



Study on Supply Mechanisms, Prices and Volumes of Antiretroviral, Anti-Tuberculosis, Anti-Cancer Drugs and Vaccines in Senegal

October 2025

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List of Abbreviations

| | |
|-------------------|--|
| AIDS: | Acquired Immune Deficiency Syndrome |
| ARP (in French): | Pharmaceutical Regulatory Agency |
| ARVs: | Antiretrovirals |
| BI: | Bamako Initiative |
| CET: | Common External Tariff |
| CNCA (in French): | National Council for Administrative Contracts |
| DLSI (in French): | AIDS Control Division |
| DPL: | Directorate of Pharmacies and Laboratories |
| ECOWAS: | economic Community of West African States |
| EPI: | Expanded Program on Immunization |
| GDP: | Gross Domestic Product |
| GMP: | Good Manufacturing Practices |
| HIV: | Human Immunodeficiency Virus |
| INN: | International Non-proprietary Name |
| ITPC: | International Treatment Preparedness Coalition. |
| LNCM (in French): | National Laboratory for Drug Control |
| MA: | Marketing Authorization |
| NAC: | National AIDS Committee |
| NGO: | Non-Governmental Organization |
| NLED: | National List of Essential Drugs |
| NTCP: | National Tuberculosis Control Program |
| PNA (in French): | National Procurement Pharmacy |
| PNDS (in French): | National Social Health Development Plan |
| PPN (in French): | National Pharmaceutical Policy |
| PRA (in French): | Regional Procurement Pharmacy |
| STI: | Sexually Transmitted Infection |
| UNICEF: | United Nation of International Children's Emergency Fund |
| WAEMU: | West African Economic and Monetary Union |
| WHO: | World Health Organization |

Acknowledgement

The Kenya Legal and Ethical Issues Network on HIV and AIDS (KELIN) appreciates the consultants, Professor Papa Gallo SOW (Lead Consultant) and Dr. Aboubacry DRAME (Associate Consultant), for developing the report in collaboration with Environnement Developpement Sante – Enda Sante, and with support from the International Treatment Preparedness Coalition (ITPC) Global who took the time to review and provide valuable feedback. Special appreciation to the KELIN project team led by Timothy Wafula (Senior Programme Manager, HIV, TB and Key & Affected Populations), Okania Pesa and Duke Otieno (Programme Officers, HIV, TB and Key & Affected Populations) for their invaluable support towards the conclusion of this report.

KELIN acknowledges and appreciates the technical and financial support from ITPC Global towards this study.

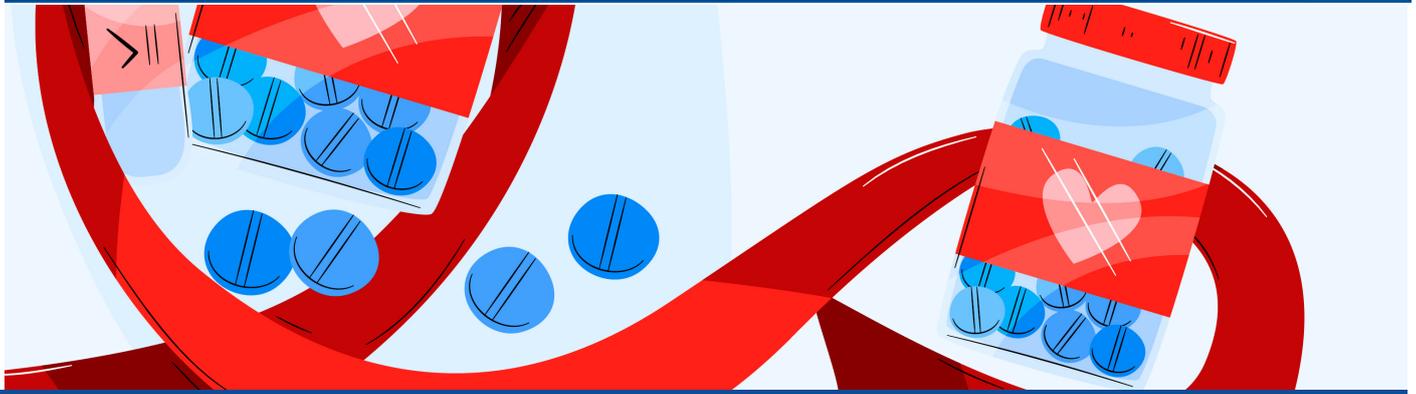
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Published October 2025.

Every effort has been made to verify the accuracy of the information contained in this report. All information was believed to be correct as of August 2025. Nevertheless, KELIN cannot accept responsibility for the consequences of its use for other purposes or in other contexts.

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The findings and recommendations in this report do not necessarily represent the views of the organizations involved or their respective management teams



1.0 EXECUTIVE SUMMARY

Introduction

The context in Senegal is characterized by strategic initiatives aimed at improving the supply of medicines and vaccines, which are essential for the response to complex diseases to ensure national public health. Collaboration between government, international partners, and NGOs is crucial to overcome barriers to effective procurement.

Methodology

The study takes a retrospective descriptive approach and combines quantitative and qualitative methods. Data was collected through semi-structured interviews with key stakeholders from the Ministry of Health and other organizations, to provide a greater understanding of the procurement system and related challenges.

Key Findings

Key Findings

1. Antiretrovirals (ARVs) for HIV:

- Procurement is mainly through the NAC and the Global Fund.
- The most essential ARVs include drugs such as Tenofovir + Lamivudine + Dolutegravir, which are procured at competitive prices through pooled procurement mechanisms.

2. Vaccines:

- The national immunization program

procures vaccines through UNICEF, ensuring compliance with WHO quality standards.

- Vaccines procured include those for measles-rubella, hepatitis B, and HPV.

3. Anti-cancer drugs:

- Procurement is facilitated by the National Procurement Pharmacy (PNA) in collaboration with the National Cancer Control Program.
- Procurement is through a tender process to ensure transparency and competitiveness.

Discussion

The study shows that a strong regulatory framework is in place through the Pharmaceutical Regulatory Agency (ARP), which ensures the quality and safety of medicines. However, gaps remain, particularly in terms of affordability for vulnerable populations and efficiency in stock management.

Conclusion

The supply of essential medicines in Senegal requires continued efforts to ensure equitable access to life-saving treatment. As a result of recommendations made by this study, the government and its partners are urged to work together to improve health system efficiency, to ensure the availability of medicines, and to strengthen local production capacities.



1.0 INTRODUCTION

Senegal, like many low- and middle-income countries, faces significant challenges in its response to HIV, tuberculosis, vaccines and cervical cancer. Access to effective treatment and vaccines is essential to combat these diseases, which place a significant burden on the health system and on the population. The country has established national programs to combat these diseases, which require a regular supply of essential medicines and vaccines. However, the procurement of these products on a national scale involves complex processes, including planning, purchasing, storage, and distribution.

The medicine and vaccine supply system in Senegal combines public procurement with contributions from international donors. Effective management of this system is crucial to ensure continued availability of the crucial treatments. Despite the significance of medicine and vaccine supplies, there is little detailed and up-to-date information available on the exact mechanisms, prices and volumes of centrally purchased products in Senegal. Through the Solidarity project, led by the International Treatment Preparedness Coalition (ITPC) and its Consortium partners, including ENDA SANTÉ, KELIN recruited Professor Papa Gallo SOW as a local consultant to conduct this study. The study aims to facilitate access to health products in Senegal through intellectual property-related solutions. The findings of this study will serve as a basis for improved planning, strengthening of existing procurement mechanisms and for the development of strategies to reduce costs and improve access to essential medicines and vaccines

Despite the significance of medicine and vaccine supplies in Senegal, there is little detailed and up-to-date information available on the exact mechanisms, prices and volumes of centrally purchased products in Senegal.

The findings of this study will serve as a basis for improved planning, strengthening of existing procurement mechanisms and for the development of strategies to reduce costs and improve access to essential medicines and vaccines.



2.0 SENEGAL OVERVIEW

2.1 Geography

Senegal is situated in the western-most part of Africa, on the Atlantic Ocean where Europe, Africa and the Americas converge. It sits at the crossroads of major air and shipping routes. The country covers an area of approximately 196,722 km², with a border to the north with Mauritania, to the east with Mali, to the south with Guinea and Guinea-Bissau, and to the west with the Gambia. It has an Atlantic coastline of over 500 km. The capital Dakar (550 km²) is located on a peninsula in the far west of the country.

2.2 Demography

According to the 2023 census, Senegal has a population of 18,126,390 people, with an average density of 50 inhabitants per km². The population growth rate is 2.9% per year. The majority of the population are young people, with 50% being under the age of 16. Women account for 49.4% of the population. More than 25% of the population is concentrated in the Dakar region. There is also a concentration of people in the center of the country (the groundnut basin), where more than 35% of the population reside. The east of the country is very sparsely populated. Senegal has around twenty ethnic groups, the main ones being Wolof (43%), Pulaar (24%), and Serer (15%). Non-nationals make up about 2% of the population.

2.3 Economics

In 2022, Senegal had a GDP per capita of \$1,606 and recorded a slowdown in real GDP growth to 4.2%, compared to the 5.5% forecast

before the crisis. Gross national income (GNI) per capita was \$1,430 in 2020, making it a lower-middle-income country. However, the dynamics of economic recovery have been compromised by various factors including the COVID-19 pandemic, which significantly changed the economic outlook, impacting various services, including health services. In the context of the Emerging Senegal Plan (known in French as PSE), reforms are planned to return to the pre-pandemic growth trajectory. Senegal's primary development challenge is mitigating the socio-economic impact of the pandemic while promoting sustainable and inclusive growth, which will require, among other things, protecting human capital in order to boost productivity. Finally, analysis of economic activity shows that the tertiary sector is dominant in Senegal. This sector employs 50.0% of the workforce, followed by the primary sector (33.8%) and the secondary sector (16.2%). The majority of the workforce (64.0%) are self-employed, while employees represent 16.1%, divided between 12.1% on permanent and 4.0% on temporary contracts. In the institutional sector, almost half of the workforce (49.6%) work in the informal sector, compared to 33.0% in the public sector and 17.1% in the private sector.

2.4 Health Policy

Senegal has a National Social Health Development Plan. The specific objectives of the National Social Health Development Plan are: Improving the health status of the population with priority given to reducing maternal mortality, infant mortality and fertility control; responding to health needs of the

population with a particular focus on equal access to quality care. The first five-year phase of implementation of this plan, through the Integrated Health Development Program (PDIS 1998-2002), was structured around eleven strategic directions, which were reduced down to 10 in 1999. The eleventh strategic direction, which focused on protecting vulnerable groups, was transferred to the social development sector, as was the Directorate of Social Action (known as DAS). A program approach was used as a management tool for the implementation of PDIS: 1998-2002, which represented the first five-year phase of implementation of the National Social Health Development Plan. The decision to take this relatively new approach was guided by the nature of the health sector program which, for the first time, explicitly set out a single intervention framework for all stakeholders. Key characteristics of this program approach include: The comprehensive nature of the program, shared objectives by all actors, and the willingness to pool resources to achieve these objectives through the selected strategic directions. Health programs include: Expanded Program on Immunization (EPI), National Reproductive Health Program, National STI/AIDS Control Program, National Malaria Control Program, National Tuberculosis

Control Program, Nosocomial Infection Control Program, and the Essential Medicines Program, which sit under the coordination of the Ministry of Health and Medical Prevention.

Reforms are on the agenda for the PDIS related to the pharmacy and medicines sub-sector. In this regard, the decree on pharmacist rights to substitution has been the subject of an implementing decree and the tools required to implement it have been developed. The list of generic essential medicines is regularly reviewed in line with the stipulated process. Promoting generics in the private sector has been initiated. Generic essential medicines are now available in dispensaries. It is also important to note that the Senegalese Pharmaceutical Regulatory Agency (ARP) has been established. In terms of the health system structure in Senegal, the Ministry of Health's decentralized services include medical regions and health districts, which are not considered specific legal entities. They report directly to the central level of the Ministry.

There are two types of health facilities:

- Public healthcare facilities
- Private healthcare facilities



Figure 1 : Senegal's health pyramid

| Structure of health and service provision | Ministry of Health and Social Action | Administrative structure |
|---|--------------------------------------|---|
| Level 3 public health establishments | Central level | <ul style="list-style-type: none"> • Minister's Office • General Secretariat • General Directorates • Directorates and national services |
| Level 2 public health establishments | Intermediary level | <ul style="list-style-type: none"> • Medical regions • Social action regional services • Regional hygiene brigades |
| Level 1 public health establishments; Health centers; Health posts, including health cabins. | Local level | <ul style="list-style-type: none"> • Health districts • Social action departmental services • Promotion and social reintegration centers • Hygiene sub-brigades |

Table 1 : Senegal's health pyramid

2.5. Pharmaceutical Policy

The National Health and Social Development Plan (PNDSS) 2019-2028 is a reference document for the Ministry of Health and Social Action and clearly sets out the strategic directions to strengthen the health system with a view to achieving Universal Health Coverage (UHC) objectives by 2030. This includes strengthening the supply chain for medicines and other health products. This is essentially based on the National Pharmaceutical Policy (PPN), the objective of which is to ensure the availability and accessibility of medicines and other health products for all segments of the population. In order to ensure the effective and efficient implementation of the National Pharmaceutical Policy, in a context where local industry is being promoted through institutional reforms initiated in 2021, the Senegalese Pharmaceutical Regulatory Agency (ARP) was established in April 2022.

The ARP is the main body responsible for implementing pharmaceutical policy and ensuring compliance with laws and regulations that govern medicines and other health products. It also oversees the application of Good Pharmaceutical Practices in establishments where medicines are manufactured, distributed,

dispensed, used and/or stored. There are five wholesalers, one of which is publicly owned: Laborex, Cophase, Sodipharm, Sogen and the National Procurement Pharmacy (PNA). There are also three local production units, all subsidiaries of major international groups: Pfizer West Africa, Sanofi Aventis, Valdafrique (Lab. Canonnes). The number of private pharmacies at the end of December 2023 was between 800 and 1,500. There are about one hundred pharmaceutical depots across the country.

2.5.1. The National Procurement Pharmacy (PNA)

The PNA is the distributing wholesaler for the public and parapublic sectors. PNA's procurement is mainly through INN international tenders, based on the national list of essential medicines. It no longer benefits from exemption from the National Council for Administrative Contracts (known as CNCA). It is subject to regulations relating to the new market code.

The National Procurement Pharmacy (PNA) was established in **1954** as a public administrative service and is a non-hospital public health establishment by **Decree No. 99-851** of **27 August 1999**, adopted pursuant to Law No. 98-08 of 12 February 1998 on hospital reform

and Law No.98-12 of **2 March 1998** on the creation, organization and operation of public health institutions. By decree **2023-845 du 07 Avril 2023** the PNA was established as Public Industrial and Commercial Establishment (EPIC in French) and became **SEN-National Procurement Pharmacy (SEN-PNA)**.

The **SEN-PNA's mission** is to ensure the availability, and geographical and financial accessibility, of quality medicines and essential products for the population. SEN-PNA must contribute to making healthcare accessible to all Senegalese people, whether they live in urban, peri-urban or rural areas. In a context of revitalizing the local pharmaceutical industry and greater repositioning, the SEN-PNA can ensure: the purchasing, storage, distribution, sale and potential production and export of pharmaceutical products and derivatives (medicines, essential products, etc.). It can also carry out any legal, civil, commercial, industrial, property, movable property and all other related activities that have a direct or indirect link to its main area of activity, which will support its expansion or development. The SEN-PNA fulfills its mission by taking a multisectoral collaborative approach with other state and non-state institutions, and

primarily with pharmaceutical production and distribution professionals from the private sector. In this sense, the tariffs applied by SEN-PNA take into account the need to ensure the financial accessibility of essential medicines and products to the population and the importance of maintaining the economic viability of the institution, in particular:

- Ensuring the necessary investments
- Covering operating costs
- Securing funds for:
- Procurement, storage conditions that ensure product integrity
- Distribution of ordered products to customers
- Procurement, storage, management and distribution on behalf of national health programs, of medicines and medical equipment provided by the Senegalese government or partners (supporting with the management of donated funds). In general, the latter is delivered in line with the terms defined by specific contracts or agreements.

[Decree No.2023-845 establishing and setting the SEN-PNA's rules of organization and operation](#)

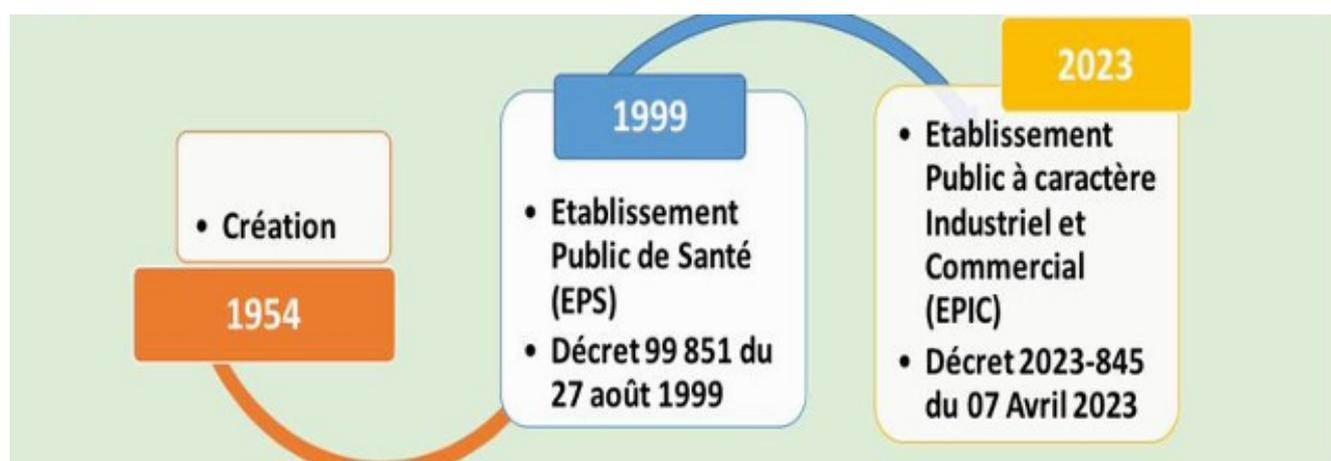


Figure 2: Development of the SEN-National Procurement Pharmacy (SEN-PNA)

| 1954 | 1999 | 2003 |
|----------|--|--|
| Creation | Public Health Establishment (EPS in French) Decree 99 851 of 27 August 1999 | Public Industrial and Commercial Establishment (EPIC in French) Decree 2023-845 of 7 April 2023 |

Figure 2: Development of the SEN-National Procurement Pharmacy (SEN-PNA)

PNA supplies Regional Procurement Pharmacies (known as PRA) who in turn supply the district level, where health centers and health posts are located.

2.5.2. Private wholesale dispatchers

The private sector includes four private wholesalers with regional branches. Wholesale distributors mainly import branded products or generics (about 4,000 reference medicines). All imported medicines are exempt from customs duties except the Common External Tariff (CET), which consists of community levies of 2.5% on medicines imported outside the WAEMU and ECOWAS zones, which has been applied since 1 January 2000 for the benefit of these two institutions. Wholesalers are well structured in terms of logistics, have modern management methods and supply all pharmacies in Senegal in real time.

2.5.3. Manufacturing establishments

Senegal's pharmaceutical industry is made up of three local drug manufacturing units that meet 10-15% of national needs, and the Pasteur Institute in Dakar, which produces yellow fever vaccines under the control of the Directorate of Pharmacies and Laboratories (DPL) and the National Laboratory for Drug Control (LNCM). Since local production is limited, the majority of drugs must be imported to meet domestic demand. Apart from the locally produced yellow fever vaccine, all other vaccines are imported.

The current situation demonstrates that Senegal is highly dependent on pharmaceutical imports to cover the majority of its drug needs. The Senegalese pharmaceutical market is largely dominated by products imported from foreign manufacturers.

It is important to note that this situation is common in many low- and middle-income countries, where the local pharmaceutical industry is not yet sufficiently developed to meet all national needs. It also highlights the potential importance of policies to strengthen local pharmaceutical production in Senegal.

2.5.4. Dispensing facilities

The supply system is complemented by retail distribution facilities composed of pharmacies, private depots and pharmacies at public health facilities.

2.5.5. National Order of Pharmacists

The National Order of Pharmacists of Senegal is established by Law No. 73-62 of 19 December 1962. The Order of Pharmacists is a public institution of a professional nature, with civil personality and financial autonomy. The purpose of the Order is to ensure that professional duties are respected and to protect the honor and independence of the profession. The Order of Pharmacists is led by a national council, that has its head office in Dakar. Pharmacists in Senegal are only allowed to practice if they have an up-to-date registration with the Order of Pharmacists, with the exception of pharmacists who are active members of the Senegalese Army's health service and foreign military pharmacists serving in military assistance roles.

Pharmacists registered with the Order are divided into two types:

- Section A includes public service pharmacists, decision-makers or contractors, pharmacists serving in Senegal under technical assistance or belonging to the teaching staff at the Faculty of Medicine and Pharmacy at the University of Dakar.
- Section B includes pharmacists in the private sector.

2.5.6. Legislation and regulations

Pharmaceutical legislation was established in 1954, when French Law 54-418 of 15 April 1954 expanded the provisions of the French Public Health Code to its overseas territories. Included in this law are texts relating to pharmaceutical inspection, conditions for the creation of pharmaceutical establishments, delivery of pharmacy services, personal practice and pharmacist monopoly.

Decrees were drafted during this period, in particular Decree No.55-512 of 11 May 1955 setting out medicines (new Article 511) and pharmaceutical monopoly (new Article 512). Decree 55-1122 of 16 August 1955 sets out the terms of application of Law 54-418 of 15 April 1954 covering overseas territories, Togo and Cameroon, which includes certain provisions of the French Public Health Code relating to pharmacy practice.

Since independence, several key texts have been published, including:

- Law 65-33 of 19 May 1965 amending the provisions of the Public Health Code relating to the preparation, sale and advertising of pharmaceutical products.
- Law No.73-62 of 19 December 1973 establishing the Order of Pharmacists.
- Law No. 94-57 of 26 June 1994 defining medicinal products.

In order to implement these laws, several decrees and orders have been issued relating in particular to manufacturing, quality control, wholesale distribution and dispensing, including:

- Implementing Decree No. 67-008 of 4 January 1967 on the approval of pharmaceutical products.
- Decree No. 81-039 of 2 February 1981 on the pharmacist code of ethics.
- Decree No. 96-395 of 15 May 1996 authorizing the substitution of pharmacists.
- Implementing Decree No. 006217 of 22/08/03
- Implementing decree N° 000188 of 15 January 2003 setting the method to calculate sale prices to the public of medicines, products and objects included in the pharmaceutical monopoly.
- Order No. 4012 of 2 June 1998 setting out the national pharmacovigilance system.
- And Order No. 000099 of 14 January 2004 on the application of good

manufacturing practices (GMP) for medicinal products.

2.5.7. Management of medicines and pharmaceutical products

2.5.7.1. Selecting a list of medicines and essential products

In the public sector, Senegal has had a national list of essential medicines selected by level of care and by international non-proprietary name in place since 1990, which was revised in 1994, 1998, 2001 and December 2003. The total number of names on the current list is 416, including antiretrovirals (ARVs), anti-cancer drugs and drugs for the management of renal failure. However, at the time of the 2003 pharmaceutical sector assessment, the national list of essential medicines was only available in 10% of health facilities.

In the private sector, the selection of medicines is made by the National Visas Commission.

Antiretroviral subsidies began in 1998 and in December 2003 the government made HIV and AIDS treatment free for all people living with HIV residing in Senegal, and there is a selected list of ARV drugs.

2.5.7.2. Procurement, distribution and dispensing

During the French West Africa period, there was a federal supply pharmacy called Pharma Pro in Senegal, which supplied all of French West Africa. When Senegal gained independence, the private sector provided most of the pharmaceutical supplies, and until relatively recently the public and private pharmacy sectors operated in isolation.

In the 1980s, structural adjustment programs made the supply of medicines difficult. A number of reforms were undertaken in the context of primary health care, including the Bamako Initiative in 1987, which partially resolved problems around the availability and accessibility of medicines. The financial

accessibility of medicines for people living in poverty and those without welfare cover has been negatively impacted, however, by non-compliance with profit margins at health facility level. From the 1990s onwards, Senegal made efforts around the rational management of essential generic medicines, in particular:

- The development and periodic review of the list of medicines and essential products.
- The development of process charts and management documents for certain diseases.
- The standardization and strengthening of the cost recovery system.
- Exemption provided by the National Council for Administrative Contracts (CNCA) to the PNA, which became a public health institution under Decree No. 99,851 and in accordance with Article 20 of Law No. 98-12 of 12 February 1998. This exemption is currently repealed.
- The right of substitution granted to pharmacists.
- Standardization of the price of certain generic essential drugs in both sectors.

It should be noted that the situation for medicine supplies was negatively impacted by the devaluation of the CFA franc in 1994, but the government took measures to mitigate the negative impact of this. These measures include reducing profit margins in the private sector, a 10% reduction in the wholesale price of medicines excluding tax granted by pharmaceutical companies and medicines being exempt from taxes and customs duties.

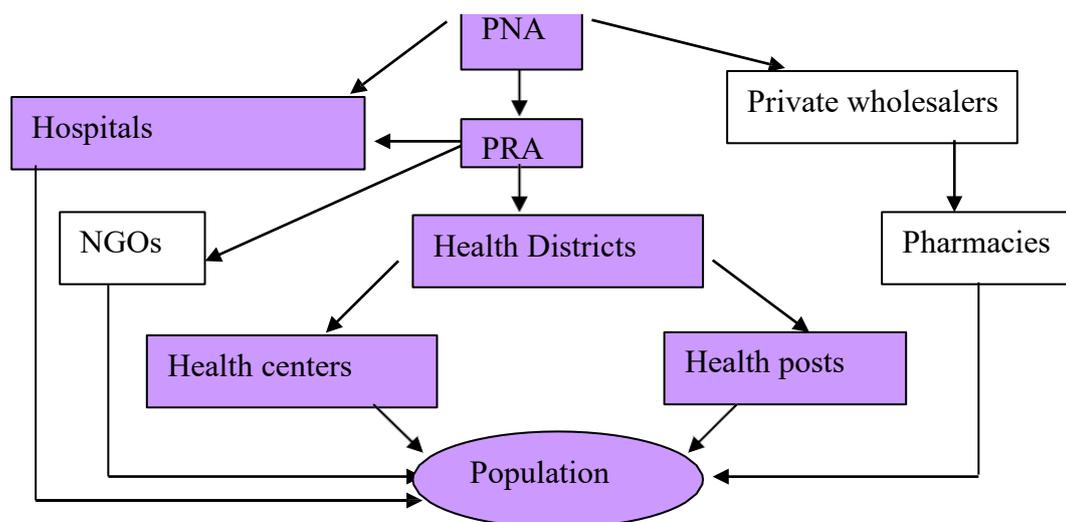
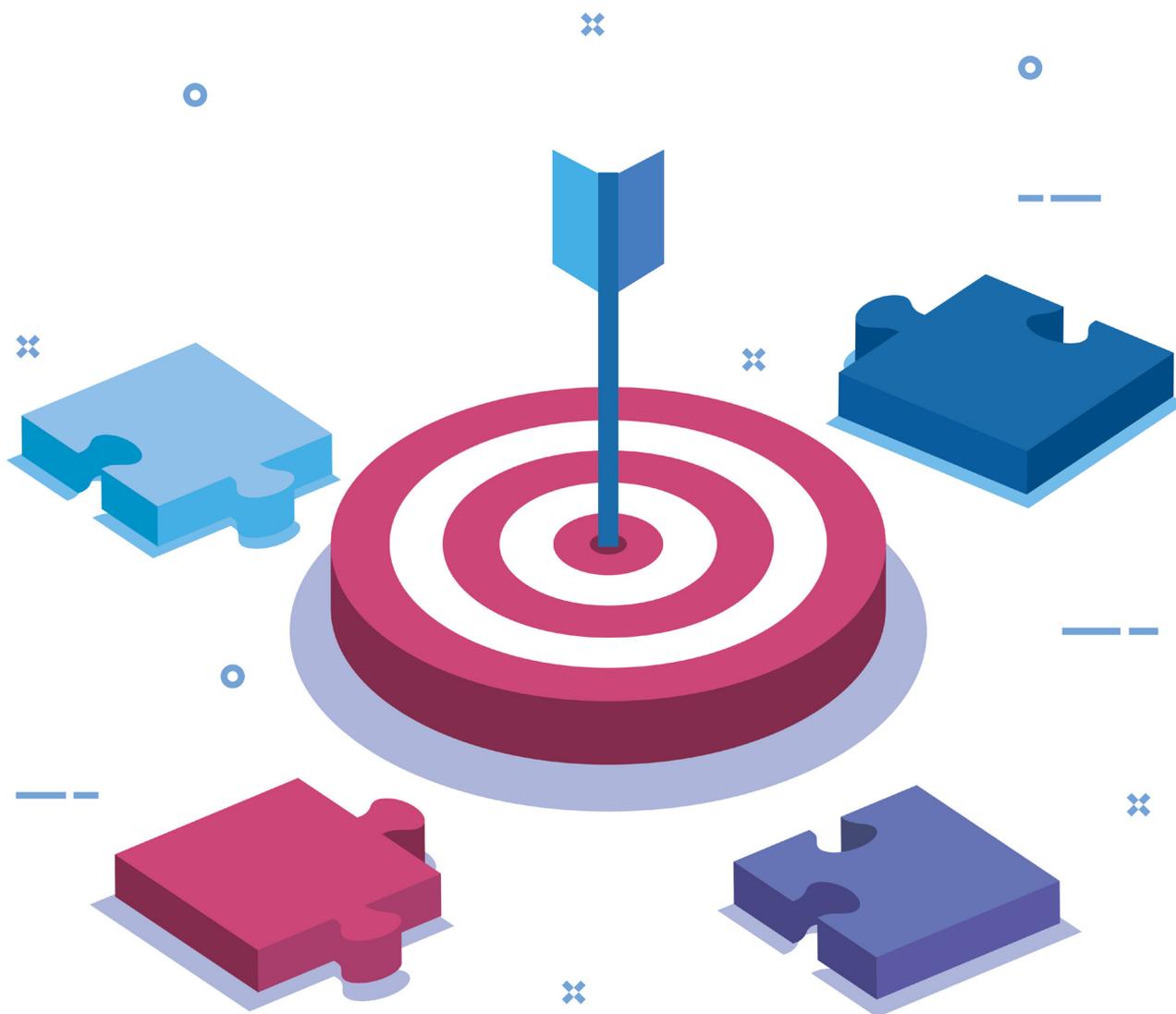


Figure 3 : The essential drugs channel from the PNA through to the population



3.0 OBJECTIVES OF THE STUDY

3.1. Overall objective

To explore supply mechanisms, prices and volumes of drugs for HIV, tuberculosis, cervical cancer and centrally procured vaccines in Senegal, in 2023.

3.2. Specific objectives

- Identify existing procurement mechanisms at central level
- Determine the prices and volumes of drugs and vaccines purchased in 2023
- Analyze the supply chain and procurement process
- Identify challenges and gaps in the procurement system
- Identify potential intellectual property barriers



4.0 METHODOLOGY

4.1. Type of study

This research took a retrospective descriptive approach, integrating both quantitative and qualitative methods. This design enabled us to explore in depth the supply mechanisms, as well as the prices and volumes of the relevant drugs and vaccines.

4.2. Period

The study focused on the year 2023, with the potential of including some 2024 data for specific products. This period was chosen in order to provide current and relevant information on medical supplies in Senegal.

4.3. Target population

The focus of this study was specifically on tracer/essential drugs for the treatment of HIV, tuberculosis, cervical cancer, as well as vaccines.

4.4. Data collection

Data was collected through semi-structured interviews. Discussions were held with key actors within government structures and organizations involved in public health. This provided qualitative and quantitative insights into the operations and challenges of the procurement system.

4.5. Entities consulted

The main entities consulted include:

- The Ministry of Health and Social

Welfare, which oversees the entire health system.

- The National AIDS Control Program (DLSI and NAC).
- The National Tuberculosis Control Program (NTCP).
- The Expanded Program on Immunization (EPI).
- The National Procurement Pharmacy (PNA).
- Actors involved in cancer treatment.

4.6. Data variables to be collected

The essential data variables to be collected for this research include:

- Prices of medicines and vaccines
- Volumes purchased
- Procurement mechanisms used
- Identity of suppliers
- Supply chain and procurement process details

4.7. Data analysis

Two main approaches were used to undertake data analysis:

- **Quantitative analysis:** Using descriptive statistics to assess the level of purchasing, price changes, and other trends.
- **Qualitative analysis:** Based on a thematic analysis of the information obtained from the semi-structured interviews, identifying key elements to understand challenges and opportunities in the procurement system.



5.0 RESULTS

5.1. Antiretrovirals (ARVs) for HIV

The NAC manages the supply of ARVs mainly through the Global Fund and the Senegalese government, using a quantification method based on the Global Fund's PSM template, and often processed on the Wambo platform. This system allows for centralized inventory visualization and strengthens coordination between Senegal and its global suppliers.

Drugs such as **Tenofovir + Lamivudine + Dolutegravir** are purchased in large quantities due to their essential role in first line HIV treatment. Pooled procurement helps to maintain competitive prices, which are essential for the sustainability of HIV programs.

- ARV purchasing was through two channels: government funding through PNA via international tenders, and pooled procurement through the Wambo pooled procurement mechanism (PPM) with the Global Fund.
- Major suppliers include MYLAN and MACLEODS from India.
- Medicines such as Tenofovir + Lamivudine + Dolutegravir are managed in significant volumes, respectively 13,902,150 units for certain dosages.
- Supplier tracking is done through the Wambo platform, and orders are made annually, with delivery covering all medical facilities involved in HIV management in Senegal.

Three (3) tracer drugs were found on the list of twenty-six (26) essential drugs for Senegal (i.e. 11.5%).

Table 1 : List of Hiv/AIDs Tracer Drugs

| Program Product Yes/No | Tracer Yes/No | Product: dosage/Reference | | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Supplier / Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|---------------------------------------|--------------------|------------------------------------|-----------------------------|------------|-------------------------|-------------------|--|
| | YES | Abacavir + Lamivudine | 120mg/60 mg | 21,129 | 633,870 | 2.70 USD | MYLAN | INDIA | WAMBO POOLED PROCUREMENT |
| | YES | Dolutegravir | 10mg | 7,175 | 645,750 | 4.25 USD | MYLAN | INDIA | WAMBO POOLED PROCUREMENT |
| | YES | Tenofovir + Lamivudine + Dolutegravir | 300mg/300 mg/ 50mg | 463,405+157,359 | 13,902,150+4,720,770 | 3 USD | MACLEODS | INDIA | WAMBO POOLED PROCUREMENT / PNA INTERNATIONAL COMPETITIVE BIDDING (ICB) |
| | YES | Tenofovir + Lamivudine + Dolutegravir | 300mg/300 mg/ 50mg | 157,359 | 4,720,770 | 4.52 USD | | INDIA | ICB PNA |

| Product: Dosage /Reference | Dosage |
|---|-------------------|
| Tenofovir + Emtricitabine | 300mg/200mg |
| Tenofovir + Lamivudine | 300mg/300mg/ |
| Zidovudine + Lamivudine | 60mg/30mg |
| Zidovudine + Lamivudine + Abacavir | 300mg/150mg/300mg |
| Abacavir + Lamivudine | 600mg/300mg |
| Abacavir + Lamivudine | 120mg/60mg |
| Abacavir + Lamivudine | 60mg/30mg |
| Efavirenz | 200mg |
| Atazanavir + Ritonavir | 300mg/100mg |
| Darunavir | 600mg |
| Darunavir + Ritonavir | 400mg/100mg |
| Lopinavir + Ritonavir | 200mg/50mg |
| Lopinavir + Ritonavir | 80mg/20mg |
| Lopinavir + Ritonavir | 100mg/25mg |
| Lopinavir + Ritonavir | 40mg/10mg |
| Ritonavir | 100mg |

| | |
|---|-----------------------|
| Tenofovir + Emtricitabine + Efavirenz | 300mg/200mg 600mg |
| Tenofovir + Emtricitabine + Efavirenz | 300mg/200mg 400mg |
| Tenofovir + Lamivudine + Efavirenz | 300mg/300mg/ 600mg |
| Tenofovir + Lamivudine + Efavirenz | 300mg/300mg/ 400mg |
| Dolutegravir | 50mg |
| Dolutegravir | 10mg |
| Tenofovir + Lamivudine + Dolutegravir | 300mg/300mg/50mg |
| Tenofovir alafenamide + Emtricitabine + Dolutegravir | 25mg/200mg/ 50mg |
| Tenofovir alafenamide + Emtricitabine | 25mg/200mg |
| Abacavir + Lamivudine + Dolutegravir | 600mg/300mg/ 50mg |

5.2. Vaccines

In 2023, Senegal continued efforts to offer a full range of essential vaccines to meet its public health needs. The program purchased a variety of vaccines through centralized mechanisms, including with assistance from UNICEF, who played a central role in facilitating procurement. The procurement process with UNICEF helps by ensuring that suppliers meet the international quality standards determined by the WHO.

Vaccines are essentially purchased through the UNICEF Central Procurement Mechanism. The main vaccines purchased include vaccines for measles-rubella, hepatitis B, polio, and HPV, among others. Major suppliers include the Serum Institute of India, Sanofi Pasteur, Pfizer, Bharat Biotech, and Janssen-Cilag. Vaccine costs vary, with the unit price ranging from 0.12 USD for the tetanus vaccine to 37.5 USD for the COVID-19 vaccine. Vaccines are mainly sourced from India, Belgium, Indonesia, and the United States.

Measles-rubella vaccine: with a controlled volume of 2,128,320 doses. Units are purchased at a unit cost of 0.792 USD from the Serum Institute of India.

Pneumococcal vaccine: ordered in 959,400

doses at a price of 2.75 USD per dose, provided by Belgium-based Pfizer.

Human papillomavirus (HPV) vaccine: Senegal purchased 382,460 doses at 4.5 USD each from Merck, which was manufactured in Switzerland.

The procurement mechanism used is mainly through UNICEF assistance with no individual procurement for each supplier, therefore it must be approved by the WHO.

The Expanded Program on Vaccination (EPI) makes semi-annual orders for each antigen and carries out four annual deliveries to the 14 regional health directorates. The EPI operates with a hierarchical structure that involves regional health directorates, districts and vaccination units, ensuring targeted and effective distribution. This must be in line with annual need forecasts that take into account the vaccination coverage targets for the year. The stock-outs observed (e.g. rotavirus vaccine) demonstrate the need to improve inventory management and understanding of the global supply chain, especially in the context where there is a dependence on a small number of global suppliers.

Twelve (12) tracer antigens were found from a total of eighteen (18) antigens on Senegal's list of essential medicines (i.e. 67%).

Table 2 : List of Tracer Antigens for Vaccines

| Program Product Yes/No | Tracer Yes/No | Product/Dosage | | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price/dose in Dollars | Provider/ Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|--|------------|------------------------------------|-----------------------------|----------------------------|-------------------------------------|-------------------|----------------------------------|
| YES | | Measles, mumps and rubella vaccine (MMR) | --- | 2,128,320 | doses | 0.792 USD | Serum Institute of India | India | UNICEF central purchasing agency |
| | | MMR vaccine | --- | | | | | | |
| YES | | Yellow fever vaccine | Injectable | 1,268,900 | doses | 1.53 USD | Sanofi Pasteur | | UNICEF central purchasing agency |
| YES | | Hepatitis B vaccine | Injectable | 429,000 | doses | 0.24 USD | Serum Institute of India | India | UNICEF central purchasing agency |
| | | Antimeningo Vaccine A, C, Y, W135 | Injectable | | | | | | |
| | | Antimeningo Vaccine W135 | Injectable | | | | | | |
| YES | | Pneumococcal vaccine | Injectable | 959,400 | doses | 2.75 USD | Pfizer | Belgium | UNICEF central purchasing agency |
| YES | | Poliovirus vaccine | Oral | 2,968,000 | doses | 0.189 USD | Bharat Biotec Biofarma | Indonesia India | UNICEF central purchasing agency |
| YES | | Poliovirus vaccine | Injectable | 694,000 | doses | 3.62 USD | Serum Institute of India | India | UNICEF central purchasing agency |
| | | Rabies vaccine | Injectable | | | | | | |
| YES | | Tetanus vaccine | Injectable | 1,277,000 | doses | 0.12 USD | Serum Institute of India | India | |
| YES | | Anti-tuberculosis vaccine | Injectable | 1,660,000 | doses | 0.165 USD | Serum Institute of India Biological | India | UNICEF central purchasing agency |
| YES | | Human papillomavirus vaccine | Injectable | 382,460 | doses | 4.5 USD | Merck | Switzerland | UNICEF central purchasing agency |
| YES | | Rotavirus vaccine | Oral | 981,625 | doses | 0.85 USD | Bharat Biotec | India | UNICEF central purchasing agency |
| YES | | Anti-Covid vaccine | Injectable | 811,200 | doses | 37.5 USD | Janssen-Cilag | USA | UNICEF central purchasing agency |
| YES | | Pentavalent vaccine | Injectable | 1,180,500 | doses | 0.85 USD | Serum Institute of India | India | UNICEF central purchasing agency |
| | | Anti-influenza | | | | | | | |
| | | Anti-venom | | | | | | | |

5.3. Anti-cancer

Cancer treatment in Senegal, especially cervical cancer, is based on a set of essential anti-cancer drugs, the supply of which is crucial for the management of patients. Anti-cancer drugs are mainly purchased through national procurement mechanisms that interact with public health policies and drug cost reduction strategies.

Anti-cancer drugs are generally supplied by the National Supply Pharmacy (PNA) in collaboration with the National Cancer Control Program (NCCP). Purchases are made through

international tenders, to ensure competitiveness and transparency of the procurement process. The PNA ensures that the purchased medicines meet the quality standards specified by the health authorities, including verification of suppliers to ensure the origin and efficacy of the products.

A number of anti-cancer drugs have been identified as tracers in Senegal's key cancer control program:

Six (6) tracer drugs were found from sixty-five (65) on the essential medicines list for Senegal (i.e. 9.2%).

Table 3 : List of Tracer Drugs for Cervical Cancer

| Program Product Yes/No | Tracer Yes/No | Product: dosage/Reference | | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Supplier / Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|---------------------------|---------------------|------------------------------------|-----------------------------|------------|-------------------------|-------------------|----------------------|
| | YES | Carboplatin | 400mg Injectable | | | | | | |
| | YES | Cisplatin | 10mg Injectable | | | | | | |
| | YES | Paclitaxel | 30mg | | | | | | |
| | YES | Tamoxifen | 20mg tablet | | | | | | |
| | YES | Fluorouracil (5-FU) | 250mg Injectable | | | | | | |
| | YES | Fluorouracil | 500mg/ml Injectable | | | | | | |

5.4. Anti-tuberculosis

Senegal uses two main methods for TB drug supplies: international tenders for first-line drugs, via SEN-PNA, and direct purchasing for second-line drugs, via the Global Drug Facility (GDF) and Wambo.

There are many suppliers, primarily from India, South Korea, Cyprus, Japan and the Netherlands. Orders are placed annually with SEN-PNA and GDF/Wambo, with the potential to place urgent orders in the event of stock out risk.

Close monitoring of suppliers is ensured via

the GDF and Wambo platforms, with regular updates and exchanges by email. Medicines are distributed to health districts via the Regional Supply Pharmacies (PRA) and the National Tuberculosis Control Program (NTCP), with deliveries on average four times a year.

Quantification of needs is carried out annually at the national level, based on morbidity data. Funding comes mainly from the Government of Senegal, the Global Fund and Action Damien. No major stock-outs have been reported for first-line drugs in the last two years.

Procurement processes comply with Senegal's

Public Procurement Code, with selection criteria taking into account WHO pre-qualification and compliance with good manufacturing practices. Intellectual property plays a role in quality assurance and regulatory compliance, with no major difficulties reported.

Prices vary widely, ranging from 2,840 USD (Levofloxacin 250mg) to 340,000 USD (Bedaquiline 100mg) per box.

Some newer or specialty drugs like Bedaquiline and Delamanid are significantly more expensive.

In terms of specific drugs, Bedaquiline is purchased through the GDF, with funding from the Global Fund and donations through the Stop TB/GDF partnership.

Quantities ordered vary widely, from 672 units (Delamanid) to over 10 million units (Rifampicin/Isoniazid).

Table 4: List of Anti-Tuberculosis Tracer Drugs

| Program Product Yes/No | Tracer Yes/No | Product/Dosage | | Quantity purchase d/ Volume ordered by box | Unit (tablets, vials, etc.) | Unit price of a box USD | Supplier / Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|----------------|-------|--|-----------------------------|-------------------------|----------------------------------|-------------------|------------------------|
| Yes | Yes | Cycloserine | 250mg | 54 | 5,400 | 25.400 | Dong-A ST Co. Ltd | South Korea | Direct purchase on GDF |
| Yes | Yes | Ethambutol | 400mg | 296 | 198,912 | 26.000 | Cadila Pharmaceutical | India | Direct purchase on GDF |
| Yes | Yes | Ethionamide | 250mg | 457 | 45,700 | 9.160 | Macleods Pharm Ltd Daman Plant | India | Direct purchase on GDF |
| Yes | Yes | Isoniazid | 300mg | 85 | 57,120 | 11.500 | Macleods (at Oxalis Labs) | India | Direct purchase on GDF |
| Yes | Yes | Levofloxacin | 250mg | 2,076 | 207,600 | 2.840 | Medochemie Ltd | Cyprus | Direct purchase on GDF |
| Yes | Yes | Pyrazinamide | 400mg | 347 | 233,184 | 14.00 | Macleods (at Oxalis Labs) | India | Direct purchase on GDF |
| Yes | Yes | Clofazimine | 100mg | 210 | 21,000 | 50.000 | Catalent for SandozNovartisDiv | India | Direct purchase on GDF |
| Yes | Yes | Bedaquiline | 100mg | 187 | 34,216 | 340.000 | Janssen (Recipharm Pharmservice) | India | Direct purchase on GDF |
| Yes | Yes | Linezolid | 600mg | 54 | 5,400 | 17.030 | Lupin Ltd. (Jammu) | India | Direct purchase on GDF |
| Yes | Yes | Pyridoxine | 100mg | 99 | 24,750 | 10.750 | Teva Pceuticals Polska Sp.zo.o | India | Direct purchase on GDF |
| Yes | Yes | Delamanid | 50mg | 14 | 672 | 85.00 | Otsuka Novel Product GmbH | Japan | Direct purchase on GDF |
| Yes | Yes | Clofazimine | 50mg | 33 | 3,300 | 4.400 | Macleods (at Oxalis Labs) | India | Direct purchase on GDF |
| Yes | Yes | Ethionamide | 125mg | 33 | 3,300 | 13.300 | Macleods Pharm Ltd Daman Plant | India | Direct purchase on GDF |
| Yes | Yes | Cycloserine | 125mg | 13 | 1,300 | 45.000 | Macleods Pharm Ltd Daman Plant | India | Direct purchase on GDF |

| | | | | | | | | | |
|-----|-----|--|------------------------|--------|------------|--------|-------------------------------|-------------|----------------------------------|
| Yes | Yes | Levofloxacin | 100mg | 109 | 10,900 | 11.860 | Macleods Pharm Baddi Solan HP | India | Direct purchase on GDF |
| Yes | Yes | Ethambutol | 100mg | 161 | 16,100 | 20.050 | Macleods (at Oxalis Labs) | India | Direct purchase on GDF |
| Yes | Yes | Pyrazinamide | 150mg | 156 | 15,600 | 15.940 | Micro Labs Hosur | India | Direct purchase on GDF |
| Yes | Yes | Rifampicin/Isoniazid | 150mg/75mg | 15,336 | 10,305,792 | 21.22 | LUPIN | INDIA | International tender via SEN-PNA |
| Yes | Yes | Isoniazid | 300mg | | | | | | International tender via SEN-PNA |
| Yes | Yes | Rifapentine + Isoniazid | 300/300 mg | 13,829 | 497,844 | 14.250 | I+Solution | Netherlands | International tender via SEN-PNA |
| Yes | Yes | Rifampicin/Isoniazid/Pyrazinamide/Ethambutol | 150mg/75mg/400mg/275mg | | | | | | International tender via SEN-PNA |
| Yes | Yes | Isoniazid | 100mg | | | | | | International tender via SEN-PNA |
| Yes | Yes | Ethambutol | 100mg | | | | | | International tender via SEN-PNA |
| Yes | Yes | Rifampicin/Isoniazid | 75mg/50mg | | | | | | International tender via SEN-PNA |
| Yes | Yes | Rifampicin/Isoniazid/Pyrazinamide | 75/50/150mg | | | | | | International tender via SEN-PNA |

5.5. National Procurement Pharmacy

Senegal's National Procurement Pharmacy (SEN-PNA) plays a critical role in sourcing essential medicines and health products for the country's public health system. The SEN-PNA is a strategic tool for the implementation of the National Pharmaceutical Policy and is responsible for the purchase, storage and distribution of medicines and medicinal products for the benefit of public and parapublic health facilities, NGOs and other organizations involved in the provision of care.

Supply methods

The SEN-PNA mainly uses open tenders for purchasing medicines and essential products, both nationally and internationally, in accordance with Senegal's public procurement codes. This approach ensures that all eligible candidates can bid, which expands the procurement options.

Suppliers & order frequency

SEN-PNA suppliers include both national and international actors. Orders for anti-cancer drugs, antiretrovirals, anti-tuberculosis drugs and vaccines are generally annual. For anti-tuberculosis and antiretroviral drugs, national quantification workshops are organized with the relevant programs before orders are made. The SEN-PNA purchases a proportion from the state budget, and the rest is procured through other channels (e.g. WAMBO for antiretrovirals).

Supplier tracking system

SEN-PNA has a computerized system called ERPX3, where all supplier information is stored. This includes the issuing of purchase orders and scheduling deliveries carried out by pharmacists responsible for monitoring.

Clients and distribution

The purpose of the SEN-PNA is to provide

essential medicines and products to public and parapublic health facilities, NGOs and other organizations engaged in the delivery of health services. Procurement is done through regional procurement pharmacies (PRAs) that support delivery to end customers.

Estimated needs and financing requirements

Drug requirements are estimated based on the average monthly consumption of PRAs. SEN-PNA operates mainly using their own funds, with few donations received. No non-governmental product management has been cited.

Challenges encountered

One of the challenges identified is stock outs, which are often due to high levels of government debt, cash flow problems, late payments to suppliers, slow contractual procedures, and storage space limitations.

Procurement process

Procurement is done through open national and international tenders. Supplier selection criteria include financial and technical capacity, experience importing medical products, and compliance with pharmaceutical regulations. Some difficulties were noted in this process, including the length of procedures and some lots not receiving submissions.

Intellectual property

Intellectual property is seen as a tool to protect the rights of innovators. However, in the context of SEN-PNA, the implications of intellectual property seem to be limited, and no significant legal barriers to accessing anti-cancer drugs have been identified.

Suggestions and recommendations

Suggestions include subsidizing costs and promoting local drug manufacturing to improve access to health products. Finally, SEN-PNA positions itself as a key player in ensuring equitable access to medicines throughout Senegal, while stressing the need to improve certain administrative and logistical aspects to meet public health needs.

Anti-cancer

| Program Product | Tracer Yes/No | Product: Dosage/Reference | | | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Supplier / Manufacturer | Country of origin | Purchasing mechanism |
|-----------------|---------------|---------------------------|-----------------------|--------------|------------------------------------|-----------------------------|------------|-------------------------|-------------------|--|
| NO | YES | Carboplatin | 150mg injectable | | 5,500 | 5,500 | 6,769 | UNITED BIOTECH | INDIA | Direct procurement on the emergency list |
| NO | YES | Cisplatin | 50mg injectable | Cisplatyl | 1,500 | 1,500 | 6074.16 | UNITED BIOTECH | INDIA | ICB-PNA 14/2020 |
| No | Yes | Cyclophosphamide | 500mg injectable | Endoxan | 10,000 | 10,000 | 1790.13 | UNITED BIOTECH | INDIA | ICB-PNA 14/2020 |
| NO | Yes | Doxorubicin | 10mg; 50mg injectable | Adriblastin | 10,500 | 10,500 | 6061.043 | UNITED BIOTECH | INDIA | ICB-PNA 14/2020 |
| No | Yes | Etoposide | 100mg tablet | Vepesid | 5,500 | 5,500 | 2741.9 | Angel Biogenics | India | ICB-PNA 14/2020 |
| NO | NO | Methotrexate | 50mg/ml injectable | Methotrexate | 3,000 | 3,000 | 1175.1 | UNITED BIOTECH | INDIA | ICB-PNA 14/2020 |
| NO | NO | Methotrexate | 2.5mg tablet | Methotrexate | 1,000 | 50,000 | 47.098 | SANDOZ | Switzerland | Direct procurement on the emergency list |
| No | Yes | Paclitaxel | 100mg injectable | Taxol | 18,281 | 12,281 | 7871.4 | Medis United bio | India Senegal | ICB-PNA 14/2020 |
| NO | YES | Vinblastine | 10mg injectable | Nolvadex | 500 | 500 | 2,951.8 | UNITED BIOTECH | INDIA | ICB-PNA 14/2020 |
| No | Yes | Bevacizumab | 400mg injectable | Avastin | 1,250 | 1,250 | 494,847 | West Africa Pharma | Senegal | ICB-PNA 14/2020 |
| No | No | Trastuzumab | 150mg injectable | MabThera | 2,200 | 2,200 | 116,760 | Mylan | Ireland | Direct procurement on the emergency list |
| No | Yes | Rituximab | 100mg injectable | MabThera | 500 | 500 | 49,505 | Hetero Drugs | India | Direct procurement on the emergency list |

| | | | | | | | | | | |
|----|-----|---------------------|-------------------|-----------|--------|-----------|----------------|------------|----------|--|
| No | Yes | Rituximab | 500mg injectable | Xeloda | 1,500 | 1,500 | 198,026 | Hetero | India | Direct procurement on the emergency list |
| | | | | | | | | Drugs | | |
| No | No | Capecitabine | 500mg injectable | Bondronat | 15,239 | 178,680 | 656 | Medis | Tunisia- | Direct procurement on the emergency list |
| | | | | | | | | United bio | India | |
| No | Yes | Zoledronic acid | 4mg infusion | 500 | 500 | 7871.48 | United | India | | Direct procurement on the emergency list |
| | | | | | | | Biotech | | | |
| No | No | Calcium folinate | 50mg injectable | 3,030 | 3,030 | 1,697 | Medis | Senegal | | Direct procurement on the emergency list |
| | | | | | | | United bio | India | | |
| NO | YES | Pemetrexed | 100mg injectable | 175 | 175 | 13775.09 | Medis & | Senegal | | Direct procurement on the emergency list |
| | | | | | | | United biotech | India | | |
| No | Yes | Pemetrexed | 500mg injectable | 100 | 100 | 50508.68 | Medis | Senegal | | Direct procurement on the emergency list |
| No | Yes | Thalidomide | 50mg tablet | 2,000 | 60,000 | 546.63 | United biotech | India | | ICB-PNA 14/2020 |
| | | Fluorouracil (5-FU) | 500mg injectable | 2,200 | 11,000 | 1639.89 | United | INDIA | | ICB-PNA |
| | | | | | | | Biotech | | | 14/2020 |
| No | No | Anastrozole | 1mg tablet | 1,500 | 45,000 | 223.76 | Medis | Senegal | | Direct procurement on the emergency list |
| NO | Yes | Gemcitabine | 200mg injectable | 300 | 300 | 4,475 | Medis | Senegal | | Direct procurement on the emergency list |
| No | YES | Gemcitabine | 1000mg injectable | 2,790 | 2,790 | 13,532.93 | Medis | Senegal | | Direct procurement on the emergency list |

| | | | | | | | | | | |
|-----------|-----|-------------|------------------|-------|-------|------------|---------------------|----------|--|--|
| No | Yes | Letrozole | 2.5mg tablet | 40 | 1,200 | 1967.87 | Medis | Tunisia | | Direct procurement on the emergency list |
| No | Yes | Cytarabine | 100mg injectable | 500 | 500 | 2623.82 | United Biotech | INDIA | | ICB-PNA 14/2020 |
| NO | | Oxaliplatin | 50mg injectable | 500 | 500 | 6362.78 | United Biotech | INDIA | | ICB-PNA 14/2020 |
| NO | YES | Oxaliplatin | 100mg injectable | 5,000 | 5,000 | 7,358.13 | Florenca | INDIA | | Direct procurement on the emergency list |
| NO | YES | Irinotecan | 100mg injectable | 1,000 | 1,000 | 16,169.34 | SN International | INDIA | | ICB-PNA 14/2020 |
| No | Yes | Vinorelbine | 50mg | 600 | 600 | 17,179.54 | United Biotech | INDIA | | Direct procurement on the emergency list |
| NO | Yes | Docetaxel | 80mg | 3,800 | 3,800 | 186,878.33 | Medis | /Tunisia | | Direct procurement on the emergency list |

Anti-tuberculosis

| Program Product | Tracer Yes/No | Product/Dosage | | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Supplier / Manufacturer | Country of origin | Purchasing mechanism |
|-----------------|---------------|-------------------------|------------|------------------------------------|-----------------------------|------------|-------------------------|-------------------|--|
| SEN-PNA | YES | Rifampicin/ | 150mg/ | 14,261 | 9,583,392 | 21.22 | LUPIN | INDIA | Direct procurement on the emergency list |
| | | Isoniazid | 75mg | | | | | | |
| NTCP/SEN-PNA | No | Rifapentine + Isoniazid | 300/300 mg | 2,375 | 85,500 | 311.66 | GDF | SWITZERLAND | Direct procurement on the emergency list |
| | | | | | | | (Macleods) | | |
| SEN-PNA | YES | Rifampicin/ | 150mg/ | 3,127 | 2,101,344 | 27.94 | LUPIN | INDIA | Direct procurement on the emergency list |
| | | Isoniazid/ | 75mg/ | | | | | | |
| | | Pyrazinamide/ | 400mg/ | | | | | | |
| | | Ethambutol | 275mg | | | | | | |
| SEN-PNA | No | Rifampicin/ | 75mg/ | 11,101 | 932,484 | 30.043 | LUPIN | INDIA | Direct procurement on the emergency list |
| | | Isoniazid | 50mg | | | | | | |
| SEN-PNA | YES | Rifampicin/ | 75/50/ | 1,786 | 150,024 | 36.61 | MACLEODS | INDIA | Direct procurement on the emergency list |
| | | Isoniazid/ | 150mg | | | | | | |
| | | Pyrazinamide | | | | | | | |

Vaccines

| Program Product | Tracer Yes/No | Product/Dosage | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Provider/ Manufacturer | Country of origin | Purchasing mechanism | |
|-----------------|---------------|-----------------------------------|------------------------------------|-----------------------------|------------|------------------------|-------------------|----------------------|--|
| NO | NO | Hepatitis B vaccine | Injectable | 6,000 | 6,000 | 983.9355 | SERUM INSTITUTE | INDIA | ICB-PNA 14/2020 |
| NO | No | Antimeningo Vaccine A, C, Y, W135 | Injectable | 15,000 | 15,000 | 4,722.8904 | SANOFI PASTEUR | FRANCE | Direct procurement on the emergency list |
| NO | Yes | Rabies vaccine | Injectable | 1,000 | 5,000 | 3607.6 | SERUM INSTITUTE | INDIA | ICB-PNA 14/2020 |
| NO | Yes | Anti-venom | Injectable | 4,000 | 4,000 | 23,614.452 | INOSAN | MEXICO | ICB-PNA |

Antiretrovirals

| Program Product | Tracer Yes/No | Product: Dosage/Reference | | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Supplier / Manufacturer | Country of origin | Purchasing mechanism |
|-----------------|---------------|--|-----------------------|------------------------------------|-----------------------------|------------|-------------------------|-------------------|--|
| PRG/SEN-PNA | NO | Zidovudine + Lamivudine | 60mg/30mg | 3,000 | 180,000 | 18.36 | Mylan | INDIA | Direct procurement on the emergency list |
| PRG/SEN-PNA | Yes | Abacavir + Lamivudine | 600mg/300mg | 8,000 | 240,000 | 274.84 | Mylan | INDIA | Direct procurement on the emergency list |
| PRG/SEN-PNA | | Abacavir + Lamivudine | 120mg/60mg | | | | | | |
| PRG/SEN-PNA | Yes | Abacavir + Lamivudine | 60mg/30mg | 2,987 | 179,220 | 39.35 | Mylan | INDIA | Direct procurement on the emergency list |
| PRG/SEN-PNA | Yes | Tenofovir + Lamivudine + Efavirenz | 300mg/300mg/ 400mg | 1,500 | 45,000 | 101.66 | MACLEODS | INDIA | Direct procurement on the emergency list |
| PRG/SEN-PNA | Yes | Dolutegravir | 50mg | 3,070 | 92,100 | 37.38 | MACLEODS | INDIA | Direct procurement on the emergency list |
| PRG/SEN-PNA | YES | Tenofovir + Lamivudine + Dolutegravir | 300mg/300mg/ 50mg | 188,567 | 6,017,010 | 186.94 | MACLEODS | INDIA | Direct procurement on the emergency list |
| PRG/SEN-PNA | | Tenofovir alafenamide + Emtricitabine + Dolutegravir | 25mg/200mg/ | 13,000 | 390,000 | 141.68 | Mylan | INDIA | Direct procurement on the emergency list |



6.0 DISEASES ASSOCIATED WITH THESE DRUGS

The tracer drugs identified in this study are used to treat many of the key public health diseases in Senegal.

For HIV and AIDS, antiretrovirals such as Tenofovir, Lamivudine and Dolutegravir can control viral load and strengthen the immune system of people living with HIV.

For tuberculosis, antibiotics such as Isoniazid, Rifampicin and Pyrazinamide are used, as well as new drugs, such as Bedaquiline, for resistant forms.

For cervical cancer, treatments include surgery, radiation, and chemotherapy with drugs like Carboplatin, Cisplatin, and Paclitaxel. Other common cancers (breast, lung, prostate, colorectal, leukemia, lymphoma, etc.) are also treated with chemotherapy, radiotherapy and immunotherapy.

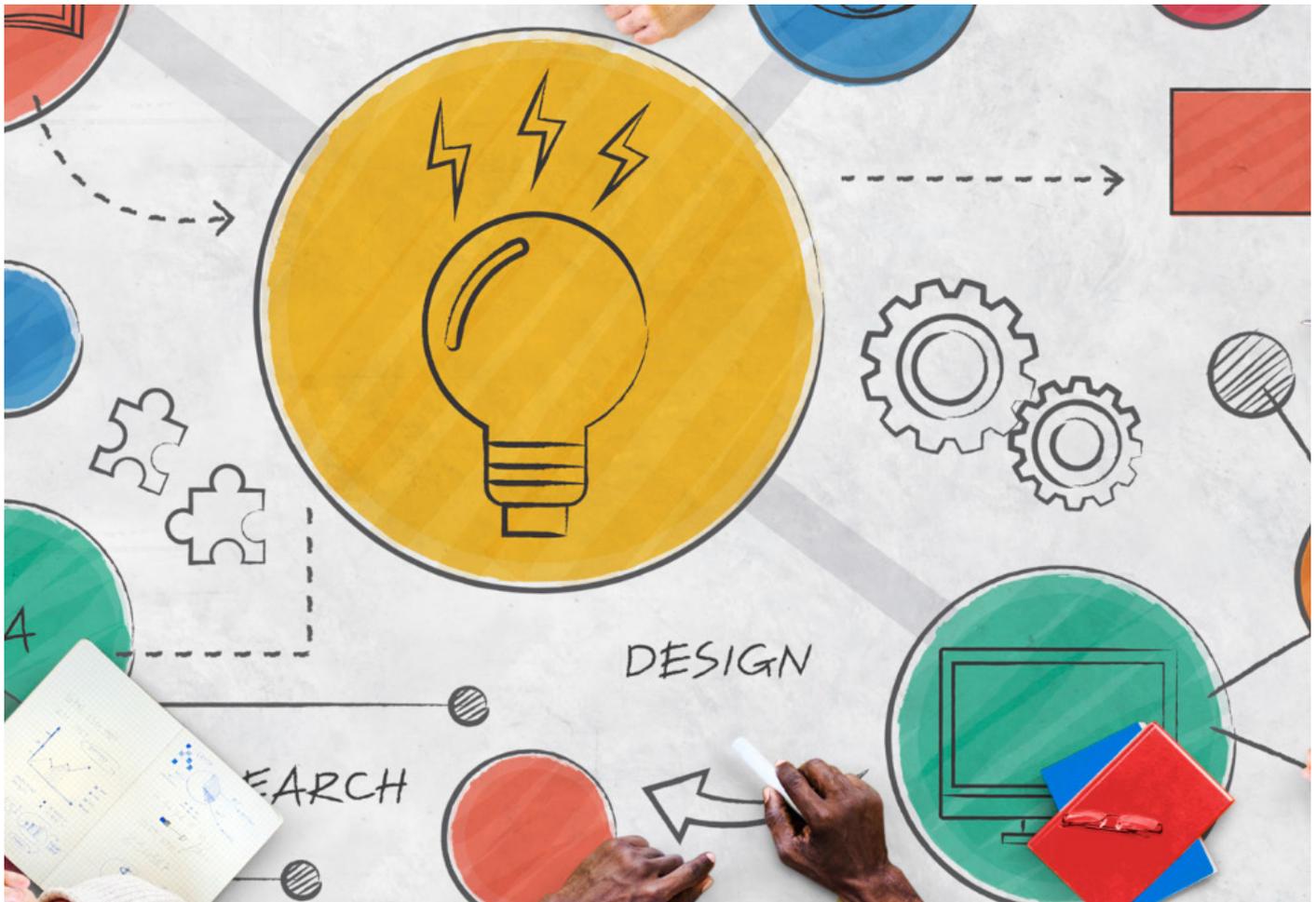
For hepatitis B, antivirals such as Entecavir and Tenofovir are used.

For meningitis, antibiotics and corticosteroids are used, while for pneumonia, antibiotics like amoxicillin are prescribed.

Many infectious diseases are prevented by vaccinations: polio vaccine against poliomyelitis, rabies vaccine against rabies, tetanus vaccine against tetanus, MMR vaccine against measles, mumps and rubella, DTP vaccine against diphtheria, tetanus and whooping cough, yellow fever vaccine against yellow fever, rotavirus vaccine against severe diarrhea, antivenom vaccine against snakebites, and HPV vaccine against human papillomavirus, which causes cervical cancer.

Finally, for COVID-19, mRNA or viral vector vaccines as well as antivirals, such as Remdesivir, are used.

Ensuring an adequate supply of these drugs and vaccines is therefore essential to effectively respond to these diseases, which represent major public health challenges in Senegal.



7. DISCUSSION

This study on supply mechanisms, prices and volumes of essential medicines for public health, in particular for HIV, tuberculosis, cervical cancer and vaccines, highlights several crucial areas in terms of the Senegalese health system.

Existence of a Strong Regulatory Framework

Firstly, it is important to note that the current regulatory framework plays a fundamental role in structuring the Senegalese pharmaceutical system. Legislation establishes a solid foundation for the management and distribution of medicines. The existence of the Pharmaceutical Regulatory Agency (ARP) ensures implementation of laws and regulations related to medicines, therefore guaranteeing the quality and safety of products being developed and distributed. This has increased the transparency of international tendering procedures, which promotes competition and ensures fair prices.

The supply chain review reveals that it is well structured. The National Procurement Pharmacy (PNA) operates as the main public wholesaler, overseeing the purchase, storage and distribution of essential medicines to health facilities. This centralized approach, combined with a system whereby orders placed by health facilities are based on forecast of needs, helps to minimize stock-outs. However, challenges remain, including coordination between different entities and stock management, which can still cause interruptions to the supply of medicines.

Access to Medicines and Economic Barriers

Another crucial point in this discussion is the affordability of medicines. Despite efforts by the Senegalese government and donors to make treatment free or subsidized for specific diseases, financial barriers persist, especially for the most vulnerable populations. The cost of medicines, even when they are subsidized,

can be prohibitive for some patients. There is a need for increased awareness of the accessibility of essential medicines, as well as targeted information campaigns to encourage patients to take advantage of available assistance programs.

Importance of Multisectoral Collaboration

Collaboration between public and private actors appears to be a key approach to improve access to medicines. Partnerships with non-governmental organizations (NGOs), support from the World Health Organization (WHO) and the active role of international donors show that public health is a complex issue that requires continuous consultation. Efforts to strengthen cooperation, particularly around intellectual property and stock management issues, are paramount to expanding access to care.

Recognition of Systemic Gaps

Finally, this study has highlighted systemic gaps that need to be addressed. Despite notable progress in health service structure, the country continues to face challenges, such as recurrent stock-outs, lack of training for health professionals on the effective use of medicines and an urgent need to update lists of essential medicines (this has now been done). Regularly re-assessing these lists, in consultation with health system actors, could prevent interruptions to treatment for diseases and improve supply management.

Key Observations

The situational analysis has highlighted several important points:

- **Purchasing carried out through international tenders** ensures competition and transparency.
- **The existence of quality medicine manufacturing units** strengthens the country's ownership of its pharmaceutical production.
- **The necessary provisions to ensure rational use**, such as the treatment dictionary indexed by INN, the therapeutic equivalence guide and the list of drugs and essential products, facilitate medical decision-making.
- **Political will of the state**, which subsidizes certain drugs, such as those for EPI, AIDS, tuberculosis and cervical cancer.
- **The existence of a state budget for tracer drugs which have been studied** demonstrates governmental commitment to ensuring the availability of essential treatments.
- **The existence of a national program to combat AIDS and tuberculosis** creates a framework for coordinating efforts to respond to these diseases.
- **An expanded national immunization program is in place**, which ensures wider access to vaccines for the Senegalese population.
- **There is no national cancer control program**, including for cervical cancer. However, there is Senegalese league against cancer, called LISCA.



8. RECOMMENDATIONS

Strengthening the supply chain: It is essential to strengthen coordination between the different entities involved in procurement, such as the National Procurement Pharmacy (PNA), the National AIDS Committee (NAC) and other organizations. This includes improving inventory tracking systems and improving needs forecast management to avoid stock-outs.

Financial accessibility: Implement strategies to further reduce the cost of essential medicines, including leveraging pooled procurement and grants for the most vulnerable populations. Awareness campaigns should also be organized to inform patients about available assistance programs.

- For antiretrovirals, Tenofovir + Lamivudine + Dolutegravir at 300mg/300mg/50mg represents a significant volume (nearly 14 million units) at a unit price of 3 USD per Wambo pooled procurement, making it a major expense item. The higher price of 4.52 USD for this via the PNA tender demonstrates the benefit of pooled procurement.
- For TB drugs, Bedaquiline 100mg stands out with a very high unit price of 340 USD per box, although the quantities are lower (187 boxes). This can be explained by its status as a newer drug for multidrug-resistant TB.
- For vaccines, the HPV vaccine at 4.5 USD per dose for 382,460 doses represents a significant investment, justified by its importance for the prevention of cervical cancer.

- For anti-cancer drugs, products such as Bevacizumab (494,847 FCFA/dose) or Rituximab (198,026 FCFA/500mg) have very high unit prices, which is typical of targeted therapy in oncology.

NB: it is noted that for most of these drugs, patients can access them free of charge through a grant.

Multisectoral collaboration: Strengthen public, private and NGO partnerships to improve access to medicines and vaccines. Foster co-financing initiatives to ensure the sustainability of health programs.

Training and Awareness-Raising: Develop training programs for health professionals on medication management and the use of stock management and procurement tools. Improving training can reduce errors and optimize service efficiency.

Regularly updating lists of essential medicines: Conduct periodic reviews of the national list of essential medicines, in consultation with various actors in the health system, to ensure that it reflects the current needs of the population and therapeutic developments.

Intellectual property integration: Adopt policies that promote access to high quality generic medicines, while respecting the intellectual property rights of manufacturers. Foster discussions around compulsory licenses to facilitate access to certain expensive treatments.



9. CONCLUSION

This study has highlighted the challenges and opportunities present in the supply of essential drugs in Senegal, including for HIV, tuberculosis, cervical cancer, and vaccines. Although significant progress has been made through the establishment of robust national programs and a strong regulatory framework, there are several obstacles still to overcome to ensure equitable access to these lifesaving treatments.

It is essential that health authorities continue their efforts to improve the transparency and efficiency of procurement mechanisms, promote collaboration among all health actors

and strengthen local production capacities. Responding to these key areas will enable Senegal to move towards achieving universal health coverage, thereby guaranteeing all of its citizens access to quality health care. The recommendations made in this study will serve as a guide for the next steps to strengthen not only the health system, but also the general wellbeing of the Senegalese population.

One of the limitations of this study relates to intellectual property, as this does not seem to be well understood by health actors.

ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to all the people and institutions who contributed to carrying out this study.

Our thanks go first and foremost to the Ministry of Health and Social Action of Senegal, whose invaluable support was crucial for data collection and analysis of results. We would like to thank the Directorate of Health, in particular Professor Ousmane CISSE, for his availability and valuable recommendations throughout the process.

We would also like to thank members of KELIN and the Solidarity project, led by the International Treatment Preparedness Coalition (ITPC), as well as all partners of this consortium, including ENDA Santé. Their commitment to disease control and logistical support was essential to carry out this research.

Many thanks to the professionals and experts in the field who agreed to share their experience and knowledge, including:

- Dr. Safiatou Thiam, Physician, Executive Secretary of the NAC
- Dr Mamadou N'Diaye, Medical Director of Prevention
- Dr. Yacine Mar Diop, Physician, NTCP Coordinator
- Dr. Seydou Diallo, Pharmacist, Director General of SEN-PNA
- Magatte Ndoeye N'diaye, Head of the DLSI

We are also grateful to all participants in the semi-structured interviews, who dedicated their time and efforts to inform this study with their thoughts and reflections, including:

- Dr. Karim Diop, Pharmacist, DLSI
- Dr. Leyti Gning, Pharmacist, Director of Pharmaceutical Procurement – SEN-PNA
- Dr. Mouhamadou Niang, Pharmacist, Head of the Order Receipt and Tracking Division at SEN-PNA
- Dr. Eloi Kambank, Pharmacist, Head of Supply and Stock Management at the NAC
- Dr Aïssatou Gueye, Pharmacist, Assistant Manager for Supply and Stock Management at the NAC
- Dr. Zuzanne Dione, Pharmacist, Head of Supply and Stock Management at the Ministry of Health
- Dr Aminata Gueye, Pharmacist, Head of Supply and Stock Management at NTCP
- Dr. Poléle Sow, Pharmacist, Assistant Manager for Supply and Stock Management at the NTCP
- Professor Omar Gassama, Gynecologist, Nabil Choucair Hospital.

Finally, we dedicate this study to all people who, through their daily struggles to control these diseases, remind us of the importance of equitable and effective access to health care.

APPENDICES

Appendix 1: Interview template No.1: NAC

Date: Role of the respondent

Full name

1. Can you help us fill in this table for the year 2023

| Program Product Yes/No | Tracer Yes/No | Product: dosage/Reference | Quantity purchased/Volume ordered | Unit (tablets, vials, etc.) | Unit price | Supplier / Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|---------------------------------------|-----------------------------------|-----------------------------|------------|-------------------------|-------------------|----------------------|
| | | Tenofovir + Emtricitabine | 300mg/200mg | | | | | |
| | | Tenofovir + Lamivudine | 300mg/300mg | | | | | |
| | | Zidovudine + Lamivudine | 60mg/30mg | | | | | |
| | | Zidovudine + Lamivudine + Abacavir | 300mg/150mg/300mg | | | | | |
| | | Abacavir + Lamivudine | 600mg/300mg | | | | | |
| | | Abacavir + Lamivudine | 120mg/60mg | | | | | |
| | | Abacavir + Lamivudine | 60mg/30mg | | | | | |
| | | Efavirenz | 200mg | | | | | |
| | | Atazanavir + Ritonavir | 300mg/100mg | | | | | |
| | | Darunavir | 600mg | | | | | |
| | | Darunavir + Ritonavir | 400mg/100mg | | | | | |
| | | Lopinavir + Ritonavir | 200mg/50mg | | | | | |
| | | Lopinavir + Ritonavir | 80mg/20mg | | | | | |
| | | Lopinavir + Ritonavir | 100mg/25mg | | | | | |
| | | Lopinavir + Ritonavir | 40mg/10mg | | | | | |
| | | Ritonavir | 100mg | | | | | |
| | | Tenofovir + Emtricitabine + Efavirenz | 300mg/200mg/600mg | | | | | |
| | | Tenofovir + Emtricitabine + Efavirenz | 300mg/200mg/400mg | | | | | |
| | | Tenofovir + Lamivudine + Efavirenz | 300mg/300mg/600mg | | | | | |
| | | Tenofovir + Lamivudine + Efavirenz | 300mg/300mg/400mg | | | | | |

| | | | | | | | | | |
|--|--|--|------------------|--|--|--|--|--|--|
| | | Dolutegravir | 50mg | | | | | | |
| | | Dolutegravir | 10mg | | | | | | |
| | | Tenofovir + Lamivudine + Dolutegravir | 300mg/300mg/50mg | | | | | | |
| | | Tenofovir alafenamide + Emtricitabine + Dolutegravir | 25mg/200mg/50mg | | | | | | |
| | | Tenofovir alafenamide + Emtricitabine | 25mg/200mg | | | | | | |
| | | Abacavir + Lamivudine + Dolutegravir | 600mg/300mg/50mg | | | | | | |

2. What are your ARV procurement methods? (Open Tender, Restricted Tender, Direct Negotiation)
3. Who are the suppliers for the NAC (ask for the list)?
4. What is the frequency of NAC orders?
5. Do you have a supplier tracking system? How does this system work?
6. Who are NAC clients for ARVs?
7. What is the average lead time for a client order?
8. How many deliveries does the NAC make per day, month or year for ARVs?
9. How do you determine the requirements for each ARV order?
10. Does the NAC receive ARV donations?
11. Who are the main donors that help finance the supply of ARVs?
12. Does the NAC manage drugs from other non-government programs? If so, which?
13. Which health facilities does the NAC supply with ARVs?
14. Has the NAC experienced stock-outs or overstocking of ARVs in the last 2 years? If yes, can you explain the reason for the stock shortages or overstocking? What was the duration? Which products?
15. Procurement
 - 15.1 How does the procurement process for these medicines work?
 - 15.2 What are the supplier selection criteria?
 - 15.3 Are there any particular difficulties encountered in the procurement process? If so, what are they?
16. Intellectual Property
 - 16.1. How would you define intellectual property (IP) in the context of your work?
 - 16.2. What role does intellectual property play in your area of work?
 - 16.3. What health products do you work with that are protected by IP mechanisms?
(List of products)
 - 16.4. Have you encountered any IP-related difficulties in accessing these products? If yes, please specify.
 - 16.5. In your opinion, what are the main legal barriers (including IP) to accessing ARVs in Senegal?
 - 16.6. Are there any potential solutions you are considering to overcome these barriers?
 - 16.7. Do you think the government should adopt new policies to facilitate access to health products? If so, which ones?
17. Specific data.
 - 17.1 Do you have any information about the procurement of Cabotegravir in 2024
If so, can you share it?

17.2. Can you provide information about the supply of the following drugs:

- Daclatasvir
- Sofosbuvir/Velpatasvir
- Glecaprevir/Pibrentasvir
- Bedaquiline
- Delamanid
- Pretomanid

18. Do you have any other comments or information you would like to share about ARVs?

Appendix 2: Interview template No.2: NTCP

Date: Role of the respondent

Full name

1. Can you help us fill in this table for the year 2023

| Program Product Yes/No | Tracer Yes/No | Product/Dosage | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Supplier/ Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|---|------------------------------------|-----------------------------|------------|------------------------|-------------------|----------------------|
| | | Cycloserine | 250mg | | | | | |
| | | Ethambutol | 400mg | | | | | |
| | | Ethionamide | 250mg | | | | | |
| | | Isoniazid | 300mg | | | | | |
| | | Levofloxacin | 250mg | | | | | |
| | | Pyrazinamide | 400mg | | | | | |
| | | Clofazimine | 100mg | | | | | |
| | | Rifampicin/ Isoniazid/ Pyrazinamide | 75/50/ 150mg | | | | | |
| | | Rifampicin/ Isoniazid | 75/50 mg | | | | | |
| | | Bedaquiline | 100mg | | | | | |
| | | Linezolid | 600mg | | | | | |
| | | Pyridoxine | 100mg | | | | | |
| | | Delamanid | 50mg | | | | | |
| | | Clofazimine | 50mg | | | | | |
| | | Ethionamide | 125mg | | | | | |
| | | Cycloserine | 125mg | | | | | |
| | | Levofloxacin | 100mg | | | | | |
| | | Ethambutol | 100mg | | | | | |
| | | Pyrazinamide | 150mg | | | | | |
| | | Rifampicin/ Isoniazid | 150mg/ 75mg | | | | | |
| | | Isoniazid | 300mg | | | | | |
| | | Rifapentine + Isoniazid | 300/300 mg | | | | | |
| | | Rifampicin/ Isoniazid/ Pyrazinamide/ Ethambutol | 150mg/ 75mg/ 400mg/ 275mg | | | | | |
| | | Isoniazid | 100mg | | | | | |
| | | Ethambutol | 100mg | | | | | |
| | | Rifampicin/ Isoniazid | 75mg/ 50mg | | | | | |
| | | Rifampicin/ Isoniazid/ Pyrazinamide | 75/50/ 150mg | | | | | |

2. What are your anti-TB drug procurement methods? (Open Tender, Restricted Tender, Direct Negotiation)
3. Who are the suppliers for the NTCP (ask for the list)?
4. What is the frequency of NTCP orders?
5. Do you have a supplier tracking system? How does this system work?
6. Who are the NTCP's clients for anti-TB drugs?
7. What is the average lead time for a client order?
8. How many deliveries does the NTCP make per day, month or year for anti-TB drugs?
9. How do you determine the requirements for each order of anti-TB drugs?
10. Does the NTCP receive donations of anti-TB drugs?
11. Who are the main donors that help finance the supply of anti-TB drugs?
12. Does the NTCP manage drugs from other non-government programs? If so, which?
13. What health facilities does the NTCP supply with anti-TB drugs?
14. Has the NTCP experienced stock-outs or overstocking of anti-TB drugs in the last 2 years? If yes, can you explain the reason for the stock shortages or overstocking? What was the duration? Which products?
15. Procurement
 - 15.1 How does the procurement process for these medicines work?
 - 15.2 What are the supplier selection criteria?
 - 15.3 Are there any particular difficulties encountered in the procurement process? If so, what are they?
16. Intellectual Property
 - 16.1. How would you define intellectual property (IP) in the context of your work?
 - 16.2. What role does intellectual property play in your area of work?
 - 16.3. What health products do you work with that are protected by IP mechanisms?
(List of products)
 - 16.4. Have you encountered any IP-related difficulties in accessing these products? If yes, please specify.
 - 16.5. In your opinion, what are the main legal barriers (including IP) to accessing anti-TB drugs in Senegal?
 - 16.6. Are there any potential solutions you are considering to overcome these barriers?
 - 16.7. Do you think the government should adopt new policies to facilitate access to health products? If so, what are they?
17. Specific data.
 - 17.1 Do you have any information about the procurement of Cabotegravir in 2024
If so, can you share it?
 - 17.2. Can you provide information about the supply of the following drugs:
 - Daclatasvir
 - Sofosbuvir/Velpatasvir
 - Glecaprevir/Pibrentasvir
 - Bedaquiline
 - Delamanid
 - Pretomanid
18. Do you have any other comments or information you would like to share about anti-TB drugs?

Appendix 3: Interview template No.3: EPI

Date: Role of the respondent

Full name

1. Can you help us fill in this table for the year 2023

| Program Product Yes/No | Tracer Yes/No | Product/Dosage | Quantity purchased/ Volume ordered | Unit (tablets, vials, etc.) | Unit price | Provider/ Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|------------------------------------|------------------------------------|-----------------------------|------------|------------------------|-------------------|----------------------|
| | | Measles, mumps and rubella vaccine | --- | | | | | |
| | | MMR vaccine | --- | | | | | |
| | | Yellow fever vaccine | Injectable | | | | | |
| | | Hepatitis B vaccine | Injectable | | | | | |
| | | Antimeningo Vaccine A, C, Y, W135 | Injectable | | | | | |
| | | Antimeningo Vaccine W135 | Injectable | | | | | |
| | | Pneumococcal vaccine | Injectable | | | | | |
| | | Poliovirus vaccine | Oral | | | | | |
| | | Poliovirus vaccine | Injectable | | | | | |
| | | Rabies vaccine | Injectable | | | | | |
| | | Tetanus vaccine | Injectable | | | | | |
| | | Anti-tuberculosis vaccine | Injectable | | | | | |
| | | Human papillomavirus vaccine | Injectable | | | | | |
| | | Rotavirus vaccine | Oral | | | | | |
| | | Anti-Covid vaccine | Injectable | | | | | |
| | | Pentavalent vaccine | Injectable | | | | | |
| | | Anti-influenza | | | | | | |
| | | Anti-venom | | | | | | |

2. What are your vaccine procurement methods?
(Open Tender, Restricted Tender, Direct Negotiation)
3. Who are the suppliers for the EPI (ask for the list)?
4. What is the frequency of EPI orders?
5. Do you have a supplier tracking system? How does this system work?
6. Who are the EPI clients for vaccines?
7. What is the average lead time for a client order?
8. How many deliveries does the EPI make per day, month or year for vaccines?
9. How do you determine the requirements for each vaccine order?
10. Does EPI receive donations of vaccines?
11. Who are the main donors that help finance the supply of vaccines?
12. Does the EPI manage drugs from other non-government programs? If so, which?
13. What health facilities does the EPI supply with vaccines?
14. Has the EPI experienced stock-outs or overstocking of vaccines in the last 2 years? If yes, can you explain the reason for the stock shortages or overstocking? What was the duration? Which products?
15. Procurement
 - 15.1. How does the procurement process for these medicines work?
 - 15.2. What are the supplier selection criteria?
 - 15.3. Are there any particular difficulties encountered in the procurement process? If so, what are they?
16. Intellectual Property
 - 16.1. How would you define intellectual property (IP) in the context of your work?
 - 16.2. What role does intellectual property play in your area of work?
 - 16.3. What health products do you work with that are protected by IP mechanisms? (List of products)
 - 16.4. Have you encountered any IP-related difficulties in accessing these products? If yes, please specify.
 - 16.5. In your opinion, what are the main legal barriers (including IP) to accessing vaccines in Senegal?
 - 16.6. Are there any potential solutions you are considering to overcome these barriers?
 - 16.7. Do you think the government should adopt new policies to facilitate access to health products? If so, what are they?
17. Do you have any other comments or information you would like to share regarding vaccines?

Appendix 4: Interview template no.4: ANTI-CANCER (CERVICAL CANCER)

Date: Role of the respondent

Full name

1. Can you help us fill in this table for the year 2023

| Program Product Yes/No | Tracer Yes/No | Product: Dosage/Reference | | Quantity purchased/ Volume ordered | Unit (tablets,vials, etc.) | Unit price | Supplier/ Manufacturer | Country of origin | Purchasing mechanism |
|------------------------|---------------|---------------------------|-----------------------|------------------------------------|----------------------------|------------|------------------------|-------------------|----------------------|
| | | Bleomycin | 15mg injectable | Bleomycin | | | | | |
| | | Carboplatin | 450mg injectable | | | | | | |
| | | Carboplatin | 150mg injectable | | | | | | |
| | | Chlormethine | 10mg injectable | Caryolysine | | | | | |
| | | Cisplatin | 10mg injectable | Cisplatyl | | | | | |
| | | Cisplatin | 25mg injectable | Cisplatyl | | | | | |
| | | Cisplatin | 50mg injectable | Cisplatyl | | | | | |
| | | Cyclophosphamide | 500mg injectable | Endoxan | | | | | |
| | | Cyclophosphamide | 25mg tablet | | | | | | |
| | | Cyclophosphamide | 50mg tablet | | | | | | |
| | | Doxorubicin | 10mg; 50mg injectable | Adriblastin | | | | | |
| | | Epirubicin | 20mg; 50mg injectable | Farmorubicin | | | | | |

| | | | | | | | | | |
|--|------------------|---------------------|--------------|--|--|--|--|--|--|
| | Etoposide | 100mg tablet | Vepesid | | | | | | |
| | Fluorouracil | 500mg/ml injectable | Fluorouracil | | | | | | |
| | Hydroxycarbamide | 500mg tablet | Hydrea | | | | | | |
| | Melphalan | 2mg tablet | Alkeran | | | | | | |
| | Melphalan | 50mg injectable | | | | | | | |
| | Methotrexate | 50mg/ml injectable | Methotrexate | | | | | | |
| | Methotrexate | 20mg injectable | | | | | | | |
| | Methotrexate | 10mg injectable | | | | | | | |
| | Ledertrexate | 5mg injectable | | | | | | | |
| | Methotrexate | 2.5mg tablet | Methotrexate | | | | | | |
| | Methotrexate | 20mg tablet | Methotrexate | | | | | | |
| | Paclitaxel | 30mg injectable | Taxol | | | | | | |
| | Paclitaxel | 100mg injectable | Taxol | | | | | | |
| | Tamoxifen | 20mg tablet | Nolvadex | | | | | | |
| | Vinblastine | 10mg injectable | Nolvadex | | | | | | |
| | Vincristine | 1mg injectable | Oncovin | | | | | | |
| | Vincristine | 2mg injectable | Oncovin | | | | | | |
| | Bevacizumab | 400mg injectable | Avastin | | | | | | |
| | Bevacizumab | 400mg injectable | Herceptin | | | | | | |
| | Trastuzumab | 150mg injectable | MabThera | | | | | | |

| | | | | | | | | | |
|--|---------------------|-------------------|------------|--|--|--|--|--|--|
| | Rituximab | 100mg injectable | MabThera | | | | | | |
| | Rituximab | 500mg injectable | Xeloda | | | | | | |
| | Capecitabine | 500mg injectable | Bondronat | | | | | | |
| | Ibandronate | 50mg injectable | Bondronat | | | | | | |
| | Ibandronate | 6mg injectable | Neupogen | | | | | | |
| | Filgrastim | 300µg injectable | Zometa | | | | | | |
| | Zoledronic acid | 4mg infusion | Decapeptyl | | | | | | |
| | Triptorelin | 0.1 mg injectable | | | | | | | |
| | Calcium folinate | 50mg injectable | | | | | | | |
| | Calcium folinate | 100mg injectable | | | | | | | |
| | Actinomycin D | 0.5mg injectable | | | | | | | |
| | Pemetrexed | 100mg injectable | | | | | | | |
| | Pemetrexed | 500mg injectable | | | | | | | |
| | Thalidomide | 50mg tablet | | | | | | | |
| | Fluorouracil (5-FU) | 250mg injectable | | | | | | | |
| | Fluorouracil (5-FU) | 500mg injectable | Arimidex | | | | | | |
| | Anastrozole | 1mg tablet | | | | | | | |
| | Gemcitabine | 200mg injectable | | | | | | | |

| | | | | | | | | | | |
|--|--|----------------|-------------------|--------|--|--|--|--|--|--|
| | | Gemcitabine | 1000mg injectable | | | | | | | |
| | | Letrozole | 2.5mg tablet | Femara | | | | | | |
| | | Sunitinib | 12.5mg capsule | Sutent | | | | | | |
| | | Azacitidine | 100mg injectable | | | | | | | |
| | | Mercaptopurine | 50mg tablet | | | | | | | |
| | | Thioguanine | 40mg tablet | | | | | | | |
| | | Cytarabine | 100mg injectable | | | | | | | |
| | | Ifosfamide | 1g injectable | | | | | | | |
| | | Ifosfamide | 3g injectable | | | | | | | |
| | | Oxaliplatin | 50mg injectable | | | | | | | |
| | | Oxaliplatin | 100mg injectable | | | | | | | |
| | | Dacarbazine | 500mg injectable | | | | | | | |
| | | Dacarbazine | 200mg injectable | | | | | | | |
| | | Temozolomide | 100mg capsule | | | | | | | |
| | | Irinotecan | 100mg injectable | | | | | | | |
| | | Irinotecan | 500mg injectable | | | | | | | |
| | | Irinotecan | 40mg injectable | | | | | | | |
| | | Topotecan | 4mg injectable | | | | | | | |
| | | Daunorubicin | 50mg injectable | | | | | | | |

| | | | | | | | | | |
|--|---------------------|-------------------------|--|--|--|--|--|--|--|
| | Vinorelbine | 50mg | | | | | | | |
| | Vinorelbine | 10mg injectable | | | | | | | |
| | L-asparaginase | 10,000 units injectable | | | | | | | |
| | Pegfilgastrim | 6mg injectable | | | | | | | |
| | Mesna | 1g injectable | | | | | | | |
| | Fludarabine | 50mg injectable | | | | | | | |
| | Busulphan | 60mg injectable | | | | | | | |
| | Chorambucil | 2mg tablet | | | | | | | |
| | Oxaliplatin | 100mg injectable | | | | | | | |
| | Bendamustine | 2.5mg injectable | | | | | | | |
| | Carmustine | 100mg injectable | | | | | | | |
| | Procarbazine | 50mg capsule | | | | | | | |
| | Docetaxel | 80mg | | | | | | | |
| | Docetaxel | 160mg injectable | | | | | | | |
| | Bortezomib | 3.5mg injectable | | | | | | | |
| | Idarubicin | 5mg injectable | | | | | | | |
| | Brentuximab vedotin | 50mg injectable | | | | | | | |
| | Daratumumab | 20mg injectable | | | | | | | |
| | Lenalidomide | 25mg capsule | | | | | | | |

| | | | | | | | | | | |
|--|--|------------------|--------------------|--|--|--|--|--|--|--|
| | | Ciclosporin | 50mg tablet | | | | | | | |
| | | Tretinoin | 10mg capsule | | | | | | | |
| | | Arsenic trioxide | 10mg injectable | | | | | | | |
| | | Atezolizumab | 1,200mg injectable | | | | | | | |
| | | Pembrolizumab | 50mg injectable | | | | | | | |
| | | Pembrolizumab | 100mg injectable | | | | | | | |
| | | Pembrolizumab | 50mg injectable | | | | | | | |
| | | Pembrolizumab | 100mg injectable | | | | | | | |
| | | Erlotinib | 150mg injectable | | | | | | | |
| | | Chloraminophene | 2mg tablet | | | | | | | |

2. What are your anti-cancer procurement methods? (Open Tender, Restricted Tender, Direct Negotiation)
3. Who are the suppliers of anti-cancer drugs (ask for the list)?
4. What is the frequency of orders for anti-cancer drugs?
5. Do you have a supplier tracking system? How does this system work?
6. Who are the clients for anti-cancer drugs?
7. What is the average lead time for a client order?
8. How many deliveries of anti-cancer drugs are made per day, month or year?
9. How do you determine the needs for each order of anti-cancer drugs?
10. Do you receive donations of anti-cancer drugs?
11. Who are the main donors that help finance the supply of anti-cancer drugs?
12. Do you manage medications from other non-government programs? If so, which?
13. What health facilities do you supply with anti-cancer drugs?
14. Have you experienced stock-outs or overstocking of anti-cancer drugs in the last 2 years?
If yes, can you explain the reason for the stock shortages or overstocking? What was the duration? Which products?
15. Procurement;
 - 15.1 How does the procurement process for these medicines work?

15.2. What are the supplier selection criteria?

15.3. Are there any particular difficulties encountered in the procurement process? If so, what are they?

16. Intellectual Property;

16.1 How would you define intellectual property (IP) in the context of your work?

16.2 What role does intellectual property play in your area of work?

16.3 What health products do you work with that are protected by IP mechanisms? (List of products)

16.4 Have you encountered any IP-related difficulties in accessing these products? If yes, please specify.

16.5. In your opinion, what are the main legal barriers (including IP) to accessing anti-cancer drugs in Senegal?

16.6. Are there any potential solutions you are considering to overcome these barriers?

16.7. Do you think the government should adopt new policies to facilitate access to health products? If so, what are they?

17. Do you have any other comments or information you would like to share regarding anti-cancer drugs?

Appendix 5: Memorandum regarding the study on facilitating access to health products in Senegal



REPUBLIQUE DU SENEGAL
Un Peuple, Une Vie, Une Foi

**Ministère de la Santé
et de l'Action sociale**

Le Ministre

N° 00 21 82
MSAS/DGS/SP/af

Dakar, le
07 NOV 2024

CIRCULAIRE

La Direction Générale de la Santé, en accord avec KELIN, par le biais du projet Solidarity, dirigé par l'International Treatment Preparedness Coalition (ITPC) et ses partenaires du Consortium dont ENDA Santé, effectue une étude qui vise à faciliter l'accès aux produits de santé au Sénégal à travers des solutions liées à la propriété intellectuelle.

La mission d'étude est confiée, durant la période du **05 au 30 novembre 2024**, au consultant Professeur Papa Galo Sow.

A cet effet, je vous demande de prendre les dispositions nécessaires pour les accueillir et leur communiquer toutes les informations demandées pour le bon déroulement de leur mission.

République du Sénégal
 Ministère de la Santé et de l'Action Sociale
 Pour le Ministre et par Délégation
 Le Directeur de Cabinet

Destinataires : (Voir la liste des structures en annexe)

- ✓ Direction de lutte contre la Maladie
- ✓ Direction de la Prévention
- ✓ Programme de lutte contre la Tuberculose
- ✓ Conseil National de lutte contre le Sida
- ✓ SEN Pharmacie Nationale d'Approvisionnement
- ✓ Agence Sénégalaise de Réglementation Pharmaceutique



Samba Cor SARR

Pièces jointes :

- Liste des structures à visiter et personnes à rencontrer ;
- TDR de la mission d'évaluation.

Rue Aimé Césaire – Fann Résidence, près du Centre National d'Appareillage Orthopédique (C.N.A.O)
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REPUBLIC OF SENEGAL
One People, One Goal, One Faith

No. 0021482

Ministry of Health and Social Action

Dakar, 7th November 2024

The Minister

MEMORANDUM

The General Directorate of Health, in agreement with KELIN, through the Solidarity project, led by the International Treatment Preparedness Coalition (ITPC) and its Consortium partners, including ENDA Santé, are conducting a study which aims to facilitate access to health products in Senegal through intellectual property-based solutions.

Prof. Papa Galo Sow has been appointed to conduct a study visit during the period of **5th to 30th November 2024**.

In this regard, I would like to ask you to make the necessary arrangements to welcome his team and to share any requested information to facilitate the smooth running of their visit.

Recipients: (see the list of facilities in the appendix)

- Disease Control Directorate
- Prevention Directorate
- Tuberculosis Control Program
- National AIDS Committee
- SEN National Procurement Pharmacy
- Senegalese Pharmaceutical Regulatory Agency

Attached:

- List of facilities to visit and people to meet
- Evaluation visit ToRs

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