



# UNIVERSAL HEALTH COVERAGE MEASUREMENT IN A LOWER-MIDDLE-INCOME CONTEXT: A SENEGALESE CASE STUDY

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# ACRONYMS

| | |
|---|---|
| **ANC** | Antenatal Care |
| **ANSD** | Agence Nationale de Statistiques et de Démographie [National Statistics and Demography Agency] |
| **ARV** | Antiretroviral drugs |
| **CACMU** | Cellule d'Appui à la Couverture Maladie Universelle [Support Unit for Universal Health Coverage] |
| **CBHI** | Community-Based Health Insurance |
| **CDSMT** | Cadre des Dépenses Sectorielle à Moyen Terme [Medium-Term Expenditure Framework] |
| **CFA** | West African Franc |
| **CIMA** | Inter-African Conference on Insurance Markets |
| **COUD** | Centre des Oeuvres Universitaires de Dakar [Department of Social and Medical Affairs for Higher Education] |
| **DHS** | Demographic and Health Survey |
| **DSIS** | Division des Statistiques et de l'Information Sanitaire [Health Information and Statistics Division] |
| **ESPS** | Enquêtes de Suivi de la Pauvreté au Sénégal [Senegal Poverty Monitoring Surveys] |
| **HFG** | Health Finance and Governance project |
| **GDP** | Gross Domestic Product |
| **HIS** | Health Information System |
| **ICAMO** | Institut de Coordination de l'Assurance Maladie Obligatoire [Institute for the Coordination of Mandatory Health Insurance] |
| **IPM** | Institutions de Prévoyance Maladie [Social Health Insurance Institutions] |
| **IPRES** | Institution de Prévoyance Retraite et Sociale [Old-age Pension Fund] |
| **MOH** | Ministère de la Santé et l'Action Sociale (Ministry of Health and Social Action |
| **MSAE** | Mutuelle de Santé des Agents de l'Etat [Mutual Health Organization for Government Workers] |
| **NCD** | Noncommunicable Disease |
| **NHA** | National Health Accounts |

| | |
|---|---|
| **SES** | Situation Economique et Sociale du Sénégal<br>[Senegal Economic and Social Report] |
| **SNDES** | Stratégie Nationale de Développement Économique et Sociale<br>[National Strategy for Economic and Social Development ] |
| **TB** | Tuberculosis |
| **UHC** | Universal Health Coverage |
| **USAID** | United States Agency for International Development |
| **WHO** | World Health Organization |

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# EXECUTIVE SUMMARY

The concept of universal health coverage (UHC) – a health system where everyone has access to the services they need and can take advantage of them without risk of financial impoverishment – has been espoused by countries across income levels and in all regions of the world. In recent years, national and international stakeholders have been working to clarify understanding of UHC and develop methods to track countries' progress towards this goal. The World Health Organization (WHO) produced the World Health Report 2010 called "Health Systems Financing: the Path to Universal Coverage" which proposed a widely-accepted conceptual framework for UHC. The WHO's working paper "Measuring Progress towards Universal Health Coverage" (Evans et al. 2012) then proposed a set of indicators for tracking progress in financial risk protection, service coverage, and equity, the central dimensions of UHC.

To advance the global discussion on the availability, feasibility, and relevance of various candidate indicators for UHC measurement, the Health Finance and Governance project, funded by the U.S. Agency for International Development, conducted a case study in Senegal. The objective was to gather the views of the stakeholders on the ground, and those of other partners, regarding the relevance of the WHO indicators and stakeholders' preferences for particular indicators, as well as to analyze the country's capacity to provide the information. We used a methodology combining interviews with key stakeholders, a review of strategic documents and policies, and an analysis of the health information tools used by the various stakeholders.

Like many countries in sub-Saharan Africa, Senegal has embraced UHC as a health sector priority, but faces considerable challenges to enacting UHC reforms and making progress towards UHC goals. The government of Senegal has the following overall objectives related to UHC: (i) to promote access to health insurance for the poorest 20 percent in order to reduce inequity and vulnerability; (ii) to guarantee that 65 percent of Senegalese are covered by a UHC system by 2015; and (iii) to guarantee that 100 percent of local authorities have a community-based health insurance scheme available in 2015.

In Senegal, many of the UHC indicators proposed by the WHO are tracked to some extent. Nearly all the service coverage indicators related to communicable diseases are available. These indicators include maternity care, child nutrition, child vaccination, treatment of sick children, family planning, malaria, tuberculosis, and HIV/AIDS services. However, despite the rising burden of Non-Communicable Diseases (NCDs), the proposed global indicators related to them were not tracked in Senegal.

Some of the proposed service coverage indicators as well as other impact indicators of health coverage expansion have been identified and included in the country's UHC national development plan for the period 2013-2017. The indicators identified cover four main areas: (i) access to health services; (ii) protection against financial risk; (iii) population coverage of UHC institutions; and (iv) quality of service and satisfaction levels of the population.

With regard to financial protection indicators, most of the indicators included in the list proposed have previously been measured by Senegal. For the financial protection indicators that were not available, the data exist from household income, consumption, and expenditure surveys, but these data are not always analyzed to inform the corresponding indicators. The UHC national development plan introduces routine financial protection-related performance indicators that could help guide annual planning and budgeting. They include coverage of risk pooling schemes, percentage of the indigents whose premium is paid by the government, and direct health expenditures among users of health services.

This case study reveals a number of strengths in Senegal's current health information system that could benefit UHC progress monitoring: (i) a robust national survey system managed by an experienced agency (National Agency of Statistics and Demography), (ii) the Continuous Demographic and Health Survey that includes a section called "health care facility surveys". Challenges were also noted and they include: (i) the fact that sources of data inputs do not share the same periodicity, processes, and methods, which weaken the quality of the indicator estimates, (ii) the delays in compiling routine data and the low level of completeness for the data collected, (iii) the late publication of results and reports following surveys.

However, Senegal does not have an official consolidated monitoring framework for tracking progress toward UHC yet. To this effect, this study has the following recommendations:

- Improve coordination for measuring and monitoring UHC progress

  To develop an efficient and comprehensive UHC measurement system, stakeholders involved with the design of UHC reforms will need to establish a system that creates communication bridges between the existing system and the new agencies in charge of UHC: ICAMO (in charge of mandatory health insurance data) and CACMU (which gathers data on CBHI coverage).

- Take advantage of the opportunities presented by the Continuous-DHS

  Having population- and facility-based data on service coverage and equity available on an annual basis through the Continuous-DHS will be invaluable for measuring progress towards UHC. The new system should then take that fact into account and possibly pair the Continuous-DHS with some predefined UHC progress tracking indicators.

- Institutionalize key monitoring studies for financial risk protection indicators

  The CACMU has completed its first study on catastrophic health expenditures (MOH, ANSD, WHO 2012). Such study should be institutionalized, as it helps inform some key financial protection indicators. NHA estimations supply critical inputs needed to calculate several of financial risk protection indicators, and are thus an important component of the UHC monitoring system. The government of Senegal should then set the stage for making NHA a routine analysis.

In addition to discussing ideas for improving the design and implementation of UHC data gathering and compilation systems, key stakeholders highlighted areas where capacity-strengthening investments were needed. While capacity building on information-gathering processes is important, stakeholders identified the greatest need being related to utilization of the obtained information for decision making and its subsequent dissemination. Specific suggested topics included:

- Capacity building in measurement methods and tools, particularly the acquisition and development of a technological platform ;
- Capacity building to increase the understanding of national stakeholders in terms of how monitoring UHC progress can help decision making;
- Capacity building of the DSIS and the ANSD through recruitment (health economists, epidemiologists, statisticians, etc.) and a skills-upgrading program to enable them to better monitor UHC indicators and analyze national survey data.

# 1. INTRODUCTION

Universal health coverage (UHC) as a goal of health policy development has gained wide acceptance at country and global levels since the publication of the World Health Report 2010 and is now seen as a critical component of sustainable development (World Health Organization (WHO) 2010; Brearly et al. 2013). UHC has also been listed as one of the possible goals of the post-2015 development agenda. Discussions on the suitability of UHC as a goal are often reduced to two questions: how should UHC be defined, and how can it be measured and monitored? The WHO has defined UHC as a situation where all people who need health services receive it, without incurring financial hardship (WHO 2010). This definition entails two interrelated components: coverage with needed quality health services and access to financial risk protection, for everyone. The level and distribution of effective coverage of interventions and financial risk protection have been proposed as the focus of monitoring progress towards UHC (Evans et al. 2012).

Developing simple and sound measures to assess country, regional, and global situations and monitor progress towards UHC is critical if this objective is to remain high on the global agenda and receive priority attention from country policymakers. While the basic definition of UHC is conceptually straightforward, developing feasible metrics of UHC is less so. Variations in countries' epidemiology, health systems and financing, and levels of socioeconomic development imply both different approaches to UHC implementation as well as a potential range of relevant metrics. Many countries working towards UHC already rely on locally specific, routinely collected service statistics to measure health systems performance, and standard demographic, health, and economic surveys contribute occasional snapshots of trends in health status measures and economic development. At the same time, establishing new global goals, indicators, and targets could have a critical impact on governments' commitment to successful implementation of global declarations, such as the December 2012 United Nations Resolution making UHC a key global health objective.

To advance discussion on the availability, feasibility, and relevance of various candidate indicators for UHC measurement, the Health Finance and Governance Project (HFG), funded by the United States Agency for International Development, conducted a case study in Senegal. The objective of this study was to conduct primary research on the country's approach to monitoring its progress towards UHC and to compile existing estimates for a proposed set of UHC indicators. This report summarizes the results of the case study. After a presentation of the case study methodology and an overview of Senegal's health system, the report explores the current measurement system in Senegal for measuring progress towards UHC and presents plans for future reforms of this system. The report also compares the indicators Senegal is already using to measure progress towards UHC with the proposed set and evaluates Senegal's capacity to collect data for and generate them. We also issue recommendations for the government of Senegal and the international community based on the findings.

# 2. METHODOLOGY

The HFG project compiled a list of indicators that are under consideration for global UHC monitoring from two primary sources: a WHO working paper by Evans et al. (2012) and an unpublished workshop report prepared as an output of a WHO- and Rockefeller Foundation-sponsored meeting in Bellagio in September 2012 (WHO 2012; WHO 2011). The list of 69 recommended indicators includes 56 tracer indicators of population service coverage, four of quality of care, and nine of financial protection coverage.

The case study employed two methods: key informant interviews and secondary data analysis. A set of key research questions were developed by the HFG team and these formed the basis for interviews with key informants (Annex A). Eighteen key informants representing major stakeholders in Senegal's UHC efforts were interviewed, including multiple government agencies, development partners, and implementing partners. A list of key informants interviewed for this study is available in Annex B. The study also obtained and analyzed available secondary data (such as Health Information System (HIS) annual reports; health care utilization survey reports; Demographic and Health Survey (DHS) reports; household income, consumption and expenditure survey reports; as well as Poverty Monitoring Survey (ESPS) and other government reports to assess availability of UHC indicators and to document progress made in achieving UHC targets.

The scope of these data collection efforts was limited due to the constrained time period in which the data collection was undertaken (August–September 2013). Readers should thus consider the recommendations from this paper cautiously. While the data can inform the discussion on measuring progress towards UHC in low-income contexts, additional information on UHC indicators and health system constraints (i.e. capacity) could fill in existing gaps

# 3. BACKGROUND: UHC INITIATIVES IN SENEGAL

## 3.1 Overview of Senegal's Health System

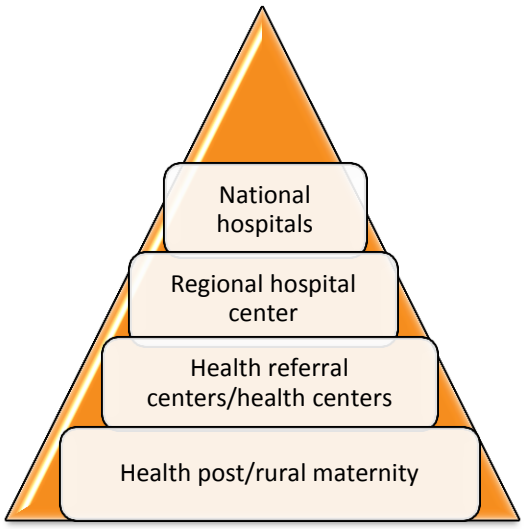
This section provides an overview of the service delivery, financing, and governance structures in Senegal as well as reforms in these areas. Understanding these reforms is critical, as the implementation and measurement of UHC is not an isolated strategy, but rather falls within the overall framework of existing structures and ongoing reforms.

### 3.1.1 Service Provision

Health care in Senegal is provided by three types of health providers: public facilities under the Ministry of Health (MOH), private facilities, and facilities of the armed forces (MOH 2011).

**Public Health Care Facilities**: About 1,200 health care facilities are managed by the MOH. More than 90 percent of these facilities are health posts or units managed by a nurse or midwife. Another six percent are health centers at the district level. These facilities offer both outpatient and hospitalization services and are managed by a physician, typically a generalist. At the next level of Senegal's "Public Health Care System Pyramid" (Figure 1) are 13 level-two regional or urban hospitals located in the capital of each region. They serve as referral health facilities for their regions. Finally, the nine national hospitals located in Dakar, which have the most specialized health services in the country, form the top of the pyramid.

**Figure 1. Public Health Care Facility Pyramid in Senegal**




Source: MOH (2011)

**Private Health Care Facilities**: The private sector consists of 440 health care structures, including four private hospitals; 43 private clinics; 185 physicians' offices; 11 health posts with and without maternity wards; 171 urban and rural not-for-profit clinics (generally faith-based); and 30 ambulatory care centers open to the employees of private companies, their families, and the local community where they operate.

Armed Forces Health Facilities: The armed forces have 44 health care structures, including one hospital at the national level; one regional-level hospital; 16 military base medical centers; 14 laboratories; and 12 health posts. They are located in all the regions in which there is a military garrison, and are open to military family members and civilians.

### 3.1.1 Health Financing

According to Global Health Observatory statistics, which are projected from National Health Accounts (NHA) estimations, Senegal spent 5.98 percent of gross domestic product (GDP) on health in 2011, just below the African average of 6 percent[1]. This spending translates into US$119 (2005 US dollars) per capita. Though Senegal, a lower-middle-income country, has begun to recover from the global 2008 recession, the GDP growth remains slow, which has likely dampened growth in total spending on health since then (International Monetary Fund 2013.

The last NHA estimations of 2005 (MOH 2007) showed that public sector health expenditures made up 53 percent of national health spending. Of this spending, only 3 percent came from local governments despite the fact that under the Decentralization Act of 1996 they have to contribute at least 5 percent of public health spending. The private sector accounted for 43 percent of total health expenditures. External sources contributed an estimated 4 percent of total spending on health.

The large percentage of health spending originating with the private sector was largely attributed to households. According to NHA estimates, 38 percent of national health spending was out-of-pocket spending by households making payments directly at facilities (MOH 2007). This high level of out-of-pocket payment is concerning particularly given that the poverty headcount ratio in Senegal was at 46.7 percent of the 13.7 million population in 2011 (World Bank 2013). Nearly half of this out-of-pocket spending went to the purchase of drugs, followed by payments to traditional healers (MOH 2007).

### 3.1.2 Governance

Governance in Senegal's health system is characterized by ongoing decentralization reforms in the public sector and by significant participation from a multitude of different actors from public and private sectors as well as foreign governments and organizations. The process of decentralization began in Senegal in the 1970s with a gradual transfer of administrative responsibilities to the local level, and this initiated important changes in the health system. In the 1990s, responsibility for the management of health facilities was transferred to the regions, municipalities, and rural communities. In 1998, hospitals were designated autonomous "public health establishments" on the principle of giving them more control over their own finances and management. The budgets for regional hospitals and health districts were also transferred to local governments.

Decentralization has created many opportunities for the public sector to engage with private for-profit and non-profit sectors more effectively. New partnerships were established between government (central and local authorities) and community-based or nongovernmental organizations, which are thriving components of Senegal's health system. With a boom in the number of for-profit private health providers, the government established policies that encourage contracting and public-private partnerships in the health sector. Still, decentralization reforms have not proceeded without challenges. In practice, the transfer of power from central to local governance is not complete. Although local

[1] http://www.who.int/entity/nha/country/nha_ratios_and_percapita_levels_2002-2006xls.xls

authorities exercise control over their health budgets, the mechanisms for allocation and distribution of human resources remain at the central level, where *ex ante* control is still carried out.

International donors have provided support to Senegal's health system through individual projects, pooled funding arrangements ("Sector-Wide Approach"), and direct grants to community-based organizations. Of particular note is the U.S. foreign assistance that has played a transformative role in Senegal's health sector.

## 3.2 Strategy for Social Protection and Access to Health Care: Health Insurance Schemes

The government of Senegal has long worked to address poverty and reduce the health system's dependency on out-of-pocket spending. To date, three types of risk pooling schemes have played this role: mandatory employer-based insurance, voluntary community based health insurance (CBHI), and public subsidies for specific services and population groups. In addition, private insurance companies provide some additional, voluntary coverage, though this market is very small. Table 1 summarizes these schemes, providing information on the percentage of the population covered, sources of funding, the institution responsible for implementing, and the services that are covered.[2]

**Table 1. Characteristics of Health Financing Schemes Operating in Senegal**

| Type of Pooling Mechanism | Target Population | % of the Country Population Covered | Funding Source/ Pooling Mechanism | Institution with Oversight | % of Costs Covered for Medical Care | Limitations in Coverage |
|---|---|---|---|---|---|---|
| Mandatory schemes (state and private sector) | Public sector employees | 7.4% | General budget | Ministry of Finance | 80% of hospitalization, consultation and exam costs | Medicines not covered |
| | Retired persons | 4.9% | Old-age Pension Fund (IPRES) | Ministry of Finance and IPRES | 80% of hospitalization costs (public sector) and free access to network health centers | |
| | Students | 0.3% | General budget | COUD (Ministry of Education) | 100% at university clinics and free hospitalization in public health facilities | Often have to pay for drugs and additional fees |
| | Private sector employees | 3.6% | Social health Insurance Institutions (IPM) | Ministry of Labor | 50–80% medical care, hospitalization, exams, analyses, drugs | In practice, coverage varies. Usually a small portion of the actual cost |
| Voluntary CBHI | Informal sector and rural | 3.8% | CBHI schemes | MOH (CACMU) | Various, defined by community | Various |

[2] Voluntary private health insurance is omitted from the table because of its small relevance for the country's health financing system.

| Type of Pooling Mechanism | Target Population | % of the Country Population Covered | Funding Source/ Pooling Mechanism | Institution with Oversight | % of Costs Covered for Medical Care | Limitations in Coverage |
|---|---|---|---|---|---|---|
| | population | | | | | |
| | Individual voluntary subscription | 0.2% | Private insurance | | Various, depending on insurance policy | Various |
| Medical assistance and subsidized care | Vulnerable/ priority groups | ~3-8% | General budget | MOH; President's Office | 100% for indigents, elderly, vaccinations for children, free care for under 5 years old, maternity care, priority diseases | |
| TOTAL | | ~23-28% | | | | |

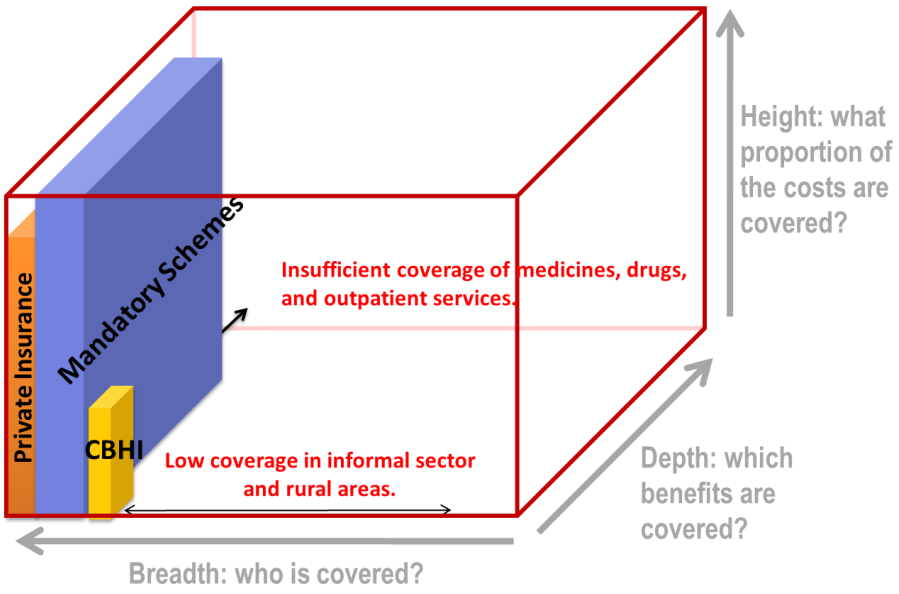
*Source:* Adapted from Ndiaye (2010); Republic of Senegal (2012)

Note: COUD= Department of Social and Medical Affairs for Higher Education, CACMU=Support Unit for Universal Health Coverage

Table 1 shows that the various pooling schemes in Senegal currently cover an estimated 25–30 percent of the total population. This estimate indicates that a large percentage of the population remains without access to financial protection for health care. Table 1 also shows that a larger proportion of formal sector workers have coverage than do rural residents and the informal sector, which combined account for more than 80 percent of the Senegalese population. Moreover, the 2011 ESPS (MOH, National Statistics and Demography Agency (ANSD), and WHO 2012) found that households in rural areas and those engaged in the informal sector have lower average incomes. Its estimates indicate that only 3 percent of households in rural areas belong to the highest economic quintiles, compared to 44 percent of households in urban areas. On the other hand, 33 percent of the households in the lower quintile live in rural areas and only 1 percent live in urban areas. These findings indicate that Senegal's health financing system remains relatively inequitable.

Figure 2 summarizes insurance coverage in Senegal using three dimensions of UHC. It graphically represents the critical limits in coverage for populations in the informal sector and rural areas.

**Figure 2. Health Care Insurance in Senegal, by UHC Dimensions of Coverage**




Source: Author

To improve equity in the system, it will be necessary to reduce the gaps in population covered, services covered, and financial protection against catastrophic costs. These items have been identified as core objectives of UHC efforts as envisioned in Senegal.

The following sections provide detailed information about Senegal's existing insurance schemes.

## 3.1.2 Mandatory Schemes

### Health Insurance for Current and Retired Government Workers

A mandatory health insurance scheme for current government employees and their families was established in 1972. This scheme is financed by the central government's budget through a line item and is managed by the Ministry of Finance. Based on information provided by the national strategy of UHC 2013-2017 (MOH 2013a), approximately 300,000 beneficiaries (66,000 employees and their dependents) were covered under this system in 2012. This scheme covers 80 percent of costs incurred for medical care expenses at public health providers.[3] Through a contracting mechanism, the central government also has agreements with two private hospitals (Principal Hospital and St. Jean de Dieu Hospital). Health care received from those facilities is covered to the same extent as in public hospitals. Drug costs are not included in the benefits package and are charged to the patient.

[3] When beneficiaries need care, they receive a document that guarantees their benefits if they receive medical care in public hospitals. For services received, beneficiaries pay 20 percent of the costs incurred directly to the hospital while the remaining 80 percent are invoiced by the hospital to the Ministry of Finance for payment.

In order to reduce out-of-pocket payment for workers, a number of public sector agencies have implemented their own complementary health insurance scheme to cover additional health care costs, such as the 20 percent copayment and drug costs (see Box 1). Examples are supplementary health insurance schemes for government workers, the military, staff of the Customs and Borders administration, and university employees.

**Box 1: Characteristics of the Supplementary Insurance for Government Workers**

Current and former government employees have the right to be members of mutual health organizations for government workers (MSAE). Members must pay 2,000 CFA to register and a basic monthly premium of 3,800 CFA, which covers the worker, one spouse and up to six children under 18 years of age. If the worker's household is larger than these specifications allow, another 500 CFA per month is required to cover each additional household member.

As voluntary and complementary to the state's official insurance schemes, the MSAE cover:

- The entire 20 percent copayment for general medical care;
- 65 percent of the 20 percent copayment for specialized care such as surgery and dentistry;
- 65 percent of costs for generic drugs and 35 percent of costs for specialty drugs.

Affiliated worker and family members must wait six months after enrollment before they start receiving benefits.

*Source:* Annycke (2008), International Labor Organization (2008)

### Social Health Insurance Institutions for Private Sector Workers

Social health insurance institutions (IPMs) were created by decree in 1975 in order to provide medical coverage for private sector workers and their families, for whom membership is mandatory. The national strategic plan for the development of UHC in Senegal estimates that in 2012, 700,000 beneficiaries (120,000 workers and their families) were covered by IPMs (MOH 2013a).

The presidential decree establishing IPMs obligates all companies with more than 300 employees to create an IPM. The decree also states that companies with fewer employees must cooperate to set up "inter-enterprise IPMs," or join existing ones. After registering an IPM with the Ministry of Labor and the Old-age Pension Fund (IPRES), companies must manage their own IPMs as "autonomous health funds." The IPMs are financed through direct payroll contributions representing 6 percent of employees' salaries, half of which is contributed by employers.[4] Depending of the capacity of each IMP, the funds must cover between 40 percent and a maximum of 80 percent of costs incurred for medical care.

According to the 2005 NHA, IPMs are significant financing agents for expenditures flowing to several types of private providers (MOH 2007). Data show that IPMs account for 58 percent of spending at private pharmacies and opticians, 48 percent of spending at biomedical labs, and 51 percent of spending at private outpatient clinics. However, the IPMs have also faced structural difficulties for many years. In response, the government of Senegal has initiated a plan to reform IPMs by (i) updating the legal framework for IPMs; (ii) establishing an Institute for the Coordination of Mandatory Health Insurance (ICAMO), which would implement institutional reforms and provide coordination, assistance and oversight for the IPMs; and (iii) establishing a guarantee and solidarity fund for the IPMs. The guarantee

[4] The maximum contribution (employer plus employee) is 60,000 CFA.

and solidarity fund is a reinsurance mechanism financed through premiums paid by each single IPM that will reimburse health care facilities for services provided in case of insolvency or bankruptcy of an IPM. This mechanism is part of the architecture required for social insurance by the West African Monetary and Economic Union. Countries in the economic zone have to comply with this requirement in order to ensure health care providers are financially protected.

IPRES is the agency that manages retirement plans and pension services for private sector retirees and certain categories of public sector retirees. IPRES is financed by the central government's budget and by employees' payroll contributions and provides benefits to approximately 110,000 retirees and their families, with an annual budget of 1.2 billion West African Francs (CFA). IPRES provides health services to retired beneficiaries and their families through its network of health facilities (IPRES medico-social centers) for outpatient services (including biomedical exams, radiology, and scanners) and through contracts with public and private health facilities for hospitalizations.

### 3.2.1 Voluntary Private Health Insurance Coverage Through Commercial Insurers

Private insurance organizations are governed according to regulations established by the Inter-African Conference on Insurance Markets (CIMA).[5] They provide health coverage with a varied range of products, both to companies and to individuals. They cover a very small portion of the population – estimated at less than 2 percent of the total population of Senegal (MOH 2013b).

### 3.2.2 Voluntary CBHI for Informal Sector and Rural Workers

CBHI schemes, known as "mutuelles," pool resources and are intended to provide financial risk protection for rural and informal sector workers who are not eligible for mandatory health insurance schemes and who represent nearly 80 percent of the Senegalese population. CBHI organizations have been active in Senegal since the early 1990s and over the last two decades have been subject to periodic reforms. Most recently, in 2009, they were made subject to legal regulation. The MOH also established a CBHI Technical Support Unit (CACMU) to support CBHI schemes in 2012. While benefits packages covered through CBHI organizations have varied depending on the context and the capacity of organizations, stakeholders (including members of CBHI organizations, MOH, local authorities, and technical partners) recently agree upon a national standard for basic CBHI benefits packages, which is included in the National Strategy for UHC in Senegal (see Annex D) (MOH 2013a). The basic package is the minimum set of services that each single CBHI is required to cover. In many cases, CBHIs can offer a better package to their members.

Despite these improvements, challenges remain in Senegal's CBHI system. As part of the data provided in the National Economic and Social Development Strategy (SNDES) 2013-2017, CBHI schemes covered an estimated 14 percent of the targeted population in 2012 (Republic of Senegal 2012)[6]. This estimate reflects slower than expected expansion in coverage, indicating that CBHI schemes are unlikely to reach the strategy's targeted coverage rate of 27 percent of its targeted population in 2013 nor, if current trends persist, the coverage target of 66 percent by 2017. Other challenges include the difficulties of contractual relationships with service providers and low membership retention.

[5] CIMA member countries have to follow the Insurance Code they agreed upon.
[6] The targeted population refers to people from informal sector and rural areas not covered by mandatory schemes.

### 3.2.3 Government Medical Assistance Program

The MOH has implemented various government subsidy programs for health services such as institutional delivery and Caesareans sections, antiretroviral drugs (ARVs), and anti-tuberculosis (TB) drugs, which are free at the point of service delivery. Other subsidies lower costs for the treatment of noncommunicable diseases (NCDs) such as diabetes, cancer, and renal failure. The medical assistance system also includes government regulations that exempt indigents and other population groups such as seniors and children under five from certain health payments. Details on these existing subsidy and exemption programs are provided below.

**Plan Sésame for Seniors**

Plan Sésame is a national free health care program for people aged 60 years and over that was established in 2006. The plan provides coverage to about 450,000 seniors who do not have government or private retiree health coverage.

Funding for Plan Sésame comes mainly from the central government's budget, as a line item. Regional government budgets and IPRES also contribute to Plan Sésame financing. Plan Sésame is managed by the MOH's Health Bureau for Seniors and invoices for rendered services are paid by IPRES.

Thus far, a strong and validated evaluation of the Plan Sésame has not yet been done. However, different reviews and reports on Plan Sésame indicate that there have been many complaints from health care providers about difficulties in recovering payment from IPRES.

**Subsidies for Caesarean Sections**

High maternal, newborn, and child morbidity and mortality represent major challenges to successful implementation of the 2009-2018 National Health Development Plan (PNDS) and have a negative impact on the country's development. Improving the availability of and access to an integrated package of quality health interventions for women and children requires investment, especially in rural areas. In 2005, the government of Senegal embarked on an initiative to provide free institutional delivery care at health posts and health centers, and free Caesarean sections at district and regional hospitals for all women. The program was first implemented in five pilot regions considered to be the country's poorest and where these services were least accessible. In 2006, the program covering free Caesarean sections was expanded to all Senegalese hospitals, with the exception of those in Dakar. Since 2011, the entire country has been covered by this initiative, with free caesareans provided in the hospitals located in the suburbs of Dakar.

**Subsidies for Children under Five and Targeted Diseases**

In Senegal, free health care initiatives for children under five began in the 1990s with the Expanded Program on Immunization (EPI), which provides free vaccinations. This initiative now includes other programs such as the provision of therapeutic foods to treat malnutrition, Vitamin A supplements, and parasite removal.

In addition to targeting population groups with programs to improve access and financial risk protection, the government of Senegal also targets priority diseases. Specifically, ARVs for HIV and anti-TB treatment have been free in all public health facilities since 2004. The government of Senegal also adopted a policy of free access to anti-malarial drugs in order to reduce the burden of malaria and its economic cost on households who need recurrent treatments.

## 3.3 Senegal's Proposed Strategy for Expanding Coverage

After the inauguration of President Macky Sall in 2012, the government of Senegal initiated a comprehensive and broad-based agenda to design and build consensus around a strategy for UHC reforms. Participants representing the whole government, the National Assembly, and various major stakeholders participated in technical reviews and pilot experiments, national consultations and validation meetings, and policy debates on planned reforms. This work resulted in the development of Senegal's UHC strategic plan for 2013-2017 (MOH 2013a). The official launch of this strategy document, in September 2013, showed the strong commitment by the government of Senegal to UHC reforms.

The UHC strategic plan defines clear national-level objectives for the country. These objectives are mainly centered on the following:

- To promote access to health insurance for the poorest 20 percent of the population in order to reduce inequity and vulnerability;
- To guarantee that 65 percent of Senegalese will be covered by a UHC system by 2015;
- To guarantee that 100 percent of municipalities will have a CBHI scheme by 2015.

The UHC strategic plan also presents a framework for the UHC agenda, including comprehensive health financing reforms to consolidate resource flows and pooling schemes in the country. The envisioned framework will be funded through a combination of central and local government subsidies, private financing through household contributions,[7] and external funding from development partners. To streamline management of these funds, the government will establish two main entities: the National Health Solidarity Fund (*Fonds National de Solidarité Santé*) and the Independent Fund for Universal Social Protection (*Caisse Autonome de Protection Sociale Universelle*). These funds will play a central role in strengthening the sustainability and improving the service packages of mandatory, community, and medical assistance schemes while also increasing the number of Senegalese they cover.

The funds will become the primary financing instruments for expanding coverage in the informal sector by transferring funds to subsidize free care to exempt groups. They will fulfill the following functions: (i) provide subsidies to CBHI schemes to help them expand their benefit packages and promote risk pooling at the local level; (ii) provide targeted subsidies to ensure the coverage of the indigent and vulnerable groups through CBHI; and (iii) promote group enrollment by supporting partnerships between CBHI organizations and decentralized financial institutions (micro-finance, micro-credit, and savings institutions). The level of subsidy that the CBHI schemes will receive from these two funds will be based on performance criteria. The general subsidy to expand benefit packages will be dependent upon the number of members who have fully paid their premium, meaning that the general subsidy will reward the efforts of CBHI schemes to increase enrollment as well as collect premium contributions. Targeted subsidies to ensure coverage of the indigents and of vulnerable groups through CBHI will be granted after identification of poor and vulnerable groups. The level of subsidy given to a CBHI organization will be dependent on the number of individuals from these priority groups they cover. Capacity-building subsidies will also be granted to strengthen the administrative and financial management skills of the CBHI schemes.

The UHC strategic plan also includes specific reforms that target the mandatory employment-based schemes. Box 2 presents several short-term actions that are intended to initiate reforms in mandatory formal sector schemes, voluntary community-based schemes, and medical assistance subsidy programs.

[7] Premiums will be predefined and payments made once a year versus monthly or quarterly payments.

**Box 2: Actions Planned in the Short Term in Senegal to Expand Coverage**

***Mandatory health insurance schemes***

- Expand coverage to the parents (mother and father) of the principal holder
- Implement the reinsurance and solidarity fund for the IPMs

***Voluntary health insurance schemes (CBHI)***

- Expand health insurance coverage to people in the informal and rural sectors through CBHI: 27 percent in 2013; 46 percent in 2014; 50 percent in 2015; 55 percent in 2016; and 65 percent in 2017
- Set up a National CBHI Reinsurance Fund
- Provide a general subsidy of 50 percent of their contributions to CBHI organizations in order to expand the package of services

***Medical assistance schemes:***

- Expand the equity fund that pays for indigents to join any existing CBHI
- Combine the various credits supporting free and subsidized health care goods and services into a single national solidarity health fund
- Increase the financial resources for free health care initiatives (Plan Sésame, children under five, childbirth and Caesareans, etc.) in order to reach more people and also to improve the level of services covered of the specific groups
- Provide additional services for children under the age of five, including medical transport and emergency care

*Source:* MOH (2013b)

# 4. FINDINGS: MEASURING AND MONITORING PROGRESS TOWARDS UHC IN SENEGAL

## 4.1 Senegal's Current and Proposed Systems for Measuring Progress towards UHC

In Senegal, methods for measuring progress in the area of health coverage have evolved over the last decade. Work began in 2000 when a group of partners in the field of CBHI scheme development – national and international, technical and financial – initiated activities for monitoring progress in the area of health insurance scheme enrollment. The group, called *La Concertation entre les acteurs du développement des mutuelles de santé* (Coordination among CBHI Development Stakeholders) made an inventory of CBHI organizations in Senegal, as well as in 10 other west and central African countries.[8] While current numbers were available for the CBHI organizations, there was no information on the formal sector social health insurance schemes or other health coverage schemes, and in 2005, the inventory was expanded to include other forms of health coverage institutions. In 2010, the DHS integrated questions about enrollment in health insurance schemes into its questionnaires. The government of Senegal then established indicators using the new DHS data as a way to begin monitoring the number of people covered by all existing health financing schemes operating in the country. These indicators were reported in the report on the Economic and Social Situation of Senegal (SES), published annually by the ANSD. The 2010 DHS marked a turning point for Senegal in the area of monitoring progress towards UHC; by including indicators for the coverage of health insurance schemes in the DHS, the government demonstrated a desire to institutionalize this monitoring.

According to the 2013-2017 UHC strategic plan (MOH 2013a), Senegal's proposed framework for measuring progress towards UHC aligns with its objectives of expanding population coverage through the risk pooling schemes described above. The government has committed to monitoring the contributions and budgetary allocations made by each type of institution to improve population coverage indicators. Data gathered will contribute to informed decision making with respect to the allocation of resources.

The UHC strategic plan includes a draft proposal to monitor progress towards UHC using four categories of operational indicators and four categories of impact indicators, each of which aligns with a dimension of UHC that government authorities have identified as requiring the most careful tracking. This design, if implemented, will enable the assessment of enrollment in UHC institutions as well as the assessment of equity in access to health care services and financial protection. The proposed "operational" or outcome-level indicators cover the following dimensions of UHC in Senegal:

- Service Package: Expansion of the package of services covered
- Population Coverage of UHC institutions: Increase in the proportion of people covered by (enrolled in) UHC institutions
- Governance and Sustainability: Strengthening of technical and financial sustainability of UHC

[8] Syntheses of the country CBHI inventories were published in 2000, 2003, and 2007.

institutions

- Equity: Improvements to equity in the health system and reduction in vulnerability among the poor through expansion of coverage to the very poor.

The following "impact" indicators for health coverage expansion are proposed in the UHC strategic plan for 2013-2017 (Table 2). These are primarily centered on access to health services, protection against financial risk, and population satisfaction with services.

**Table 2: UHC Indicators from the UHC Strategic Plan (2013-2017)**

| ***Impact indicators: Improvement of financial accessibility to quality health care among the informal and rural sectors*** | | |
|---|---|---|
| **Objective** | **Indicators** | **Observations** |
| Equal access | Utilization rate of health services (curative care, infant and maternal health services, hospitalizations) | The indicators will be measured across the sub-populations of beneficiaries and non-beneficiaries of CBHI, based on socio-economic categories (quintiles, education levels, types of residence, ethnic group, and region). |
| Financial protection of households | Direct household health expenditures among users of health services | |
| | Proportion of households that face catastrophic expenditures | |
| Population satisfaction | Proportion of the population that is satisfied with the quality of services of health care facilities | |
| ***Operational indicators: Expansion of health insurance coverage to 65% of the populations employed in the informal and rural sectors by 2017*** | | |
| Scheme coverage | Proportion of the general population covered by CBHI | The indicators are measured across socio-economic categories (quintiles, education level, types of residence, ethnic group, and region). |
| Equity in scheme coverage | Proportion of the population in the informal and rural sectors covered by CBHI organizations | |

## 4.2 Comparison of Senegal's UHC Measurement Approach with WHO's List of Proposed Indicators

While these operational and impact indicators to monitor UHC progress in the country have been proposed in strategy documents, as of 2013 Senegalese stakeholders involved in UHC have not yet reached consensus and made them official. Nor has the government of Senegal set up an information system dedicated to UHC measurement. These gaps are due to the short period (just over a year) since the formal launch by President Sall of UHC reforms in Senegal. During this time, stakeholders have focused on establishing the legal and political frameworks for operationalizing the reforms rather than on the issue of measurement.

Still, separate from the designated health financing reforms that explicitly aim to achieve UHC, Senegal's 2013-2017 SNDES also highlights six key health coverage indicators that do align closely with the WHO's proposed UHC indicators. Most of the WHO-proposed communicable disease and maternal, neonatal, and child health service coverage indicators are already monitored in Senegal as part of the

effort to track progress towards the fourth and fifth Millennium Development Goals. Each year, performance will be analyzed in relation to the period's objectives mainly using survey data such as the Continuous-DHS (Table 3).

**Table 3: Relevant Health Indicators Included in the 2013-2017 National Economic and Social Development Strategy**

| Indicators | Performance | | Targets | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| 31. Rate of coverage ANC4 | ND | *75%* | *50%* | *53%* | *55%* | *60%* | *63%* | 70% | 75% |
| 32. Deliveries assisted by qualified personnel | 67% | 65% (DHS-5) | *65%* | *72%* | *75%* | *78%* | 80% | 83% | 85% |
| 33. Fully vaccinated children between the ages of 0-11 months | 74% | 63% (DHS-5) | - | *55%* | *60%* | *65%* | *70%* | 75% | 80% |
| 34. Children under five benefiting from nutrition services | | | | 55% | 60% | 65% | 70% | 75% | 80% |
| 35. Prevalence of HIV/AIDS in the population | 0.7% | 0.7% | <1% | <1% | <1% | <1% | <1% | <1% | <1% |
| 36. Number of people living with HIV on ARV | 12,249 | 14,408 | 14,425 | 16,444 | 18,649 | 20,961 | 23,318 | 25,649 | 28,214 |

*Source:* MOH (2013a)
Note: ANC=antenatal care

However, not all WHO coverage indicators are currently monitored. NCD indicators in particular are notably unavailable in Senegal. Table 4 provides details regarding the types of access indicators that are adequately monitored and delivered in Senegal, as well as those for which it is difficult to find a reliable source. The complete list of available indicators and their values can be found in Annex C. Some statistics related to NCDs and chronic diseases service provision at hospitals are published in Senegal's annual Health Statistics Report, which is edited each year by the Health Information and Statistics Division (DSIS) of the MOH. The report does not include population-based coverage data; rather, it summarizes health facility data on the absolute numbers of services provided and proportional rates of morbidity among all patients seen at facilities. Unfortunately, the national HIS includes only a subset of health facilities' data, and private sector providers are not accounted for. In order to report on NCD service coverage with accuracy in the future, it will be necessary to carry out specific surveys.

**Table 4: List of WHO-suggested Service Coverage Indicators and Their Availability in Senegal**

| Service Coverage Indicators | # of Proposed Indicators | # Available in Senegal | Main sources |
|---|---|---|---|
| Maternity care | 5 | 5 | MICS, DHS-continuous |
| Child nutrition | 6 | 6 | MICS, DHS-continuous |
| Child vaccination | 5 | 5 | MICS, DHS-continuous |
| Treatment of sick children | 3 | 3 | MICS, DHS-continuous |
| Family planning | 2 | 2 | MICS, DHS-continuous |
| Malaria prevention, treatment | 3 | 3 | MICS, DHS-continuous |
| TB testing, treatment | 2 | 0 | |
| HIV/AIDS prevention/treatment | 5 | 2 | MICS, DHS-continuous |
| Cancer prevention/treatment | 5 | 0 | |
| Cardiovascular diseases | 5 | 0 | |
| Diabetes | 1 | 0 | |
| Chronic pain | 1 | 0 | |
| Chronic respiratory conditions | 1 | 0 | |
| Musculoskeletal conditions | 1 | 0 | |
| Mental health | 1 | 0 | |
| Vision problems | 2 | 0 | |
| Hearing problems | 1 | 0 | |
| Dental/oral | 1 | 0 | |
| Injuries | 1 | 0 | |
| Other NCDs | 2 | 0 | |
| Total | 53 | 26 | |

With regard to financial protection indicators, most of the indicators included in the list proposed by the WHO are already being monitored or have previously been measured by Senegal using various tools. The four indicators that directly measure the incidence and severity of burdensome out-of-pocket payments (Table 5) were included in a recent report entitled "Catastrophic health expenditures and impacts on the impoverishment of households" (MOH ANSD and WHO, 2012). They are also included in the SNDES and in the report on the SES. Several indicators, such as out-of-pocket payments as a share of total health expenditure, government health expenditure as a share of GDP, government health expenditure as a share of general government expenditure, and total health expenditure per capita, are produced through NHA estimations. The last NHA in Senegal was conducted in 2005 so it is unclear whether this can be considered a routine process.

Three additional indicators suggested by the WHO (reflecting legal entitlement to health services; the median price of generic drugs compared to international reference pricing; and the percentage of

government health expenditure for fixed costs compared to medication and equipment costs) are not currently available in Senegal.

**Table 5: List of WHO's Financial Coverage Indicators and Availability in Senegal**

| Financial Coverage Indicators | # of Proposed Indicators | # Available in Senegal | Main Sources |
|---|---|---|---|
| Catastrophic expenditures | 2 | 2 | Catastrophic Expenditure Report |
| Incidence of impoverishment | 2 | 2 | Catastrophic Expenditure Report, NHA CDSMT*, SNDES |
| NHA-type indicators | 3 | 3 | 2005 NHA |
| Legal entitlement to health services through insurance or direct government funding/provision | 1 | 0 | |
| Median price of generic drugs compared to international reference pricing | 1 | 0 | |
| Percentage of government health expenditure for fixed costs compared to medication and equipment costs | 1 | 0 | |
| TOTAL | 10 | 7 | |

Note: CDSMT=Medium-Term Expenditure Framework

## 4.3 Strengths and Weaknesses of Senegal's National Information System for Monitoring Progress Towards UHC

This section identifies major strengths and weaknesses in the HIS and survey data collections that currently affect Senegal's ability to implement a system for monitoring and measuring progress towards UHC.

### 4.3.1 Strengths

**Capacity for population-based surveys**

In recent years, Senegal has received substantial technical and financial support to strengthen its survey information systems. In 2013, the government created a Ministry of Planning, indicating its commitment to put survey data at the center of the decision-making process. The ANSD is now the technical arm of the Ministry of Planning; it manages the national survey system and provides technical assistance to other sectorial ministries in organizing surveys in specific technical areas.

In the health sector, the ANSD has collaborated with institutions such as the University Cheikh Anta Diop of Dakar, the WHO, ICF International, the US Centers for Disease Control and Prevention, and the World Bank. Such partnerships have enhanced the capacity of its technical staff in designing and

implementing surveys. Individuals interviewed within the agency noted that these collaborations have led to skills transfers, capacity building, and access to proven methodologies through the implementation of surveys such as the Malaria Indicator Surveys, the DHS, and household expenditure surveys. These recent capacity strengthening efforts, in addition to the agency's many years of experience, present a great opportunity for UHC progress monitoring.

**Continuous-DHS Collection**

After five rounds of the DHS (in 1986, 1992, 1997, 2005 and 2010/2011), Senegal decided to implement a survey program in which DHS data collection is conducted on a yearly basis. Funded by USAID, UNFPA, UNICEF, and the Government of Senegal, the Continuous-DHS entails rolling annual data collection from a nationally representative subsample of households and facilities, and it provides Senegal the opportunity to capture selected population-based and facility-based indicators on a simultaneous basis. The Continuous-DHS has a household module that produces socio-demographic indicators and a health facility module that is focused on the availability of physical resources in health facilities and the quality of health services provided to the populations. Implemented by the ANSD in collaboration with the MOH, the survey can then be used to generate information for regular progress monitoring of most key health indicators, such as family planning, antenatal and postnatal care, prevention and treatment of child diseases, and child mortality. It also includes indicators related to malaria prevention, coverage of commercial insurance and CBHI, availability of the basic package of essential services in health facilities, and the availability of essential drugs.

The initiation of the Continuous-DHS in 2013 represents an important shift for the health sector in Senegal. In addition to capturing the data on a regular basis and linking household and health facility surveys, a key strength of the Continuous-DHS design is its ability to integrate several types of indicators that were previously collected through separate national surveys at different times. It provides a powerful source of data that is validated and shared among key actors, and an important resource for monitoring UHC progress. Interviews with members of the Continuous-DHS committee confirmed their openness to the possibility of integrating a module on UHC.

### 4.3.2 Weaknesses

**Lack of coordination between the different actors involved in routine HIS**

Despite various investments made in recent years to strengthen the routine HIS, the system still has weak infrastructure and lacks functionality to gather health information from various health departments in real time. Information from health providers is gathered through two different departments in the MOH using two different systems. The Department of Health Facilities is in charge of collecting data from hospitals and the DSIS collects data from all the other public health facilities. There is a significant risk that other technical bodies, directly involved in UHC initiatives, may develop their own systems or databases with specific forms to be filled out by health care providers.

Multiple data request mechanisms can create an excessive workload at the health facility level, and also weaken the information system overall. It is critical to move toward a unified HIS that can deliver high-level and accurate data to governmental institutions and partners for decision making, and to ensure that the various UHC initiatives do not promote a proliferation of separate, additional information systems.

### Low Levels of Data Completeness

Several indicators on the WHO's proposed list are only available from the annual Health Statistics Report produced by the MOH, which compiles information received from health facilities. However, these reports are sometimes incomplete. Indeed, the latest published report (2009 Edition)[9] places the data completeness level at between 56 and 96 percent, which indicates that there is a significant amount of missing information. In addition, private sector service provision, which is a large component of the national health system, is only partially captured in those reports. A situational analysis of the private sector estimated that only 45 percent of private health facilities transmit their data to the MOH (MOH and IntraHealth 2013).

### Delays in Compiling Routine Data

In general, data from health facilities are compiled manually through registers and, in some cases, Excel files. The compiled files are then transmitted to the district and then to the regions. After being consolidated at the regional level, the data are finally transmitted to the central level where they are integrated into the HIS. The various levels of data control, consolidation, and processing lead to publication delays of statistics, and are conducive to a loss of information.

### Delays in Publication of survey reports

There are frequently substantial delays between survey data collection and report publication. For example, the government has not yet published results from the second round of the NHA, conducted for the years 2006-2008, despite the importance of this document in the health sector. The report is still being finalized. If published in 2014, such obsolete information will be of little use in guiding decision making or policy implementation.

Another example is the report on catastrophic health expenditures. This report is produced using data from the ESPS and provides estimates of the number of households that fall into poverty due to catastrophic health expenditure, allowing the government to monitor financial protection over time. Even though this document would seem to be a critical tool for decision making and the allocation of resources, given the government's stated commitment to supporting vulnerable groups, the second edition (using data from the 2011 ESPS) has not been published yet.

[9] In recent years, the information system has experienced the phenomenon of health facilities withholding information, due to union strikes. This meant failure to transmit activity data to the MOH; which made it impossible for the MOH to publish health statistics reports for the years 2010, 2011, and 2012.

# 5. RECOMMENDATIONS FOR MEASURING AND MONITORING PROGRESS TOWARDS UHC

Findings of this case study show that the current information system has areas of strength and weakness. As stakeholders continue advancing implementation of UHC reforms, several recommendations could be considered for how to leverage strengths, such as the Continuous-DHS, and address weaknesses of insufficient coordination, low data completeness, and poor timeliness of data collection and reporting. Based on the findings of this case study and on discussions with key informants, this section proposes recommendations for Senegal to improve monitoring of progress towards UHC and also for strengthening the governance of the health system. It highlights several areas within Senegal's health system that may require investments in capacity building. Finally, we reflect on how Senegal's experience developing a set of indicators for tracking progress in its UHC reforms could inform efforts to select global UHC monitoring indicators.

## 5.1 Information System Recommendations

**Improve coordination for measuring and monitoring UHC progress**

While some might argue that a health sector-specific information system may provide the most rigorous monitoring data for tracking progress towards UHC, this approach may not allow sufficiently deep linkages with other sectors' data gathering and reporting efforts. Instead, an information system that is built with inherent ties to national indicators will produce data that will allow UHC stakeholders to assess current status of reforms in a strategic way and make coherent decisions about next steps in implementing health financing reforms. An information system closely linked to national indicators, such as those outlined in the SNDES, will likely also produce more consistent and higher-quality progress indicators.

However, it is not just that the public institutions involved in health and other sectors' data gathering need to coordinate efforts; within the health sector, information gathering also needs to be harmonized. To develop an efficient and comprehensive UHC measurement system, stakeholders involved with the design of UHC reforms will need to establish a system that creates communication bridges between, for example, ICAMO (in charge of mandatory health insurance data) and CACMU (which gathers data on CBHI coverage).

Stakeholders should act quickly to ensure that the information system for UHC tracking is well coordinated. Otherwise, it is likely that institutional actors will develop institutional-specific information systems. The resulting proliferation of information systems will generate redundant efforts and systemic inefficiencies and reduce the quality of the data monitoring. Most generally, stakeholders should keep the importance of inter-institutional coordination in mind as they move implementation of the UHC reforms forward.

**Take advantage of the opportunities presented by the Continuous-DHS**

Most of the stakeholders interviewed expressed great concern that the reliability of routine data is often compromised by health provider strikes, withholding information, and problems with data completeness. The great majority of the stakeholders interviewed recommend relying on data from the Continuous-DHS instead. Having population- and facility-based data on service coverage and equity available on an

annual basis will be invaluable for measuring progress towards UHC. However, the indicators of "protection against financial risk" cannot all be adequately documented in the Continuous-DHS and will require consumption surveys; these will still be challenging to obtain on a routine basis.

**Mobilize adequate and appropriate technical and financial resources to institutionalize key monitoring studies in financial risk protection**

The CACMU has completed its first study on catastrophic health expenditures (MOH, ANSD, WHO 2012). Key informants suggested institutionalizing this study, as it will help to provide inputs for decision making regarding programs designed to reduce the vulnerability caused by direct out-of-pocket health care payments. Such studies could also document the number of people who have emerged from vulnerability as a result of the protections provided by UHC systems. The stakeholders interviewed also suggested carrying out various other thematic studies on UHC implementation. Such studies will allow stakeholders to make informed decisions on UHC implementation and guide the process of measuring progress toward UHC.

In addition, the government of Senegal should conduct another NHA estimation. Though some specific updates were made in later years (NHA 2006-2008), the last published NHA conducted in Senegal covered fiscal 2004/05. NHA estimations supply critical inputs needed to calculate several of WHO's financial risk protection indicators, and are thus an important component of the UHC monitoring system. The government of Senegal should also set the stage for making NHA a routine analysis.

## 5.2 Recommendations for Capacity Investments

In addition to discussing ideas for improving the design and implementation of data gathering and compilation systems, key stakeholders highlighted areas where capacity-strengthening investments were needed. While capacity building on information-gathering processes is important, stakeholders identified the greatest need related to utilization of the obtained information for decision making and its subsequent dissemination. Specific suggested topics included:

- Capacity building in measurement methods, particularly in the area of protection against financial risk;
- Capacity building to increase the understanding of national stakeholders in terms of how monitoring UHC progress can help decision making;
- Capacity building of the DSIS and the ANSD through recruitment (health economists, epidemiologists, statisticians, etc.) and a skills-upgrading program to enable them to better monitor UHC indicators and analyze national survey data.

## 5.3 Suggestions to WHO for Additional Indicators to Track Progress towards UHC

Key informants interviewed recommended some additional indicators, not currently included on WHO's preliminary list. Collecting data on these indicators, they noted, would make it possible for the stakeholders to monitor more of the aspects considered to be critical to the implementation of UHC in Senegal.

**Suggested Additional Indicators for Service Availability, Access, and Coverage**

- National insurance coverage rate (percentage of people covered by risk pooling institutions)
- Gross health care utilization (contact) rates
- Proportion of health facilities that can provide all services in the basic package
- Service coverage rates for interventions included in the basic package
- Availability of medicines
- Percentage of facilities recording stock-outs for at least one key product during the period
- Availability of products/medicines for chronic diseases

**Suggested Additional Indicators for Quality**

- Patient satisfaction indicators

**Suggested Additional Indicators for Institutional Viability/Sustainability**

- Financial viability of UHC institutions (social health insurance funds, CBHI schemes, free care programs, etc.)
- Extent to which schemes receive public subsidies
- Average reimbursement time (to providers/beneficiaries)

**Suggested Additional Indicators for financial risk protection**

- Proportion of poor and vulnerable groups supported by CBHI or social safety net programs

# 6. CONCLUSION

This case study on monitoring and measuring progress towards UHC in Senegal was an opportunity to analyze its health information and survey systems in order to document what information is currently being produced and understand to what extent the country will be able to support rigorous measurement of progress towards UHC.

The current HIS (routine and survey) provides information on most of the UHC indicators proposed by WHO, with the notable exception of the NCD indicators. The current system has strengths that will support its ability to handle the requirements of a UHC progress monitoring system, but important weaknesses have also been highlighted, such as multiple separate information systems and multi-year delays in the publication of survey data.

As a cross-cutting issue that involves different actors, one of the key challenges that Senegal will face in measuring progress towards UHC will be coming to agreement about a list of indicators and mechanisms to be used. It will be critical to implement an integrated system that enables efficient, consistent communication among different UHC stakeholders, in order to strengthen the capacity of the entire system to provide relevant and accurate information on progress towards UHC.

Through the Continuous-DHS, Senegal has the opportunity to implement a national survey that can provide information on a yearly basis. This is a great opportunity for service coverage measurement and the country should invest in further strengthening of this approach. However, the DHS will still need to be supplemented by consumption surveys to provide data for most of the indicators on financial risk protection.

It is important to highlight that, even if strengthening the national survey system will greatly contribute to successful monitoring of progress towards UHC, investing in the routine HIS should also be a priority, especially in terms of capacity building. Senegal is entering an epidemiological transition with an increase of NCD and necessary improvements to the health information system should be made to be able to gather information on NCDs in particular.

Building a strong survey system and an integrated robust routine data collection, that are both able to provide information in a timely manner, are areas of investment that Senegal and other countries should consider top priorities for ensuring successful UHC monitoring.

# ANNEX A. CASE STUDY KEY RESEARCH QUESTIONS

The Senegalese case study on UHC measurement was designed to answer a set of inter-related questions regarding the country's approach and capabilities in the area of UHC measurement.

**Overview of Senegal's understanding of UHC and monitoring progress towards it**

1. How would key stakeholders define UHC? How would they define service coverage and financial coverage (or financial protection)? What dimensions of equity do stakeholders consider important (by wealth/income, region, gender, ethnic group, immigration/citizenship status)?
2. To what extent has Senegal considered and/or prepared a plan for measuring service coverage and financial protection as well as equity in the distribution of services and financial resources?

**Current status of monitoring progress towards UHC measured against internal and WHO standards**

3. What indicators do key stakeholders consider relevant for tracking progress towards UHC? Which of these is the government of Senegal currently tracking? Assess the availability, frequency, timeliness, and quality of these indicators. Are these data used by policy makers? What would the government like to measure, but does not currently have resources or capacity to measure?
4. Which of the WHO's proposed UHC indicators does Senegal currently measure through its existing HIS (from the routine HIS, surveys, vital statistics, surveillance, etc.) to monitor progress towards UHC? How are the data collected? To what extent are the WHO UHC indicators compatible with those captured by Senegal's routine HIS? Assess the availability, frequency, timeliness, and quality of these indicators.
5. How do the indicators that the government currently tracks or has identified compare to the WHO's proposed UHC indicators? Do government officials find the WHO UHC indicators relevant/helpful?
6. Is Senegal capturing measures of equity in financial protection and in service coverage? If so, how is equity being measured – along what dimensions?
7. The WHO is interested in measuring "effective coverage," the percentage of the population who receive services that are of adequate quality to improve health or well-being. Information about the quality of services received is important in assessing the real health implications of service coverage statistics. How does Senegal currently measure the quality of service provision?

**Senegal's capacity to monitor progress towards UHC**

8. Assess Senegal's capacity to produce the set of WHO indicators based on core HIS dimensions, including: sufficient human resources with relevant technical knowledge and skills, sufficient financial resources, conducive legal and regulatory policies, adequate organizational capacity, adequate IT and management systems strength.
9. What investments to improve or build capacity for monitoring progress towards UHC have been made already, if any?

10. What other investments would Senegal need to strengthen its capacity to track the WHO indicators? Possible examples include:
    a. Ensure adequate staffing of technical positions; recruit additional staff
    b. Improve technical skills and knowledge of available key staff through technical assistance and training (illustrative topics: surveys development and implementation, statistics, routine monitoring, producing indicators from raw data, basic data analysis skills)
    c. HIS strengthening, including IT infrastructure
    d. Organizational development and management skills building (e.g. professional development for senior level people)

# ANNEX B. LIST OF KEY INFORMANTS INTERVIEWED

Key informants interviewed for this case study represent the following units and departments:

- The Office of the President: Directorate General for Social Protection and National Solidarity (DGPSN)
- The Ministry of the Economy and Finance:
  - Department for Economic and Financial Cooperation (DCEF)
  - National Agency of Statistics and Demography (ANSD)
- Ministry of Labor:
  - Department for Social Security
  - IPM Division
- Ministry of Health and Social Action:
  - Support Unit for Universal Health Coverage (CACMU)
  - Department of Medical and Social Affairs (DAMS)
  - Department for Health Establishments (DES)
  - Statistics and Health Information Division (DSIS)
  - Health providers: Fann University Teaching Hospital (CNHU Fann)
- Technical and Financial Partners:
  - WHO
  - Abt Associates
  - USAID/Health Bureau
- Health Insurance Institutions:
  - Union des Mutuelles de Santé de Dakar
  - IPRES/Plan Sesame

# ANNEX C. SUMMARY OF WHO AND COUNTRY INDICATORS IN SENEGAL

**Table C-1. Service Coverage Indicators: Maternal and Child Health**

| Core Tracer Indicators | Specific Indicator Definition (numerator, denominator, timeframe) | Data Sources | Value of Indicator by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| ANC 4 or more visits | *Proportion of women who went for at least the 4 required antenatal visits during pregnancy (once for each trimester and one during the 9th month)* | **DHS/MICS*** | 40% | | | | | | 50% | |
| ANC 1+ visit | *Proportion of women who went for at least 1 antenatal visit during pregnancy* | **DHS/MICS** | 83% | | | | | | 93.3% | 94.5% |
| Skilled birth attendance** | *Proportion of births attended by skilled health personnel* | **DHS/MICS** | 52% | | | | | | 65.1% | 50.5% |
| Institutional delivery | *Proportion of births taking place in a health facility* | **DHS/MICS** | 62% | | | | | | 72.8% | 71.3% |
| Postnatal care | *Proportion of women who seek care for reasons relating to postpartum at least once within 42 days after delivery* | **DHS/MICS** | 40.1% | | | | | | 68% | |
| Coverage of exclusive BF | *Proportion of infants 0–6 months of age who are exclusively breast fed* | **DHS/MICS** | 34% | | | | | | 39% | 37.8% |
| Children under 5 who are stunted | *Proportion of stunting (height-for-age less than -3 standard deviations of the WHO Child Growth Standards median) among children aged 0-5 years* | **DHS/MICS** | 16% | | | | | | 26.5% | 19% |
| Children under 5 who are underweight | *Proportion of underweight (weight-for-age less than -2 standard deviations of the WHO Child Growth Standards median) among children aged 0-5 years* | **DHS/MICS** | 17% | | | | | | 18% | 16% |

| Core Tracer Indicators | Specific Indicator Definition (numerator, denominator, timeframe) | Data Sources | Value of Indicator by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Children under 5 who are overweight | *Proportion of overweight (weight-for-height above +2 standard deviations of the WHO Child Growth Standards median) among children aged 0-5 years* | **DHS/MICS** | | | | | | | | 1% |
| Low birth weight among newborn | *Proportion of live births that weigh less than 2,500 g out of the total of live births during the same time period* | **DHS** | | | | | | | 16% | |
| DPT3/ penta | *Proportion 0-11 months infants who have received three doses of the combined diphtheria, tetanus toxoid, pertussis, Hepatitis B, and Haemophilus influenzae* type B vaccine | **DHS/MICS** | 74% | | | | | | 83 | 89% |
| Measles | *Proportion of 0-11 months infants who have received a dose of measles vaccine* | **DHS/MICS** | 61% | | | | | | 82 | 79% |
| BCG | *Proportion of 0-11 months infants who have received a dose of BCG vaccine* | **DHS/MICS** | 91% | | | | | | 95 | 96% |
| Polio | *Proportion of 12-23 months infants who have received 4 doses of polio vaccine* | **DHS/MICS** | 69% | | | | | | 73 | 83% |
| Hep B | *Proportion of 12-23 months infants who have received a Hepatitis B vaccine* | **DHS/MICS** | 78% | | | | | | 78 | 89% |
| Suspected pneumonia taken to health facility | *Proportion of under 5 children who had 'presumed pneumonia' (ARI) and were taken to an appropriate health care provider* | **DHS/MICS** | 40.6% | | | | | | 49.9% | 53% |
| Diarrhea treated with ORT | *Proportion of under five children aged who had diarrhea and were treated with oral rehydration salts* | **DHS/MICS** | 27% | | | | | | 22.4% | 21.5% |

| Core Tracer Indicators | Specific Indicator Definition (numerator, denominator, timeframe) | Data Sources | Value of Indicator by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Suspected pneumonia treated with antibiotics | *Proportion of under five children who had 'presumed pneumonia' (ARI) were treated with antibiotics* | **DHS** | | | | | | | 26.2% | |
| Unmet need for FP | *The proportion of women of reproductive age (15-49 years) who are married or in union and who have an unmet need for family planning, i.e. who do not want any more children or want to wait at least two years before having a baby, and yet are not using contraception* | **DHS/MICS** | 32% | | | | | | 19.9% | |
| Contraceptive use | *Proportion of women aged 15-49 years, married or in-union, who are currently using, or whose sexual partner is using, at least one method of contraception, regardless of the method used* | **DHS/MICS** | 10.3% | | | | | | 12% | 16% |

*DHS: Demographic and Health Survey / MICS: Multiple indicators Cluster Survey

** In Senegal, the women who traditionally attend deliveries in the rural areas are called "matrones". They receive complementary training to better manage normal delivery and to detect the early signs of a complicated delivery so that they can refer to the nearest health facility. Some matrones are working in health facilities alongside the midwives. However they are not considered as skilled labor in the calculation of the corresponding indicator. This situation explains the decrease of this indicator value between 2001 and 2012. Indeed during that period, the delivery attended by matrones increased and the ones attended by midwives decreased.

**Table C-2. Service Coverage Indicators: Disease-specific**

| Type of Disease | Core Tracer Indicators | Specific Indicator Definition | Data Sources | Indicator Value by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Communicable diseases (malaria, TB, HIV/AIDS*) | Children sleeping under ITN | *Proportion of children under 5 who slept under an insecticide treated bed net last night* | DHS | 13.9% | | | | | | 34.5% | 45.6% |
| | Fever treated with antimalarial/ACT | Proportion of under five children and pregnant women who had a fever and were treated with antimalarial drugs | DHS | 27% | | | | | | 8.2% | 7.5% |
| | Households with IRS | *Proportion of houses in IRS targeted areas that were sprayed in the last 12 months* | National Poverty Monitoring Survey I (ENSP-I) | 3% | | | | | | 9.4 % | 12% |
| | Condom use at higher risk sex (15-24) | *Proportion of women and men aged 15–49 who have had more than one sexual partner in the past 12 months who report the use of a condom during their last sexual intercourse* | DHS | 38% | | | | | | 48.8% | |
| | ARV prophylaxis among HIV+ pregnant women | *Proportion of HIV-infected pregnant women who received antiretroviral medicines among the estimated number of HIV-infected pregnant women* | CDSMT (Medium-Term Expenditure Framework report) 2011-2013 | | | | | 36% | | | |

| Type of Disease | Core Tracer Indicators | Specific Indicator Definition | Data Sources | Indicator Value by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Noncommunicable diseases** | Incidence of chronic diseases (diabetes, high blood pressure, kidney failure, cancer, paralysis, asthma/chronic bronchitis) | | DHS | | | | | | | F:18%<br>M: 8.5% | |

*For TB (and to some extend for HIV/AIDS as well) the indicators that Senegal track are mostly related to the health system readiness to deal with the disease (availability of diagnosis, availability of treatment, and availability of drugs). The proposed TB indicators "detection rate" and "treatment success rate" were not found. The following HIV/AIDS indicators were not obtained as well: ARV therapy among those in need, PMTCT (Prevention of Mother to Child Transmission) among HIV positive pregnant women and male circumcision rate.

** None of the detailed NCD's indicators proposed were obtained for Senegal; instead the country uses a broad indicator about prevalence of NCD.

### Table C-3. Financial Indicators

| Core Tracer Indicators | Specific Indicator Definition | Data Sources | Indicator Value by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Incidence of impoverishment due to out-of-pocket payments | *Proportion of people falling under the poverty level when out of pocket expenditures on health are subtracted from the household resources* | NHA* | | | 35% | | | | | |
| Out-of-pocket payments as a share of total health expenditure | *Level of out-of-pocket expenditure expressed as share of expenditure on total health expenditure* | NHA | 38.2% | | | | | | | |
| Government health expenditure as a share of GDP | *Level of total expenditure on health (THE) expressed as a percentage of gross domestic product (GDP)* | NHA | 6.4% | | | | | 2.6% | | |
| Government health expenditure as a share of general government expenditure | *Level of general government expenditure on health (GGHE) expressed as a percentage of total government expenditure* | NHA | 10% | | 10.3% | | | 6% | | 10.4% |
| Total health expenditure per capita | *Per capita total expenditure on health (THE) expressed in PPP international dollar* | NHA | 40 US$ | | | | | | | |

*NHA: National Health Accounts

Most of the financial protection indicators proposed were not obtained for Senegal, especially those related to catastrophic expenditures.

**Table C-4. Other Indicators**

| Core Tracer Indicators | Data Sources | Value of the Indicator by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Health workers per 10,000 population (doctors, nurses midwives; urban-rural) | 2010 National Health Map | | | | | | 5129 health workers in 2010* | | |
| Health facilities per 10,000 population | National Health Map/Annual Health Statistics Report | | | | | | 1363 health facilities in 2010**: 1 hospital for 495598 inhabitants; 1 health center for 152492 inhabitants; 1 health post for 9953 inhabitants | | |
| Hospital beds per 10,000 population | 2010 National Health Map | | | | | | 13 | | |
| Percent of births registered*** | DHS | | | | | | | 75% | 73% |
| Proportion of the population that has access to safe water | DHS | | | | | | | | 76% |
| Proportion of the population that has access to improved sanitation | DHS | | | | | | | | 39% |
| Life expectancy at birth(in years) | DHS | 57 | | | | | | 62 | |

| Core Tracer Indicators | Data Sources | Value of the Indicator by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Child mortality rates (under 5) (perinatal, neonatal, infant) | DHS | Perinatal, neonatal, infant: 61‰ Under 5: 121‰ | | | | | | Perinatal, neonatal, infant: 47 ‰ Under 5: 72 ‰ | Perinatal, neonatal, infant: 23 ‰; Under five: 65 ‰ |
| Maternal mortality ratio | DHS | 434 | | | | | | 392 per 100,000 | |
| HIV prevalence among young people (15-24) | DHS | 0.3 % | | | | | | | |
| Adolescent fertility rate | DHS | 18.9% | | | | | | | |

*In Senegal the indicator is not calculated per population and only the public health workers are taken into account.

** For the health facilities per population, only the public ones are accounted for.

*** The birth registration indicator in Senegal is calculated among children less than five years.

# ANNEX D: CBHI BASIC AND COMPLEMENTARY SERVICE PACKAGE IN SENEGAL

| Services, Products, and Procedures | Percentage (%) of Medical Care Costs Covered by the CBI |
|---|---|
| **Basic package in public health facilities (health posts and health centers)** | |
| Outpatient care (consultations, nursing care, and minor surgery) | 80 |
| Generic drugs | 80 |
| Specialty drugs | 50 |
| Maternity /childhood (antenatal and postnatal cares, family planning, delivery in health facilities) | 80 |
| Hospitalization | 80 |
| Transport (medical transportation for transfer from one health facility to another) | 80 |
| Outpatient care in private health facilities | 50 |
| **Complementary package (hospitals)** | |
| Outpatient care (consultations, nursing care, and minor surgery) | 80 |
| Outpatient care (biomedical analysis and exams, radiography) | 80 |
| Generic drugs | 80 |
| Specialty drugs | 50 |
| Maternity /childhood (antenatal and postnatal care, family planning, delivery in health facilities) | 80 |
| Caesarean, surgical care, hospitalization | 100 |
| Transport (medical transportation for transfer from one hospital to another) | 100 |

Basic premium for the package is 7,000 CFA/ person/year. Government has committed to pay 50 percent of the premium, which means that for each member of a CBHI, the government will pay to the CBI 3500CFA and the member will pay 3,500 CFA for yearly premium of 7,000 CFA. In addition the government will (i) pay to the CBI 100 percent of the yearly premium (7,000 CFA) of indigents identified according to a specific process and (ii) pay the percentage those indigents should have paid directly to the health facility as well.

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