 9 – 13 vaccinated against the HPV virus
Tobacco control	Prevent smoking through awareness	*See communication plan*	- Number of teenagers / young people aged 15-24 made aware of the harmful effects of tobacco
	Encourage and support the cessation of smoking habits	- Create weaning assistance services in hospitals; - Subsidize drugs and nicotine replacement products - Increase taxes on the price of tobacco regularly and significantly; - Prohibit split selling; - Prohibit direct	- Number of 25 year old smokers in whom smoking cessation is confirmed (24 months)
Tobacco control	Implement the tobacco control law in Senegal	and indirect advertising - Prohibit sales to minors; - Strengthen the fight against smuggling.	- Anti-smoking measures applied
	Put in place measures to implement the WHO Framework Convention on Tobacco Control	- Enforce the ban on smoking in public places, at work, in educational establishments; - Enforce the ban on tobacco promotion; - Take measures to eliminate the cigarette smuggling	
Promoting the adoption of a healthy lifestyle	Promoting a healthy and balanced diet	*See communication plan*	Number of people informed about healthy lifestyle
	Fight against the consumption of alcohol among young people	*See communication plan* - Increase taxes on timber prices alcoholic sounds - Strengthen the legislation against the sale alcohol	Number of adolescents / young people aged 15-24 made aware of the harmful effects of alcohol
	Protect consumers against carcinogens	- Strengthen legislation on food products and enforce the hygiene code - Strengthen health control at borders and develop the fight against the smuggling of food products; - Fight against mycotoxins throughout the cereal sector, particularly in the manufacture of artisanal peanut oil. - fight against cosmetic depigmentation	The device of control and repression of the sale of harmful food is applied
	Develop legislation relating to food-related risks	- Apply the laws to fight against misleading advertisements.	The laws in force are applied
	Put in place legislation relating to the sale of lightening products	- Have laws to prohibit the sale of lightening products - Apply the laws prohibiting the sale of lightening products	- The control and repression system for the sale of lightening products is implemented
	Prevent AD (or DC) harm	- Educate young girls and women on AD	- Number of young girls and women informed about the risks of lightening cosmetics

Lines of Action	Measures	Activities	Products
Reduction of environmental risks	Preventing the harmful effects of ultraviolet rays in albinos	*See communication plan* - Provide albinos with means of protection against radiation UVA and UVB	- Number of albinos informed about the risks of UV rays - Number of protection kits distributed to albinos
	Improving protective measures and practices in the workplace	- Advocate with companies to provide workers with protective measures adapted to each workplace o Revise occupational medicine legislation to strengthen protection against carcinogenic factors o Set up a system of occupational disease insurance	- Number of handlers informed about the potential risks of carcinogenic contaminants depending on their environment - Number of health professionals trained in permanent compliance with safety rules, monitoring and treatment of carcinogenic products - environmental and hygiene codes
	Fighting soil and water contaminants	o Conduct advocacy for the application of existing legislation on the environment and hygiene code	are applied - Number of handlers informed about the potential risks of carcinogenic contaminants depending on their environment
	Protect against exposure to electromagnetic and ionizing radiation	- Enforce the national and international legislation in force for the use of ionizing and electromagnetic radiation; o Establish sustainable dosimetric monitoring of personnel exposed to ioni radiation health o Reinforce surveillance in structures using radioactive sources; o Establish a traceability system for radioactive sources; o Implement the programs of the Radiation Protection and Nuclear Safety Authority (ARSN). o Create the training sector for physi medical technicians Create a training course for senior technicians in nuclear medicine -	- nuclear safety rules are applied - Number of health professionals trained in permanent compliance with safety rules, monitoring and treatment of carcinogenic products - Number of radiation protection specialists - Number of senior nuclear medicine technicians
	Fight against air pollution	Advocate for the application of the laws of the environment code concerning atmospheric pollution.	- environmental and hygiene codes are applied

b. Strategic axis 2: Human resources development

Lines of action	Measures	Activities	Products
Development of a training strategy in primary cancer prevention	- Develop basic training in cancer prevention - Develop continuing education in cancer prevention	- Train staff at the operational level on communication techniques for the prevention of cancers; - Develop training curricula on cancer prevention; - Set up a continuous training program in the field of cancer prevention for community actors	- Number of general practitioners trained in the early detection of prostate, cervical and breast cancers - Number of pathologists skilled in the early diagnosis of prostate, cervical and breast cancers - Number of radiologists skilled in breast cancer screening - Number of physicians and surgeons specializing in oncology - Number of specialist organ surgeons - Number of doctors and general surgeons skilled in oncology - Number of technicians in ra diotherapy - Number of nurses competent in chemotherapy - Number of lab technicians ana-path proficient ratories - Number of nurses competent in basic palliative care - Number of paediatricians competent in oncology - Number of doctors specializing in anatomo-pathology - Number of medical physicists calves - Number of pathology technicians trained in the early detection of cervical and breast cancers - Number of nurses trained in early detection of cervical and breast cancer
Development of a training strategy in early detection cancer	Train health professionals on detection early cancers of the prostate, breast and cervix	- Include modules on early diagnosis of the most common cancers in basic training curricula - Train and sensitize level 1 doctors for the early detection of the most common cancers	

Lines of action	Measures	Activities	Products
Development of one training strategy on the care of cancer	Developing training grip basics in charge of cancer Developing training continues in terms of cancer care Developing training in the domain of oncology at all ni sani pyramid calves to hush up Develop resources human in the management burden of pain palliative and psychological care oncological Developing training psycho oncologists and social workers for oncology	- Integrate into the training curricula modules on the cancer care - Set up a continuing education program in the field of cancer care for health professionals - Recruit sufficient and competent human resources - Ensure the availability of the necessary human resources sary for diagnosis - Ensure the availability of the human resources necessary for processing - Promote teaching of pain management adapted to each level, - Train itinerant nurses for the management of pain and palliative care at home; - Promote training in psychological oncology for social workers and psychologists	- Number of midwives trained in early detection of cervical and breast cancers - Number of Promotion and Prevention Agents and Community Agents of Care focused on the first symptoms of the most common cancers and early referral

vs. Strategic axis 3: Early detection

Lines of action	Measures	Activities	Products
Setting up a strategy **screening strategy** **Cervical cancer**	Set up a program na national cervical cancer screening uterine	ÿ Create a screening service cervical cancer in each health district ÿ Make available to digging tool services cervical cancer stage based on VIA or smear cervico-uterine	ÿ Number of sites of lesion screening precancerous of the cervix uterine function nels
Setting up a stratum **pre diagnosis gies** **breast cancer cost**	Set up a program of early diagnosis of breast cancer breast based on pooling and resource mobility	ÿ -Create mobile units dia multidisciplinary early diagnosis of breast cancer breast (mammography–laboratory of pathological anatomy) ÿ Establish a framework for coordination between the district health and mobile units multidisciplinary ÿ Set up in hospitals rate of diagnostic tools early breast cancer;	ÿ Number of mo units bile for diagnosis early stage cancer breast

d. Strategic axis 4: Diagnostic and therapeutic management

Lines of action	Measures	Activities	Products
Ensuring the supply of care cancer patients at different levels of the health system	Strengthen the technical platform of level 1 structures	ÿ -Develop simple reference systems and decision trees for the diagnosis of the most frequent cancers; - Provide each health district with equipment for the diagnosis and treatment of precancerous lesions of the cervix - Provide each health center with communication media	ÿ Number of treatment sites for precancerous lesions of the cervix ÿ Number of functional anapath laboratories set up ÿ Number of structures specializing in the management of adult cancer ÿ Number of structures specializing in the management of childhood cancer ÿ Number of health facilities with a technical platform brought up to standard for cancer care ÿ Number of cases diagnosed ÿ Number of cancer cases treated
	Reinforce the technical platform of level 2 structures	ÿ Provide each EPS 2 with means for confirming the diagnosis of cancer and standard extension assessment ÿ Provide each EPS2 with means for gynecological and visceral oncological surgery; ÿ Provide each EPS2 with means for outpatient chemotherapy ÿ Develop repositories and trees simple decision-making for post-therapeutic follow-up	
	Reinforce the technical platform of level 3 structures	ÿ Provide each EPS3 with means of tumor characterization and assessment specialized extension ÿ Organize weekly multidisciplinary consultation meetings (RCP); ÿ Develop repositories and trees simple decision-making processes for diagnosis, treatment and post-therapeutic follow-up ÿ Provide EPS3 with specific resources for the treatment of cancers	Number of patients receiving palliative care who are at least at score 2 of the WHO performance status Number of palliative care patients receiving WHO level 3 analgesics
	Creation of support structures specializing in oncology	ÿ Build an oncology center in Dakar national ÿ Create five (5) interregional oncology centers ÿ Build a pediatric oncology center in Dakar ÿ Subsidize anti-cancer drugs.	
	Make accessible the anti-cancer drugs rousing		
	Develop national benchmarks of good diagnostic and therapeutic practices	Organize a workshop for the development and validation of the repository of good diagnostic and therapeutic practices	

Lines of action	Measures	Activities	Products
Creation of a network between the different nor cancer care calves	Ensure coordination between the different levels of care	ÿ Create a communication network linking all the support levels; ÿ Set up a referral-counter-referral system in oncology ÿ Conduct an evaluation of the referral and counter-referral system for palliative care every 2 year	
Developing pain management	Create the right conditions for pain management	ÿ Initiate legislation on access to analge siques ÿ Improve procedures for ordering and acquiring morphine in all its forms;	
Develop activities for family and social support	Provide family support	ÿ Assign social workers to all the oncology centers; ÿ Formalize home hospitalization or short-term respite ÿ Strengthen the involvement of the private sector in the care of end-of-life patients ÿ Assign psychologists to all centers oncology and hospitals	
	To assure social support	ÿ Create listening cells in each care structure with psychotherapists and social workers ÿ Integrate cancer care into the training curriculum for community actors (ACS and ACPP)	
	Provide end-of-life support	ÿ Develop standards and protocols for supporting cancer patients at the end of life.	
Develop and organize palliative care networks (in hospital, outpatient and home care)	Establish the missions of the palliative care management structures.	ÿ Define a package of health, community and family palliative care	
	Organize palliative care support networks	ÿ Set up a palliative care referral and counter-referral system ÿ Conduct an evaluation of the palliative care referral and counter-referral system every 2 year	

e. Strategic axis 5: Epidemiological surveillance and research

Lines of action	Measures	Activities	Products
Monitoring the evolution of cancers and risk factors	Measure the impact of cancer	ÿ Institutionalize the National Registry of Tumors of Senegal; ÿ Integrate the national tumor registry into the national health information system (DSIS) ÿ Officially publish the annual data from Senegal's National Tumor Registry at national and international level.	ÿ The national tumor registry is available and functional ÿ Number of public hospitals equipped for cancer registration ÿ Number of private clinics equipped for cancer registration ÿ Number of registrars trained on cancer registration
	Monitoring the risks related to occupational exposures	ÿ Establish epidemiological surveillance within the professional activities incriminated by the tumor register of Senegal ÿ Conduct surveys in structured and informal professional environments to measure the extent of exposure to carcinogens classified 2A in the BOM WHO (IARC);	
	Measuring the prevalence of cancer-related risks	ÿ Conduct regular studies of the prevalence of behavioral risk factors;	
Development of lines of research for the prevention of cancer	Develop research in cancer prevention	ÿ Develop fundamental research on prevention; ÿ Carry out impact assessments of interventions to fight against certain cancers ÿ Carry out specific studies on the incidence, mortality and prevalence relating to certain forms of cancer; ÿ Develop research on the identification and quantification of risk factors; ÿ Initiate operational research on the cost/benefit of prevention actions;	

III- IMPLEMENTATION FRAMEWORK

III-1. Institutional frame

The national strategic plan for the fight against cancer (PSNLCC) constitutes the reference for all interventions carried out in Senegal on cancer.

Its implementation will take place within the organizational framework described below:

1. At national level

ÿ **National Cancer Control Steering Committee**

Composition :

ÿ President: Minister of Health.

ÿ Vice-president: General Director of Health

ÿ Secretary: Head of the Division for the Fight against Non-Communicable Diseases (DLMNT)

The members :

ÿ National directors (DP, DGS, DPRS, DIEM, DAGE, DES, DL, DPM, DRH, etc.);

ÿ Minister's office representative

ÿ National services (SNEIPS, PNA, LNCM, CAP, etc.);

- MCR Dakar

ÿ Directors of university institutes of oncology.

ÿ Heads of hospital departments involved in the management of cancer

ÿ The Dean of the Faculty of Medicine of Dakar

ÿ Directors of health sciences departments

ÿ Ministry of Economy, Finance and Planning

- Ministry of Local Authorities

- Ministry of the family

ÿ Representative of ministerial sectors interested in the fight against cancer (forces armies, education, higher education and research, labor and employment, youth, sports, energy, mining, hydraulics and sanitation, environment)

ÿ The president of the union of associations of local elected officials

- ÿ Prime Health Advisor
- ÿ Chairman of the National Assembly population health commission
- ÿ Chairman of the Health Commission of the Economic, Social and Environmental Council
- ÿ A WHO representative
- ÿ Civil society representative
- ÿ Private sector representative
- ÿ Senegalese Cancer League

The committee meets twice a year and can call on any useful expertise.

Duties:

- ÿ Define and validate strategic directions in the fight against cancer
- ÿ Advocate for the mobilization of human, technical and financial resources ceres

ÿ **Technical committee for the fight against cancer**

Composition :

- ÿ Chairman: Director General of Health
- ÿ Vice-president: Director of Disease Control
- ÿ Secretary: Coordinator of the Cancer Control Program

The members :

- DLMNT
- ÿ Representative of the DAGE
- ÿ Representative of the DPRS
- HRD representative
- ÿ Representative of the DGAS
- ÿ DIEM representative
- ÿ A representative of SNEIPS
- ÿ A representative of the DES
- ÿ Representative of the technical services of the hospitals involved in the diagnosis and CEP of cancer
- ÿ Representatives of training schools (ENDSS, private schools,)

ÿ Representative of MCR Dakar

ÿ Head of department of the Marie curie institute of Le Dantec;

ÿ Nuclear medicine focal point

Duties:

ÿ Implement the guidelines of the steering committee

ÿ Coordinate all cancer control activities and strategies

ÿ Ensure the follow-up of the implementation plan

The committee meets quarterly

• **Executive Secretariat**

Composition :

ÿ An executive secretary who will be the program coordinator

ÿ A monitoring and evaluation officer

- A program manager

- A communication officer

- An administrative assistant

Duties:

- Develop the national strategic plan

ÿ Develop action plans and monitoring and evaluation plans

ÿ Monitor and evaluate the implementation of the strategic plan to combat the cancer

ÿ Coordinate the execution of the implementation

- Mobilize resources

2. At the regional level

ÿ **Regional Technical Committee for the fight against cancer**

ÿ President: Governor

ÿ Vice-president: MCR

ÿ Secretary: chief surgeon/focal point

Composition :

ÿ Governor

- MCR/MCD

ÿ Civil society representative

ÿ Representatives of ministerial sectors

ÿ Representatives of UFRs and health faculties

ÿ Hospital and regional service representatives

ÿ Representative of local elected officials

- Technical and financial partners

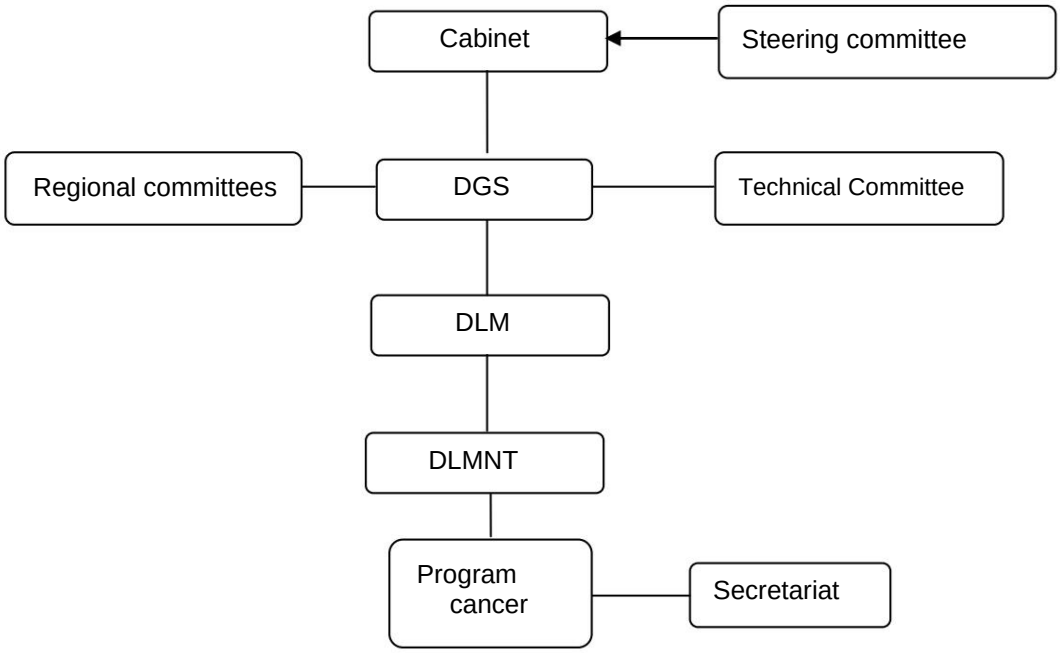
Assignment :

ÿ Define and validate strategic directions in the fight against cancer

ÿ Advocate for the mobilization of human, technical and financial resources
ceres

- Meets every semester

ORGANIZATIONAL CHART



III-2. Methods of implementation

The PSNLCC will be implemented through an annual action plan that incorporates components regions based on the priorities selected and according to the results-based approach with involvement of all stakeholders.

Specialized structures will be created at national and regional level.

- National Oncology Center
- Regional oncology centers

III-3. Monitoring and evaluation framework

A monitoring and evaluation plan will be integrated into the PSNLCC. This plan will define the indicators of monitoring and evaluation of the strategic plan. This system will make it possible to measure the relevance, the effectiveness and efficiency of interventions as well as the level of achievement of targets and re expected results.

The implementation of monitoring and evaluation will be coordinated by a unit within the secretariat program executive.

The plan's monitoring and evaluation indicators will be integrated into the DIHS2 to facilitate not only the reporting of data and the monitoring of the performance of control interventions against cancer at different levels of the health system.

The basic indicators will be retained from a basic survey which will be carried out start of program implementation.

The monitoring/evaluation system will be strengthened to improve:

- data auditing to ensure accuracy, reliability, completeness and consistency of data information collected;
- securing data management in order to have a donation bank reliable at national and decentralized levels;
- the diversification of data sources (routine data from the different components, surveys, studies, research, evaluations and audits, etc.)
- the transformation of data into strategic information for management purposes;
- periodic supervision of the SE system allowing the identification of bottlenecks bottlenecks and constraints at different levels of the system;

- the promotion of the quality assurance of interventions (quality control of the services of carried out by service providers, control of good governance of the response, control relating to beneficiary satisfaction);
- the institutionalization of the annual review process of the PSN implementation plan for fight against

IV- RESULTS CHAIN

Indicator Labels	Indicator definitions	Indica calculation methods tors	Verification sources	Frequency Responsible	
Impact indicators					
Patient survival rate cancer patients taken care of is 30%	The time between diagnosis cancer and death	Number of patient deaths / number of cancer patients x100	Cancer registries / DHIS2	annual DMNT	
Prevalence of cancers detected at an advanced stage reduced by 75% to 25% by 2020	The number of cancer cases detected at an advanced stage (old and new) on a given period	Total number of cancer cases detected at an advanced stage / total population x100	Cancer registries / DHIS2	annual DMNT	

has. Strategic axis 1: Primary prevention

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Effect indicators					
Prevalence of cancers linked to infections reduced by 30%	The number of cancer-related cases infections (old and new calves) over a given period	Total number of related cancer cases infections / total population X 100	Cancer registries / annual DHIS2		DMNT
Prevalence of active smoking among teenagers / young people aged 15-24 reduced by 25% by 2020	The number of smoking cases active in adolescent-young (old and new) on a pe given period	number of active smoking cases among teens-youth/popula target tion X 100	Steps survey	5 years	DMNT
25% of the population adopts a fashion healthy living by 2020	The population that adopts a mode healthy lifestyle (balanced diet, physical activities and sports…)	Population adopting a lifestyle healthy/ population aged 18 and over more X 100	Steps survey	5 years	DMNT
25% of the population at risk are protected against environmental risks by 2020	The population at risk carcinogens protected against environmental risks (environment work, pollution, substance ambient toxic…)	Population at risk protected/ popula target tion X 100	Steps survey	5 years	DMNT

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Process indicators					
Number of children vaccinated against HBV virus	Newborn babies vaccinated against HBV	Use of vaccination registers HBV	Routine/DHIS2 data	annual	DMNT
Number of 9-year-old girls vaccinated against HPV	9-year-old girls vaccinated against HPV	Use of HPV vaccination registers Routine/DHIS2 data		annual	DMNT
Number of people made aware of the risks of infection associated with cancer	People affected by cams awareness loincloths	Accumulation of listening skills (radio, television, forum, interview, consultation, etc.)	Steps/Gats survey (global adult tobacco survey	5 years	DMNT/PNLT
Number of teenagers / young people from 15-24 year olds made aware of the misdeeds tobacco	Adolescents – young people made aware of the harmful effects of tobacco (cancer, cardiac dies, sterility…)	Accumulation of listening skills (radio, television, forum, interview, consultation, etc.)	Steps/Gyts survey (global youth tobacco survey)	5 years	DMNT/PNLT
Anti-tobacco measures applied	Implementation of the tobacco control law	Adoption of regulatory texts	Decrees and orders signed Official newspaper	annual	PNLT
Number of people informed about the healthy lifestyle	The population informed about the mode healthy lifestyle (balanced diet, sporting activities…)	Accumulation of listening skills (radio, television, forum, interview, consultation, etc.)	Steps survey	Every 5 years DMNT	
number of radiation protection rules environmental codes and applied hygiene	code radiation protection rules environment and hygiene applied (chemotherapy, radiotherapy rapie, anapath, antican drugs cerous, radio risk mapping therapeutic and radio-industrial…)	Review of legislative texts and regulations silence taken	Codes of hygiene and the environment Official newspaper	annual	DMNT

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Process indicators					
number of nuclear safety rules applied	Applied nuclear safety rules (radioactive waste, radiotherapy, ionizing rays…)	Review of legislative texts and regulations silence taken	Codes of hygiene and the environment Official newspaper	annual	DMNT
Number of albinos informed about risks of UV rays	Albinos sensitized on risks of UV rays (exposure to Sun)	Investigation	Steps survey	five years	DMNT
Number of protection kits distributed with albinos	Protective kits (hat, lu cleansers, ointments) against the rays UV	Count of distributed kits	Delivery note	annual	DMNT
Number of handlers informed about the potential risks of products con carcinogenic taminants according to their environment	The population at risk potential contaminants and carcinogens (alcohol, chlorine, ether, dyes, ionizing radiation instead magnetic waves, nitrites, GMOs, pesticides…)	Census of populations at risk	Investigations	5 years	DMNT
Number of health professionals trained in the permanent respect of safety rules, surveillance and of use and management instead of trai disposal of radioactive products	Health service providers trained in compliance with the rules of security, surveillance and of use and management instead of treatment of radioactive products (pictogram, radionuclides, rays ionizing…)	Health Provider Census trained on the permanent respect of the rules security, surveillance and use and product processing management radioactive	investigation	5 years	DMNT

b. Strategic axis 2: Strengthening of skills

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Effect indicators					
50% of care providers trained on the early detection of the most common cancers quents by 2020	care providers trained on early detection of can the most frequent Cers (col de uterus, prostate, liver, breast, lung, throat, etc.)	Number of providers trained/ total number of providers	Training reports	annual	DMNT
60% of community actors oriented to cancer prevention by 2020	community actors (ACS, "Bajenu Gox "and relay) orien prevention tees	Number of community actors oriented/ number of common actors nautical	Training reports	annual	DMNT
50% of care providers trained on the cancer treatment by 2020	health care providers about the care of cancer	Number of providers trained/ total number of providers	Training reports	annual	DMNT

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Process indicators					
Number of general practitioners trained in early detection of prostate cancer, cervix and breast	general practitioners trained in early detection of cancers of prostate, cervix and breast	Use of training reports	Training reports	annual	DMNT
Number of anatomo-pathologists competent in the early diagnosis of cancers prostate, cervix and breast	pathologists skilled in early diagnosis cancers of the prostate, cervix and breast	Census of anatomo doctors diagnostically skilled pathologists early cancers of the prostate, cervix and breast	Investigation	annual	DMNT
Number of radiologists skilled in the early diagnosis of breast cancer	competent diagnostic radiologists early tic of breast cancer	List of physicians competent in the early diagnosis of breast cancer	Investigation	annual	DMNT
Number of midwives trained in the detection early detection of cancers of the cervix and breast	Midwives trained in early detection of cervical cancer uterus and breast	Enumeration of midwives for for the early detection of cancers cervix and breast	Training reports	annual	DMNT
Number of anapath technicians trained in early detection of cervical cancer uterus and breast	Anapath technicians trained in the early detection of cancers of the cervix and breast	Number of technicians trained in early detection of cervical cancer uterus and breast	Training reports	annual	PNLT
Number of nurses trained in detection early cervical and breast cancer	Nurses trained in detection early cervical cancer and breast	Number of nurses trained in early detection of cervical cancer uterus and breast	Training reports	Every 5 years DMNT	
Number of Promotion and Prevention Agents tion and Community Care Workers oriented to the first symptoms of can most frequent cers and at early referral	Promotion and Prevention Agents tion and Community Agents of Primary Oriented Care most common cancer symptoms frequent and at early referral	Count of Promotion Agents and Prevention and Communal Agents Patient-Oriented Care symptoms of the most common cancers frequent and at early referral	Training reports	annual	DMNT

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Process indicators					
Number of physicians and surgeons specializing in oncology	physicians and surgeons specializing in oncology	Census	Codes of hygiene and the environment Official newspaper	annual	DMNT
Number of organ surgeons	organ surgeons	Census	Steps survey	5 years	DMNT
Number of doctors and general surgeons competent in oncology	doctors and general surgeons skilled in oncology	Census	Delivery note	annual	DMNT
Number of pediatricians competent in oncology	pediatricians trained in oncology	Census	Investigations	annual	DMNT
Number of physicians and surgeons specializing in oncology	cancer doctors and surgeons	Census	investigation	annual	DMNT
Number of doctors and general surgeons skilled in oncology	doctors and general surgeons skilled in oncology	Census	investigation	annual	DMNT
Number of pediatricians competent in oncology	pediatricians trained in oncology	Census	investigation	annual	DMNT
Number of specialists in anatomy pathology Number of nuclear doctors	medical specialists in anatomy pathology medical specialists naked clear	Census Census	investigation investigation	annual annual	DMNT DMNT
Number of medical physicists Number of radio pharmacists	medical physicists Radio pharmacists	Census Census	investigation investigation	annual annual	DMNT DMNT
Number of nuclear medicine technicians Number of radiotherapy technicians	Nuclear medicine technicians radiotherapy technicians	Census Census	Investigation investigation	annual annual	DMNT DMNT
Number of nurses competent in chemotherapy	Chemotherapy Competent Nurses Census		investigation	annual	DMNT
Number of laboratory technicians competent in ana-path	laboratory technicians skilled in ana-path	Census	investigation	annual	DMNT
Number of nurses competent in palliative care and basic psycho-oncology	palliative care nurses basic	Census	investigation	annual	DMNT

vs. Strategic axis 3: Early detection

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Effect indicators					
50% of the population at risk screened precancerous lesions of the cervix the womb by 2020	population at risk list of precancerous lesions reuses of the cervix	Number of people at risk screened for precancerous lesions reuses/ target population	Activity reports	annual	DMNT
30% of the target population benefits of a mammogram by 2020	the target population benefits from a mammogram from here 2020	Number of community actors sectors oriented/ number of actors community	Activity reports	annual	DMNT
Process indicators					
-Number of strip screening sites precancerous lesions of the cervix functional	lesion screening sites precancerous cervical functional uterus	Site inventory	Investigation	annual	DMNT
-Number of health facilities available health of a mammography machine	health facilities available health of a mam device mography	Survey of structures	Investigation	annual	DMNT

d. Strategic axis 4: Diagnostic and therapeutic management

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Effect indicators					
100% of cancer cases detected are treaties	the population at risk screened is treated for cancer	Number of cancer cases detected and treated / Number of cancer cases screened	Activity reports	annual	DMNT
80% of expected cancer cases are diagnosed	At the population level the cases expected are diagnosed	Number of cases diagnosed / number expected cases	Activity reports	annual	DMNT
80% of cancer cases diagnosed are treated	At the population level the cases expected are diagnosed and treaties	Number of cancer cases diagnosed sed and treated / Number of cancer cases cers diagnosed	Activity reports	annual	DMNT
The quality of life of 50% of patients under palliative care is improved	Half of the patients falling palliative care will have a improved quality of life	Number of patients receiving care palliatives with improved quality of life improved/ number of patients covered by palliative care	Activity reports	annual	DMNT

Indicator Labels	Indicator definitions	Indicator calculation methods	Sources of verification Periodicity		Responsible
Process indicators					
Number of treatment sites for precancer lesions reuses of the cervix	precan lesion treatment sites functional cervix	Site inventory	Investigation	annual	DMNT
Number of ana-path laboratories set up	Anapath Laboratories set up	Site inventory	Investigation	annual	DMNT
Number of structures specializing in the management adult cancer burden	structures specialized in taking burden of adult cancer put in place and functional	Site inventory	Investigation	annual	DMNT
Number of structures specializing in the management childhood cancer burden	structures specialized in taking burden of childhood cancer put in place place and functional	Survey of structures	Investigation	annual	DMNT
Number of health facilities with a technical platform brought up to standard for handling cancer burden	health facilities with a technical platform brought up to standard for cancer care implemented place and functional	Survey of structures	Investigation	annual	DMNT
Number of cases diagnosed	diagnosed cases	Register count	Investigation	annual	DMNT
Number of cancer cases treated	Number of cancer cases treated	Register count	Activity reports	annual	DMNT
Number of patients receiving palliative care being at least at performance status score 2 from the WHO	Number of patients receiving care palliatives being at least at score 2 of the WHO performance status	Register count	Activity reports	annual	DMNT
Number of palliative care patients receiving WHO level 3 analgesics	Number of patients in palliative care benefiting from level 3 analgesics from the WHO	Register count	Activity reports	annual	DMNT

e. Strategic axis 5: Epidemiological surveillance and research

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Effect indicators					
80% completeness of epidemiological data on cancer are identified by 2020	Filling rate of cancer registry	Number of complete cancer reports received/Number of reports expected on expected cancer data	Activity reports	annual	DMNT
50% of the population is covered by a register of tumors by 2020	Filling rate of tumor registry	Number of people covered by a register / population	Activity reports	annual	DMNT
Process indicators					
-The national tumor registry is available and functional tional	Availability and functionality té of the national register of tumors	Site inventory	Investigation	annual	DMNT
Number of registrars trained On cancer registration	trained registrars On the recording of cancer	Count of trained registrars	Activity reports	annual	DMNT
Number of public hospitals equipped for cancer registration	public hospitals equipped with material for cancer registration	Hospital census	Investigation	annual	DMNT
Number of private clinics equipped for cancer registration	equipped private clinics of material for cancer registration	Census of clinics	Investigation	annual	DMNT

f. Strategic axis 6: Monitoring and evaluation of the strategic plan

Indicator Labels	Indicator definitions	Indicator calculation methods	Verification sources	Periodicity	Responsible
Process indicators					
Percentage of half-yearly supervisions carried out	Half-yearly supervisions carried out in the structures toilets and community sites silent	Number of supervision missions half-yearly completed/number of expected missions	Activity reports	annual	DMNT
Percentage of meetings organized	meetings of the committees of piloting and technique for the coordination of the implementation implementation of the strategic plan	Number of meetings organized / number of meetings expected	Activity reports	annual	DMNT
Percentage of implementation monitoring missions organized	follow-up missions implementation and collection data is organized	Number of follow-up missions implemented/ number of expected missions	Activity reports	annual	DMNT
Percentage of assessment missions organized	assessment missions periodicals are organized	Number of evaluation missions organised/ number of missions at strained	Activity reports	annual	DMNT
Percentage of screening missions organized	regional missions and screening devices are organized	Number of scouting missions organised/ number of missions at strained	Activity reports	annual	DMNT
Percentage of treatment missions organized	Percentage of assignments regional and peripheral treatment are organized	Number of treatment missions organised/ number of missions at strained	Activity reports	annual	DMNT