



SOKOTO STATE GOVERNMENT

Sokoto State Ministry of Health

**State Health Resource Optimization Plan (ROP) to
Improve Healthcare Services in Sokoto**

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We look forward to the effective implementation of the ROP to improve efficiency, effectiveness, and transparency in the utilization of health resources and improve the health of the population in Sokoto State.

Sincerely,



Dr. Mohammad Ali Inname

Hon. Commissioner of Health

Sokoto State Ministry of Health

Acronyms and Abbreviations

BHCPF	Basic Healthcare Provision Fund
BMHSP	Basic Minimum Health Services Package
CHEWs	Community Health Officers
CHO	Community Health Extension Workers
CRF	Consolidated Revenue Fund
CP	Community Pharmacy
DIP	Detailed Implementation Plan
DMSLU	Drugs and Medical Supply Management Logistic Unit
DRF	Drug Revolving Fund
EPI	Expanded Program on Immunization
GGE	General Government Expenditure
GGHE	General Government Health Expenditure
NHIS	The National Health Insurance Scheme
HFTWG	Health Financing Technical Working Group
HRH	Human Resources for Health
HSMB	Hospital Services Management Board
IHP	Integrated Health Program
JCHEW	Junior Community Health Extension Worker
LGAs	Local Government Areas
LMIC	Low and Middle-Income Countries
MDAs	Ministries, Departments, Agencies
NGN	Nigerian Naira
NHA	National Health Accounts
NHIS	National Health Insurance Scheme
NPHCDA	National Primary Healthcare Development Agency
OOP	Out of Pocket
PETS	Public Expenditure Tracking Survey

PHC	Primary Health Care
PHCUOR	Primary Healthcare Under One Roof
PHCs	Primary Healthcare Centers
PSLA	Private Sector Landscape Analysis
PPMVs	Patent and Proprietary Medicine Vendors
PPP	Public Private Partnership
RI	Routine Immunization
RMNCH	Reproductive, Maternal, Neonatal, and Child Health
ROP	Resource Optimization Plan
SBA	Skilled Birth Attendance
SDGs	Sustainable Development Goals
SEMCHIC	State Emergency Maternal and Child Health Intervention Centre
SHDP	Strategic Health Development Plan
SMOH	State Ministry of Health
SOSMEA	Sokoto State Malaria Elimination Agency
SOCHEMA	Sokoto State Contributory Healthcare Management Agency
USAID	United States Agency for International Development

1. Executive Summary

Sokoto State, the seat of the caliphate, is located in the northwest of Nigeria with an estimated population of 5,429,168. It has a land mass of about 32,000 square kilometres; 23 local government areas (LGAs); 120 health districts; and 244 political wards. 80 percent of the population lives in rural settings. Nearly 89.9 percent of the population is vulnerable to poverty, lives in severe poverty, or is destitute. In comparison to national and zonal averages, Sokoto's health indices are sub-optimal. To address the high maternal and child mortality rates, Sokoto State has implemented the strategic health development plan (SHDP) 2018-2022 and numerous other policies and strategies, while also created several institutions to steward the health sector for achieving better health outcomes. Sokoto State has steadily increased its health budget allocation and expenditure over the past few years. The state health budget for 2022 is NGN29.6 billion – almost double the amount of the health budget in 2018, which was NGN15.81 billion. This makes up 15.7 percent of the general government budget in 2022. The Abuja Declaration (April 2001) called for allocating at least 15 percent of government budgets to health. The increased budget allocation and spending in Sokoto State is an important development. However, health indicators are still poor in the state, in comparison to the national and regional health indicators. The high burden of malaria, diarrhea, pneumonia, and malnutrition among children under-5 years of age, as well as pregnancy-related conditions such as post-partum haemorrhage, eclampsia, prolonged obstructed labour, and sepsis account for the highest number of deaths, most of which are preventable.

In addition to the importance of increasing the health budget (more money for health), it is equally important to optimize the available resources and spend the health budget in an efficient, effective, and transparent way to produce more health outcomes (more health for the money). In fact, WHO estimates that 20–40 percent of all health spending is wasted through inefficiencies. Sokoto State MOH (SMOH), while continuing to advocate for more funding for the health sector, is determined to critically review the current health budget, the human resources and services delivery programs, to identify the avenues and implement interventions for optimization of resources to improve health indicators in the state. In accordance with Sokoto State SHDP (2018–2022) and Health Financing Policy and Strategy 2018, SMOH, in collaboration with USAID Integrated Health Program (IHP), and Health Financing Technical Working Group (HFTWG) develops this resource optimization plan (ROP) as a means to identify and strategically address issues of inefficiencies in the health sector. The goal of the ROP is to optimize the available resources in the health sector to produce more equitable health outcomes; improve health indicators; and make steady progress towards achieving Universal Health Coverage (UHC).

The ROP identifies interventions under two strategic priority areas: 1) allocative efficiency, and 2) technical efficiency. While precise data on how much is allocated and spent in primary healthcare (PHC) in Sokoto

State is not available, analysis of the general health budget and expenditure for years 2021 and 2022 indicates that the health budget may not be allocatively efficient. While primary healthcare centres (PHCs) are the best avenues to respond to the high burden of maternal and child mortality in the state, a relatively low percentage of the total health budget is allocated to and spent by the agencies responsible for PHC – National Primary Healthcare Development Agency (NPHCDA), Sokoto State Contributory Healthcare Management Agency (SOCHEMA), and Sokoto State Malaria Elimination Agency (SOSMEA). To achieve allocative efficiency, it is important to at least double the amount of the budget allocation to these agencies in Sokoto—from the current 2022 budget of NGN1.29 billion (combined for the three agencies) to NGN4 billion in 2023. To ensure that data on PHC budgeting and expenditure is regularly collected and used for evidence-based decision-making, it is important to design and implement a PHC budget and expenditure tracking tool.

Several interventions for achieving technical efficiency of health spending are also identified in the ROP, which include conducting periodic Public Expenditure Tracking Surveys (PETS) to improve transparency, accountability, efficient and equitable use of public resources; strengthen strategic purchasing of health services through SOCHEMA; conduct hospitals efficiency assessment and improve hospitals efficiency; improve optimization of human resources for health through Task-Shifting/Task-Sharing; and undertaking Public-Private-Partnerships (PPPs) with Expanded Program on Immunization (EPI) PPP as a starting point.

Lastly, a Detailed Implementation Plan (DIP) of the ROP outlines key interventions, the expected outputs/results, the entities responsible and the timeline for implementation of each of the interventions.

1. Introduction

Sokoto State, the seat of the caliphate, is located in the northwest of Nigeria with an estimated population of 5,429,168. It has a land mass of about 32,000 square kilometres; 23 local government areas (LGAs); 120 health districts; and 244 political wards. 80 percent of the population lives in rural settings. Nearly 89.9 percent [1] of the population is vulnerable to poverty, lives in severe poverty, or is destitute. The increase in violence and internal displacement, coupled with the global effects of the COVID-19 pandemic, has further deteriorated the living conditions for the populations in the state.

Healthcare services are provided through primary, secondary, and tertiary healthcare facilities, as well as through the private sector. Table I shows the number of health facilities in Sokoto State.

Table I: Number of Health Facilities in Sokoto State

No	Health facility by type	Number
1	Teaching Hospital (Federal Government)	1
2	Specialist Hospital (State)	4
3	Secondary Health Facilities (general hospitals)	23
4	Primary Health Care Centres and Health Clinics	296

5	Health post	488
6	Private facilities	72
7	Pharmacy premises	58
8	Patent and Proprietary Medicine Vendors (PPMVs)	500
9	Diagnostic Centres	6
Total		1448

Source: Sokoto State Annual Operational Plan (AOP) 2021

Health Indicators: In comparison to national and zonal averages, Sokoto's health indices are sub-optimal.

Table 2 shows Sokoto's health indicators.

Table 2: Health indicators in Sokoto State

Selected Health Indicators	Sokoto State	National	Other West State)	North- (Kebbi
U-5 mortality, per thousand live births	202/1,000	102/1,000	179/1000	
Neonatal mortality rate per thousand live births	34/1,000	34/1,000	43/1000	
Skilled attendance at birth, percentage	14.5%	50.7%	23.3%	
Ist Antenatal Care from skilled provider	30.5%	69.6%	41%	
Institutional Delivery	14.2	49%	21.1%	
Contraception Use of Modern Method among Married/in Union Women	8.5%	18.2%	11%	
RI coverage (PENTA-3 coverage)	12%	57%	55%	

Source: 2021 Nigeria Multiple Indicators Cluster Survey (MICS) and National Immunization Coverage Survey (NICS)

A recent survey found that the under-5 mortality rate in Sokoto, Kebbi, Jigawa, and Katsina states is more than four-fold the under-5 mortality rate for children living in FCT-Abuja, Benue, Kwara, and Eboyi states, which have the lowest under-5 mortality rates [2]. Likewise, the average number of fully vaccinated children in Sokoto state is below 7 percent [3]. The high burden of malaria, diarrhea, pneumonia, and malnutrition among children under-5 years of age, as well as pregnancy-related conditions such as post-partum

haemorrhage, eclampsia, prolonged obstructed labour and sepsis account for the highest number of the deaths in the state, most of which are preventable.

Monitoring of 30 PHCs in Sokoto State by the USAID IHP in April-June 2022 documented Reproductive, Maternal, Newborn, Child Health + Nutrition and Malaria (RMNCH+NM) commodity stock out in all the visited PHCs. Sulfadoxine-pyrimethamine (SP) experienced stock out the most across the health facilities and all the sampled facilities experienced stockout of ORS/Zinc, Amoxicillin, & Chlorhexidine gel during the quarter, while two health facilities experienced Misoprostol stockout with an average stockout of 12 days. In an assessment of PHCs and secondary healthcare facilities in Sokoto State by USAID Global Health Supply Chain Program – Procurement and Supply Management, to determine the readiness of the facilities for implementation of the Drug Revolving Fund (DRF), it was found that only 26 PHCs out of 84 PHCs assessed (or 31 percent) met the minimum human resources requirements – PHC staffing criteria included Community Health Extension Workers (CHEWs)/Community Health Officers (CHO), pharmaceutical technician, and account staff.

To address the high maternal and child mortality rates, Sokoto State has implemented the strategic health development plan (SHDP) 2018-2022 and a number of other policies and strategies, while also created several institutional structures to better steward the sector towards achieving better health outcomes for its population. The mission of the SHDP is to ensure that the Nigerian population has universal access to comprehensive, appropriate, affordable, efficient, equitable, and quality essential health care through a strengthened health care system. Several other policies and strategies have been adopted by the state, such as the primary health care under one roof (PHCUOR) to integrate the PHC structures and programs at sub-national levels; State Reproductive Health Policy, Human Resources for Health Policy, Health Ethics Research Policy, and Health Financing Policy and Strategy.

The State has also created numerous institutions such as SPHCDA, SOCHEMA, SOSMEA, Hospital Services Management Board (HSMB), Drugs and Medical Supply Management Logistic Unit (DMSLU), and the State Emergency Maternal and Child Health Intervention Centre (SEMCHIC), the health financing unit, and the multi-sectoral health financing working group to assist with the implementation of the strategic interventions as proposed in the SHDP and other policy/strategy documents. The passing of the new National Health Insurance Scheme (NHIS) act by the President of Nigeria in May 2022, is yet another major milestone and, if implemented, will play an important role in increasing the opportunity for coverage of the vulnerable population.

Financing of Health Programs: Sokoto State largely depends on allocations from the Federal Government of Nigeria because internally generated revenue is low [4]. The most recent available Sokoto State Health Accounts (SHA) report, SHA 2018, estimates annual health spending of approximately NGN100 billion. Most of the spending was born by households out of pocket (OOP) at 73.5 percent, as

shown in table 3, while government expenditure constituted 18.6 percent [5]. Insurance coverage was less than one percent, while NGOs accounted for 7.5 percent of the total health expenditure. It is estimated that around one-third (31.6 percent) of the Nigerian population may incur catastrophic healthcare expenditure [6].

In addition to the government budget, donors also contribute to health system strengthening and health service quality improvement, particularly around reproductive, maternal, neonatal, and child health (RMNCH), malaria, nutrition, HIV, and AIDs. Major partners in the health sector include USAID, the EU, WHO, UNICEF, and UNFPA.

Table 3: Institutional Financing Agents

Institutional Financing Agents	Total (Billion)	Percentage
Households (OOP)	73.4	73.50%
Corporations	0.1	0.10%
Insurance	0.3	0.30%
Non-profit Institutions	7.5	7.50%
Government	18.6	18.60%
Total	99.9	100.00%

BHCPF is financed by the Federal Government of Nigeria, in an amount not less than one percent of the national Consolidate Revenue Fund (CRF). The three main stakeholders or "gateways" through which the BHCPF fund is distributed to states are: 1) The National Health Insurance Scheme (NHIS), which receives 50 percent of the fund to implement an agreed-upon basic minimum health services package (BMHSP) through the State Social Health Insurance Agencies; 2) the National Primary Healthcare Development Agency (NPHCDA), which receives 45 percent of the fund to support operational costs (Decentralized Facility Financing – DFF) of PHCs through State PHCDAs and deliver essential drugs; and 3) the National Emergency Medical Treatment, which is expected to support emergency ambulance services. The establishment of SOCHEMA in 2018 was another important step in the reform of health financing, aiming at improving efficiency, reducing households' OOP expenditure, and improving the quality of healthcare.

Budget allocation and expenditure trend: Sokoto State has steadily increased its health budget allocation and expenditure over the past few years. State health budget for 2022 is NGN29,6 billion – almost double the amount of the budget in 2018, which was NGN15.81 billion. This makes up 15.7 percent of the general government budget in 2022, which is NGN188,429,495,847 and in line with Abuja Declaration (April 2001) which called for allocating at least 15 percent of government budgets to health. In terms of the percentage of government health budget vs total government budget in 2022, Sokoto State is

ahead of many other states and the national level, which was only 4.6 percent in 2017 [7]. Figures 1 and 2 show the budget allocation and expenditure trends for 2018-2021 in Sokoto State.

Figure 1: Sokoto State Health Budget Allocation vs Expenditure (2017-Quarter 2/2022)

As can be seen in figure 1, from 2017 to 2021, the health budget allocation has doubled, while the expenditure has substantially increased over the same period. It is important to note that the 2022 expenditure and allocation data cover the first two quarters only.

Figure 2: Sokoto State Health Budget Expenditure Trend (2017-2022)

Figure 2 shows that in 2021, the percentage of general government health expenditure (GGHE) as a percentage of general government expenditure (GGE) stood at 21 percent.

Increased budget allocation and expenditure in the health sector over the past few years is an important development, demonstrating Sokoto State's commitment to tackling healthcare issues. However, available information on health indicators demonstrates that there is a long way ahead to take the state to the next level of national and global health indicators.

In addition to the importance of increasing the health budget (more money for health), it is equally important to optimize the available resources and spend the health budget in an efficient, effective, and transparent way to produce more health outcomes (more health for the money). In fact, WHO estimates that 20–40 percent of all health spending is wasted through inefficiencies [8]. Health resources include financial and human resources, among others, and are prone to being sources of inefficiencies.

1. Resources Optimization Plan (ROP)

What is Resource Optimization? Resource optimization refers to efficient deployment of health system inputs and adopting sustainable approaches to mobilize and use health system's various resources **efficiently, effectively, and transparently** to meet population health needs [9]. **Effectiveness** is the use

of resources for their intended purposes; while **efficiency** is the least costly, and most productive, amount of resources that achieve the highest benefit/cost ratio in a health program operation – it is concerned with both the product derived from a given set of resources and the benefit obtained from the resources. Efficiency is also defined as “extracting the greatest health gains from a set of inputs” [10]. The implication of inefficient use of the available resources is that the next sick child or a mother waiting in line to receive the needed care and treatment will not be receiving the care, and thus their lives are put at risk, and even death [11].

Sokoto State SHDP (2018-2022) strategic pillar five, and Health Financing Policy and Strategy (2018) call for improved efficiency of health spending through identification and addressing of all sources of inefficiency including in human resource for health, procurement and supply chain management and inefficient health system organization [6].

Sokoto MOH, while continuing to advocate for more funding for the health sector, is determined to critically review the current health budget, the human resources and service delivery programs, identify avenues, and implement strategic interventions for optimization of the resources to produce more health outcomes. In accordance with the SHDP (2018–2022), and Sokoto Health Financing Policy/Strategy, the SMOH in collaboration with USAID IHP, the HFTWG, and other key partners, developed this resource optimization plan (ROP) as a means to identify and strategically address issues of inefficiency in the health sector.

Process for Development of the ROP: The ROP was developed through a participatory approach. Development of the ROP was informed by a review of the available resources in Nigeria, regional and globally around improving efficiency in the health sector spending. A summary of the key findings, including potential areas for resource optimization was presented at a one-day meeting of the Sokoto HFTWG on July 20, 2022. The HFTWG provided their feedback on the applicability and prioritization of the priority areas for resource optimization. The priority areas were further explored, and a draft ROP was subsequently developed and presented to the TWG for validation. The final draft was then prepared and presented to the SMOH for endorsement.

1.1. Goal

The goal of Sokoto health sector ROP is to optimize the available resources in the health sector to produce more equitable health outcomes for the population; improve health indicators; and make steady progress towards achieving Universal Health Coverage (UHC).

1.2. Objective

To identify potential avenues and propose practical interventions for health resource optimization to improve the efficiency and effectiveness of government health spending in the health sector of Sokoto State.

1.3. SWOT Analysis

For developing an evidence-based ROP, it is important to understand the internal and external factors affecting the implementation of the plan. A brief SWOT analysis of Sokoto State, as it relates to improving health financing of the health sector in general but particularly optimization of the available resources, is provided below:

Strengths	Weaknesses
• Strong political will and commitment to improving health financing in the State. • Around 15.7% of the total Government budget is already allocated to health. • Enabling policy documents: SSHDP, Resources Mobilization Plan. • Strong coordinating mechanisms: the HF TWG, a Health Financing Unit • Enabling policy environment: SHIS, PHCUOR, BHC PF.	• Inadequate/insufficient provision of funds to procure needed drugs and supplies. • Poor accountability mechanism for service delivery • Inequitable distribution of service providers
Opportunities	Threats
• Increased prioritisation of the health sector in light of the Covid pandemic and Global Health Security concerns. • Availability of partners to implement projects and programs	• Fiscal difficulties and uncertainties; economic downturn, inflation. • Insecurity due to banditry, cattle rustling and rampant kidnapping in some part of the state.

1.1. Theory of Change

If we improve the way we use our available financial, human and other resources through allocative and technical efficiency interventions as well as transparent and accountable resource use, we will be able to: direct resources to high-impact interventions; reduce resource waste and save funds to spend on priority areas, thereby improving equity and access to essential healthcare services; reduce maternal and child mortality and morbidity; and improve the health of the population in Sokoto State.

2. Strategic Areas and Interventions for Health Resource Optimization

Sources of inefficiency may be different in different countries and contexts. As shown in the table 4, the WHO World Health Report, 2010 identifies some of the areas as common sources of inefficiency.

Table 4: Sources of Inefficiencies

No	Area	Source of inefficiency
1	Medicines	Underuse of generics, higher than necessary prices for medicines
2	Medicines	use of substandard and counterfeit medicines
3	Medicines	Inappropriate and ineffective use
4	Healthcare products and services	over-use/over-supply of equipment, investigations and procedures
5	Health workers	Inappropriate or costly staff mix, and unmotivated workers
6	Health care services	Inappropriate hospital admissions and length of stay
7	Health care services	Inappropriate hospital size (low use of infrastructure)
8	Health care services	Medical errors and suboptimal quality of care
9	Health system leakages	Waste, corruption, and fraud
10	Health interventions	Inefficient mix/inappropriate level of strategies

This ROP identifies priority interventions for improving resource optimization across two strategic areas, 1) Allocative Efficiency, and 2) Technical Efficiency.

2.1. Strategic Area 1: Improve Allocative Efficiency

Allocative efficiency is "doing the right things" — achieving an optimal distribution of resources to achieve the best health outcomes, i.e., resources are focused where they will be most useful.

To prioritize areas for resource optimization in Sokoto state, a situational analysis to review global evidence was conducted, and findings were presented at a Health Financing Technical Working Group (HFTWG) on July 20, 2022. Strategic areas for optimization were discussed by the Health Financing Technical Working Group, who provided feedback on the potential avenues for optimization in Sokoto health sector.

Allocative Efficiency and the Focus on High Burden of Disease: Allocation of health resources to address the high burden of diseases and causes of death in Sokoto State will produce more health outcomes by saving more lives. According to a review of health data in Sokoto State (Figure 5), among children under 5 years of age, communicable diseases such as malaria, diarrhea, pneumonia, as well as malnutrition are common causes of death, while among women (Figure 3 and 4), pregnancy-related maternal conditions such as post-partum hemorrhage, eclampsia, sepsis, and prolonged-obstructed labor are among the leading causes of death.

Figure 3: Causes of maternal deaths in Sokoto State, based on DHIS 2 data, April-June 2022 [12]

Figure 4: Attributable causes of maternal death, based on maternal, perinatal, children death surveillance and response (MPCDSR) data, April-June 2022 [12]

Figure 5: Causes of death among under-5 children in Sokoto State based on DHIS2 data, April-June 2022 [12]

This high burden of disease is not unique to Sokoto state. A community-informed death review carried out in six states representing each geopolitical zone in Nigeria – Bauchi, Bayelsa, Ebonyi, Kebbi, Lagos, and

Niger States, and the FCT, outlined the leading causes of death as post-partum hemorrhage, prolonged obstructed labor, and convulsions [13].

Evidence suggests that delivering quality primary healthcare, at primary healthcare centers (PHCs) and in the community, can have a major impact in the reduction of maternal and child mortality. In fact, 75 percent of the expected health benefits from the Sustainable Development Goals (SDGs) could be achieved by primary healthcare (PHC), and of the 281 key UHC interventions, 198 (91 percent) can be provided through PHC [14]. Not least, several interventions that are commonly provided at PHCs have been shown to be cost-effective. To offer equal access to critical services, low- and middle-income countries (LMICs) spend much too little on PHC [14] and Sokoto State may not be the exception.

Nigeria has taken significant steps toward strengthening the primary healthcare system, including the development and implementation of the PHCUOR policy; the BHCPF - a one percent earmark of the CRF earmarked primarily for PHC; the establishment of national and state level primary healthcare development agencies; and the launch of social health insurance schemes. Despite some early gains, the coverage of the primary healthcare programs has been limited. As of June 2022, through the BHCPF, only 40,100 people – aged, children under-5, pregnant women, and physically challenged – and through the UN SDG Joint Social Protection for Health Program, 5,344 people have been enrolled [15]. This enrolment constitutes less than one percent of Sokoto's population. Although an equity fund has been established within SOCHEMA to cover vulnerable people and to be funded mainly by two percent of Sokoto State CRF, one percent of the Local Government Councils CRF, and other sources, the release of the fund to SOCHEMA is yet to materialize. In addition, funding flow to PHCs has seen delays; for example, in the current year, SSPHCDA released Q1 & Q2 BHCPF funding to 160 PHCs on August 10th after the review of their business plans.

How much to spend on PHC as a percent of total health expenditures? There is no consensus about the method of measuring primary care spending, nor about the “right” level of primary care spending as a proportion of total healthcare spending [16]. On the other hand, expenditure data on PHC in LMICs is either not available or reliable because of a lack of investment in resource tracking systems. The lack of a clear definition for PHC expenditure adds another complexity to the issue.

Although WHO published PHCs expenditure – in a global health expenditure database – for 88 countries in 2020, it is argued that National Health Account (NHA) was not originally designed to track PHCs expenditure, mainly because of the large groupings of expenditure categories and issues with data completeness and details provided by countries. For example, in many countries, district hospitals are part of PHC. Some of the Outpatient Department (OPD) services in hospital settings, and even some in-patient services, such as the ones provided for basic emergency obstetric care, could be considered as part of PHC. It is also challenging to allocate expenditure on pharmaceuticals across primary, secondary, or tertiary care. Therefore, unless a robust measurement and tracking system is in place to track PHC

expenditure, proper PHC expenditure measurement may continue to be a challenge. If district hospitals, such as the general hospitals located in LGAs in Sokoto state are counted as part of the PHC system, such an approach may give an impression of relatively high levels and shares of PHC spending.

Global estimates, however, show that annual government spending on PHC is \$3 per capita in low-income countries and \$16 per capita in lower-middle-income countries. This level of funding does not meet the minimum requirement of funding to provide a basic package of health services [14].

Analysis of expenditures of 135 LMICs suggest that between years 2000 and 2017, low-income countries were estimated to have spent the largest share of total health expenditures on PHC, 45.8 percent, while lower middle and upper-middle-income countries spent 39.6 percent [17].

How much funding is allocated and spent at PHCs in Sokoto? The Sokoto State government budget and budget performance report, published in State Fiscal Transparency, Accountability, and Sustainability (SFTAS) [18] provides the original budget and budget performance based on “**administrative classification**” (budgetary units), including personnel, overhead, and capital expenditure. Sokoto State total health budget for 2022 is illustrated in Figure 6.

Figure 6: Sokoto State 2022 total health budget by administrative classification, as categorized by personnel, overhead and capital.

As can be seen from Figure 6, personnel and overhead if combined (recurrent costs) constitute around 41 percent of the total health budget, while capital budget makes around 59 percent, which constitutes the biggest portion of the total health budget in 2022.

Table 5 below shows the total 2022 health budget by administrative units, with MOH receiving the biggest share of the budget allocation.

Table 5: Sokoto 2022 total health budget by administrative units

Administrative Units	Budget by Administrative Classification	Personnel	Overhead	Capital
Ministry of Health	18,016,423,241.14	2,000,000,000.00	1,100,000,000.00	14,916,423,241.14
Sokoto State contributory health care management agency	425,350,245.00	9,750,245.00	15,600,000.00	400,000,000.00
PHCDA	795,094,736.00	630,094,736.00	55,000,000.00	110,000,000.00
Specialist Hospital	2,246,932,250.86	2,228,932,250.86	18,000,000.00	0.00
Maryam Abacha W&Children Hospital	682,226,576.16	630,126,576.16	52,100,000.00	0.00
Noma Hospital	165,438,250.00	150,338,250.00	15,100,000.00	0.00
Orthopedic Hospital Wamakko	426,433,728.97	325,683,728.97	20,750,000.00	80,000,000.00
Hospitals Services Magt. Board	3,261,670,800.00	3,222,670,800.00	39,000,000.00	0.00
College of Nursing Sciences	816,338,250.00	410,338,250.00	16,000,000.00	390,000,000.00
School of Midwifery Tambuwal	774,315,519.51	147,550,000.00	14,000,000.00	612,765,519.51
Sultan AbdulRahman Sch. of H/Tech.	1,292,592,524.81	378,831,356.00	12,000,000.00	901,761,168.81
Agency for Malaria Control	715,090,486.00	13,090,486.00	702,000,000.00	0.00
Total	29,617,906,608.45	10,147,406,678.99	2,059,550,000.00	17,410,949,929.46

Further, as illustrated in Figure 7 below, SPHCDA, SOCHMEA and SOSMEA receive a very low share of the budget in 2022.

Figure 7: Sokoto State selected agencies' health budget in 2022

Given complexity of PHC expenditure measurement, one methodology for estimating the PHC budget and expenditure might be to categorize the budget allocation and expenditure by administrative classification. In other words, isolating the budget allocation and expenditure by the agencies that primarily manage PHCs and primary care service provision. The two main agencies that manage PHC services are SPHCDA and SOCHEMA. SPHCDA has been established based on the PHCUOR policy formulated in 2011 to address the problem of fragmentation in PHC and ensure the integration of PHC services under one authority, while SOCHEMA was established in 2018 to separate purchaser from provider, ensure strategic purchasing of a minimum package of health services and improve efficiency in spending of health funding. Both organizations receive funding from the BHCDF through the NHIS and NPHCDA gateways. The two agencies then channel funding to healthcare facilities (mainly PHCs and general hospitals). In addition, from the funding perspective, given that most malaria services are provided in PHCs and severe cases at general hospitals, we categorize SOSMEA as part of the PHC system. For the purpose of a rough estimation of PHC budget and expenditure in Sokoto State, we create other new budget categories to include MOH, hospitals, and mid-level educational institutes. Based on the aforementioned categorization, the health budget for 2022 and health budget performance and expenditure for 2021 are illustrated in the below graphs. Figure 8: Sokoto budget allocation (in Nigerian Naira) by administrative classification, 2022 Figure 9: Sokoto budget expenditure (in Nigerian Naira) by administrative classification, 2021

The analysis shows that budget allocation and expenditure on PHC, in absolute values, is significantly low. A very low fraction of the budget, NGN1.94 billion out of the total N29.62 billion (or 6.5 percent), as illustrated in Figure 8, is allocated to the agencies involved with primary healthcare management.

Similarly, 2021 budget performance/expenditure – Figure 9 – shows that NGN0.94 billion out of the total NGN27.03 billion is expended by the agencies responsible for primary healthcare. In percentage terms, as shown in Figure 10, the primary healthcare category constitutes only 3 percent of the total health budget spending in 2021.

Figure 10: Categories of budget expenditure as a percentage of total government health budget expenditure, 2021

Further analysis of the budget suggests that the MOH is allocated the big share of the health budget, a greater percentage of it categorized under capital line item. Figure 11 illustrates capital expenditure as a percentage of total government health budget expenditure in 2021, managed by the MOH and other health agencies. 60 percent of the total government health budget is spent on capital line item, 57 percent of which was spent by MOH. Only 3 percent of the capital budget was spent by other health agencies, such as SPHCDA, College of Nursing Sciences and Sultan AbdulRahman School of Health Technology.

Figure 11: Capital expenditure, as a percentage of total Government Health Budget Expenditure, 2021

In absolute terms, capital line item accounted for NGN17.4 billion out of the total health budget of NGN29.6 billion in 2022, as illustrated in Figure 12.

Figure 12:
Sokoto State
2022 Total
Health Budget
by
Administrative
Classification.

In addition, the government budget and budget performance are provided by "function" – categorized into hospital services and public health services. Categorization by function is further broken down by personnel, overhead, and capital. Pharmaceutical products are categorized under "overhead expenditure by function". Public health services, according to the categorization by function in the 2022 budget, constitute more than 80 percent of the total government budget. The rest of the budget is categorized under hospital services (general hospital services and specialized hospital services) and medical products, appliances, and equipment. Pharmaceutical products make up less than one percent of the total government health budget

in 2022. Under the categorization by function, the public health services' line item is large and lacks specifics to enable isolation of PHC budget or expenditure.

In summary, despite the fact that measuring and tracking government health budget and expenditure on PHC is a complex process and not yet systematically tracked in Sokoto State, current indices – the poor maternal, child, nutrition, and immunization indicators; low PHCs staffing; stock-out of essential medicines; the low number of clients covered by social health insurance and BHCFP, and the budget analysis presented above – indicate that the PHC is underfunded, and thus not allocatively efficient. Allocative efficiency could be gained, for example, by shifting the budget allocation and expenditure from the SMOH capital or other line items such as tertiary care services to PHC.

Proposed Interventions for Achieving Allocative Efficiency in Sokoto State

Intervention I: Increase budget allocation and expenditure on PHC in Sokoto State

Improving investments in primary health care has become a high priority in the context of UHC. A research paper found that across LMICs, PHC expenditures were significantly associated with improvements in maternal and child health outcomes and outputs [17]. For instance, Portugal, a country located in the westernmost point in continental Europe, reduced maternal mortality between 1975 to 2008 by 96 percent, and 35 percent of the reduction is attributable to development of primary care networks (primary care physicians and nurses per inhabitant) [19]. A well-functioning primary healthcare (PHC) system will be able to lower the cost of care, improve health outcomes and lead to more equitable healthcare access [17].

The PHC system can provide essential and cost-effective health interventions to address the high burden of diseases, including health promotion; maternal, newborn, and child health care; immunizations; and treatment for common illnesses for all age groups, as well as coordination of life-long management of chronic conditions. Given most of the population lives in rural areas in Sokoto, and PHC covers households and communities as its main geographic focus, improving access and quality of PHC will have a considerable impact on the population's health. Not least, PHCs can play a critical role in responding to epidemics such as COVID-19 and performing other public health functions.

Intervention I.1 Given the low spending in PHC, it is important to at least double the amount of the budget allocation to the agencies responsible for management of PHC—from the current 2022 budget of NGN1.29 billion (combined for NPHCDA, SOCHEMA, and SOSMEA) to NGN4 billion in 2023. To achieve this target, an evidence-based advocacy to be led by Sokoto HFTWG, is critical.

The increase in the PHC budget will require shifting of more resources to NPHCDA, SOCHEMA, and SOSMEA, from the SMOH capital budget or other line items such as tertiary care services. *The Primary Healthcare Summit March 2022*, organized by the Federal Government of Nigeria and NPHCDA, called for increased funding to PHC and emphasized on efficiency in spending the current resources, stating to “*Deliver Ward Minimum Healthcare Package and improve maternal & new-born and childcare and control of communicable diseases.*” [20]. The increased funding from the efficient allocation of health budget will be allocated and spent on services included in the basic minimum package of health services (BMPHS), addressing the high disease burden in Sokoto state. For instance, for children under-5, it is important to focus attention to the management of malaria, diarrhea, and pneumonia; scale-up of immunizations; and treatment of malnutrition. While for maternal health, efforts should focus on management of post-partum hemorrhage, eclampsia, prolonged obstructive labor, sepsis, and strengthening basic and emergency obstetric and newborn care. Other priority areas for immediate attention include adequate and timely supply of essential medicines and commodities such as ensuring zero stock out of Oxytocin or Misoprostol, Ceftriaxone, Amoxicillin, and Sulphadoxine-Pyrimethamine (SP). This would require strengthening the capacity and allocating increased funding to the Drug and Medical Supply Management Agency (DMSMA). Other areas that need close attention include revitalization of PHCs including upgrading and maintenance of facilities and equipment, ensuring emergency transport for transfer and referral of critical patients, and deployment of additional trained medical providers (doctors, nurses, and midwives) to PHCs as per the staff minimum requirements. Building and sustaining a supporting structure for governance of the PHC, especially at the LGA and facility levels, such as availability of funding to logistically support a team of State and LGA to continuously mentor and coach the providers at PHCs and provide the necessary support, is crucial to delivery of quality health services at PHCs. Ensuring timely printing and availability of HMIS tools for capturing and reporting data from the point of services up to the LGA and state level is very important so that any decisions to improve care are evidence-based. In addition, increased funding for strengthening of community-based programs, such as Community Health Influencers, Promoters and Services (CHIPS), a community component of PHC established by NPHCDA, is critical to help bridge the gaps in access to health care and improve the continuum of care.

To achieve the goal of increasing funding to PHC, it is important to design and implement an evidence-based advocacy plan to sensitize the relevant Ministries, Departments, Agencies (MDAs) and get support for increasing funding flow to PHC. This will involve development of a policy brief on the importance of resource optimization and convening sensitization events around resource optimization through targeted meetings with the relevant MDAs and stakeholders. The advocacy plan design and implementation will be driven by HFTWG as the main advocacy platform in collaboration with the Annual Operational Plan (AOP) unit of the SSPHCDA/SMOH and other stakeholders.

An example of an evidence-based advocacy is to ensure timely and quality development of the state health sector costed AOP. First, the AOP should be developed well in advance to ensure it is aligned with the budget cycle. While developing the AOP, decision-making on what interventions to include in the AOP should be based on the current epidemiologic evidence. Several of the SMOH team members have been trained on the Lives Saved Tool (LiST) who can guide the efforts in identifying high impact primary healthcare services with the potential for saving more lives. Local, regional, and global evidence, including using health financing data should guide the AOP development. This will require a clear definition of PHC services and a focused approach to ensure that at least 40–50 percent of all the activities are PHC high impact interventions, directed towards the diseases of high burden in the State. Subsequently, it is important to defend the budget with the Ministry of Budget and Planning using all the evidence in hand to ensure that the proposed PHC services are funded. In addition, as part of the advocacy and sensitization events, HFTWG will convene workshops of policymakers from the relevant MDAs and stakeholders and present the resource optimization policy options and interventions, with a particular focus on increasing funding to PHCs.

Intervention 2: SMOH will design and implement a PHC budget and expenditure tracking tool to ensure data on PHC budgeting and expenditure is regularly collected and used for evidence based PHC financing and advocacy purposes. This tool will be different from the broader health sector budget and expenditure tracking tool used for Sokoto health sector, or it could be a sub-module of the existing tracking tools.

1.1. Strategic Area 2: Improve Technical Efficiency

Technical efficiency is “doing things right” – getting the maximum health outputs for a given level of inputs or keeping the same outputs with reduced inputs. Once budget is allocated and directed to the right programs and interventions in the health sector, it is equally important to spend the funding in a technically efficient manner to produce more outputs and outcomes from the available envelop of resources. Some of the short-term priority interventions for achieving technical efficiency in Sokoto State are provided below.

Intervention 2.1: Improve Efficient and Equitable Use of Public Resources through the Periodic Conduct of Public Expenditure Tracking Surveys (PETS)

Effective and efficient utilization of public resources is necessary for providing high-quality care. Poor spending management and a lack of reliable mechanisms to track and monitor resources may be a cause for poor quality of care. In the absence of reliable spending data, managers of the health system frequently are unsure of whether public resources are being spent effectively or even if they are reaching the intended beneficiaries. Lack of knowledge on the flow of resources and their use can create a gap between public expenditure and its results.

Over time, many methods and tools have been developed to increase accountability by collecting information on the use of public resources. In the 1990s, the Public Expenditure Tracking Survey (PETS) was developed. In order to ascertain if the funding distributed for the nation's primary schools truly reached the schools, the first systematic PETS was carried out in Uganda in 1996. PETS is a tool for monitoring the flow of public resources. It is a review of how the government plans, allots, and distributes resources, as well as how facilities use them. The survey can help in identifying flaws as well as bottlenecks, delays, and leakages in public funds.

The main purposes of PETS are [21]:

- Assess inefficiencies and bottlenecks in public expenditure systems.
- Improve accountability and fill the information gap in public expenditure and resource use by tracing the flow of resources down to the end user; and
- Improve transparency and budget allotments.
- Gauge the quality of public services.

PETS has been applied in more than 50 countries, the majority of which are in Africa, since it was first introduced in Uganda in 1996. The tool was mostly employed in the health and education sectors at first, but its applications have since expanded to include water and sanitation, fighting poverty, agriculture, and other fields [22].

Sokoto State will conduct periodic PETS with the purpose to examine the flow of funds from the central level – Federal and Sokoto Ministry of Planning and Budgeting – to the SMOH, NPHCDA, SOCHEMA and then to a randomly selected 12 hospitals (general and specialty hospitals) and 50 PHCs across 23 LGAs in Sokoto State; tracking them from their point of origin to point of use. At each level, the survey will investigate the budget processes of preparation, approval, allotment, transfer, utilization, and delays, as well as leakages in the budget process. The findings from the survey will inform strategic interventions to improve timely release and efficient use of the allocated health funding in the health sector. SMOH will develop a detailed implementation plan for addressing the recommendations.

Intervention 2.2: Strengthen Strategic Purchasing of Healthcare Services

Health insurance can achieve efficiency through its pooling and purchasing functions. Strengthening strategic purchasing through health insurance is a potential avenue for resource optimization and increasing efficiency of health services delivery. Health insurance agencies can use its purchasing power to influence both cost and quality of services, especially as the scheme grows and its purchasing power increases. SOCHEMA was founded in 2018. By the end of August 2022, it has enrolled a total of 45,444 people through BHCPF (40,100) and the UN SDG Joint Social Protection for Health Program (5,344). Provider payment mechanisms used by SOCHEMA include capitation for purchasing services from PHCs and fee-for-service for secondary health services from the general or tertiary care hospitals. Health facilities must meet

minimum standards, be accredited, and have a business plan to get eligible for accessing the SOCHEMA funding. In addition to the BHCPF, SOCHEMA's Law No.2, 2018 mandates allocation of a two percent State CRF and a one percent of LGA CRF to SOCHEMA equity fund, which has not been operationalized until now. In addition, the formal and informal sector schemes have not yet been operationalized.

The health benefit package mandated by SOCHEMA is oriented towards addressing high burden of diseases, that can be offered mostly at PHCs but also at secondary health facilities (general hospitals) only by referral from the PHCs, and at the private health facilities (non-specialist hospitals and clinics). To achieve better resource optimization, it is critical to increase funding to SOCHEMA and expand enrollment of formal, informal, and vulnerable population. Operationalization of the equity fund is important to ensure expansion of the enrollment to vulnerable population. Allocation of CRF by both the State and LGA, premium deduction from the formal sector employees and pooling of the fund will considerably increase the purchasing power and capacity of SOCHEMA, resulting in improved efficiency in health spending.

It is also important to strengthen capacity of PHCs and general hospitals in proper development and implementation of facility business plans, and implementation of quality improvement plans to efficiently spend the funding received from SOCHEMA and SPHCDA.

Intervention 2.3: Improve Hospitals Efficiency

Alongside its advance technology and subspecialists, hospitals have played a crucial role in most health systems throughout the world for much of the 20th century. Today, a significant contributor to inefficiency and inequality is the disproportionate focus on hospitals and sub-specialization [8].

In Nigeria, hospitals get a sizable allocation of the government's health budget. It is estimated that the hospital system uses more than 60Percent of all material and human resources [23]. In Sokoto state, expenditures by 4 hospitals (Specialist, Maryam Abacha, Noma, and Orthopaedic) and the Hospital Services Management Board accounted for 25 percent of the total government health expenditure in 2021 (Figure 9).

Adding the expenditure of 23 general hospitals (one per each LGA) and the speciality and teaching hospitals will further increase the percentage of the budget expenditure on hospitals. Therefore, better spending in hospitals' sector will greatly improve efficiency. Inappropriate hospital admissions, low hospitals bed occupancy, longer average length of stay, inappropriate size of a hospital to the catchment area population, and inappropriate staffing structure – high doctor vs nurse ratio, clinical vs non-clinical/administrative staff ratio, and provider vs bed ratio – are the most common sources of in-efficiencies in hospitals. A recent evaluation of the technical and scale efficiency of 200 hospitals in Southeastern Nigeria demonstrated an average efficiency score of 59 percent and 72 percent (depending on two study methods used) [24]. This

suggests that 41 percent to 28 percent of resources could be saved while providing the same amount of services to the population in Nigeria hospitals.

An efficiency assessment of hospitals in Sokoto State has not been conducted to determine the level of efficiency of the hospitals and to guide reform and optimization of the available resources. SMOH will conduct an efficiency analysis of its hospitals. A classical framework for economic analysis of efficiency of hospitals will be used. This method uses a two-step process: in the first step, efficiency of hospitals will be evaluated with direct inputs and outputs; and in the second step econometric models will be applied to explain the efficiency. As part of the assessment, staff ratios in the hospitals should be determined and compared with recommended levels across similar contexts in LMICs. For example, number of beds per population; ratios of doctor vs nurses, doctors per bed, administrative staff vs clinical providers, and so on. Such an assessment will provide evidence-based strategy for reforming hospitals towards achieving optimization of resources.

Intervention 2.4: Improve Optimization of Human Resources for Health

Improper geographic distribution of human resources for health (HRH) and an inappropriate skill mix can cause inefficiencies in the utilization of human resources. Like many other LMICs, more health services are located in the Sokoto metropolis than in the remaining 20 local governments outside the metropolis [4]. Sokoto SHDP II outlines staff maldistribution and poor skill mix as some of the key challenges in the state. In an assessment of PHCs and secondary healthcare facilities by USAID Global Health Supply Chain Program – Procurement and Supply Management, to determine the readiness of the facilities for implementation of the DRF, it was found that only 26 PHCs out of 84 PHCs assessed (or 31 percent) met the minimum HR requirements – PHC staffing criteria included CHEW/CHO, pharmaceutical technician, and account staff. Table 6 provides medical staff profile in Sokoto State.

Table 6. The medical staff profile in Sokoto State.

S/No	Personnel	Number
1	Doctors	755
2	Nurses and Midwives	1,815
5	CHEW	1,658
6	JCHEW	478
7	Pharmacists	148
8	Pharmacy Technicians	102
9	Med. Lab Scientist	146
10	Med. Lab Technicians	701
11	Dentist	1
12	Dental Technologist/Therapist	146
13	Nutritionist/Dietician	10

Source: Draft Sokoto Task Shifting/Task Sharing Policy, and Sokoto Annual Operational Plan (2021).

There are no agreed international standards for staff levels; the number and the skill mix of professionals vary between developed and developing countries. Various methods are used to project the health workforce requirements. Under the workforce-to-population approach, a benchmark often used is that, on average, one midwife attends 175 births on an annual basis or more simply six midwives are required to provide care for 1,000 births in one year [25]. With regards to the need for nurses, the ratio of the nurses per 1,000 population differs across countries. For example, nurse-to-population ratios for a few countries were as follows [26]: Columbia:1.2; Indonesia:1.2; South African Countries:1.2; India:1.4; and Brazil:1.5. A

broader ratio used for this purpose is the health worker (doctors, nurses, and midwives) per 1000 population. A minimum benchmark of 2.5 health workers per 1,000 population was commonly used with consideration of ensuring 95Percent of Skill Birth Attendance (SBA); however, this benchmark has been revised to 4.45 per 1000 population in WHO's Global Strategy on Human Resources for Health Workforce 2030 to achieve the UHC under the SDGs. Despite there is a lack of precise data on the level of workforce in Sokoto State, as various documents provide different account of the number, based on the data presented in table 6, the health workforce available to provide health services to Sokoto state population is inadequate. For example, given the current population and birth rate in the State, there is an estimated 271,000 annual pregnancies, requiring around 1,650 midwives to provide the needed skilled birth services. In addition, an estimated 5,429 nurses are required – based on an average nurse to population ratio of 1 per 1000 population. In general, using the ratio of 2.5 or 4.5 health workers per 1000 population, as stated above, an estimated 13,572 or 24,159 health workers (nurses, midwives, and doctors) will be required for the Sokoto State. Evidence, however, shows that the size of the health workforce does not necessarily result in a higher coverage of SBA [25]. Geographical mal-distribution and lack of appropriate deployment to the areas in need could be significant barriers to ensuring access to quality services and sources for inefficiency. In Sokoto State, doctors mainly work in secondary and tertiary care facilities, and the PHCs are mainly staffed with nurses, midwives, Community Health Extension Workers (CHEWs), Junior Community Health Extension Workers (JCHEWs) and technicians. While there is a dire need to ensure the appropriate size and skill mix of the health human resources in the mid to long-term, shifting and sharing of some priority tasks, as appropriate, from professionally qualified health workers to health workers with shorter training and fewer qualifications will ensure efficient use of the available health workers and improve access to some essential services at PHCs. Task-Shifting/Task-Sharing will help Sokoto state to make progress towards achieving UHC and the SDGs. Sokoto State has drafted a policy on Task Shifting/Task Sharing, which is being finalized. Once finalized, prioritizing implementation of the policy, ensuring alignment of

the policy objectives with the HR regulatory framework, and adequate training of the healthcare workers will be critical to the realization of the policy objectives. The key priority areas for Task shifting/Sharing in the policy include RMNCH, HIV and AIDS, TB, malaria, and some other communicable and non-communicable diseases. The staff targeted by the policy are nurses, midwives, CHEWS, JCHEWS, and community health officers (CHOs). Intervention 2.5: Implement Public-Private Partnership (PPP) Background to PPP: PPP is a partnership between a public entity and a private party for the purpose of infrastructure development and public services provision, funding, and development of them, in a manner that responsibilities, risks, profit and loss are shared by the public entity and the private party on an equitable basis. Under PPP contracts, the private party performs the functions of the public entity and utilizes its assets/resources for a particular period. PPPs improve the level of efficiency and innovation especially in resource constraints settings. In the health sector, for example, it aims to expand essential health services through better utilization of the government assets and leveraging private sector finance and expertise in delivery of health services and products.

PPP aims to fill gaps in services delivery (Figure 13) and incentivizes the private sector to perform better by sharing projects risks and benefits.

PPPs help bring together scattered public and private sector resources and create synergy in efforts. Both sectors negotiate and agree to combine resources, producing

a complete complementary set. Once this is accomplished, efficient production of health services can occur to the benefit of the population, as well as to the objectives of both sectors.

PPPs can take several forms/models:

- Build-Operate-Transfer (“BoT”);
- Renovate-Operate-Transfer (“ROT”);
- Build-Transfer (“BT”);
- Build-Own-Operate (“BOO”);
- Build-Lease-Transfer (“BLT”);
- Design-Build-Finance-Operate (“DBFO”);
- Operating Concession (“OC”);
- Lease Contracts (“LC”);
- Management Contracts (“MC”);
- Contract-Add-and-Operate (“CAP”);
- Service Contracts
- Other Models

PPPs are designed to meet the policy objectives of its government and are developed to complement other public procurement and public service delivery methods. It is designed according to the available/affordable public and private sector resources. PPP contracts can be very complex, particularly for projects with a large size and long-term periods. Some of the lessons learned from the design and implementation of PPPs in the past few decades around the globe include:

- Design the PPP to meet policy objectives.
- There must be a political commitment and readiness from all stakeholders.
- Plan and start with a pilot of new PPP ventures.
- Enabling PPP legislation must be put into place.
- Ensure robust organization structures, processes, people skills, monitoring and evaluation of results.
- Ensure governance and transparency.
- Good governments and organizations get good PPPs!

PPPs for Sokoto State Health Sector: There is no health sector specific PPP unit in SMOH. The State government has created an office and appointed a Special Adviser to the Executive Governor on PPPs. Given the high maternal and child mortality rate and the poor health indicators in Sokoto State, there is a high potential for the design and implementation of PPPs around RMNCH, Malaria, TB and Nutrition.

Sokoto State Private Sector Landscape Analysis (PSLA) conducted by the USAID IHP in 2020/2021 provided an in-depth understanding of the status and context of the private health sector in Sokoto. Sokoto has 58 registered private health facilities (44 hospitals, 8 clinics, and 6 maternity homes), that are mostly located in urban areas, with only 13 percent of the 31 surveyed private sector facilities were located in rural areas. Most health facilities are for-profit entities. In addition, there are an estimated 40 registered Community Pharmacies (CPs) and 351 registered PPMVs in Sokoto. Almost all CPs (38 out of 39; 97 percent) and a majority of the PPMVs (144 out of 219; 64 percent) interviewed for the study were located in urban areas. There are an estimated 2,800 unregistered PPMVs in Sokoto [27].

Although Sokoto's private sector capacity and infrastructure is small compared to other states, the current capacity of the sector can be leveraged to expand quality RMNCH, TB, malaria and nutrition services.

The fact that private health facilities across all facility types have a generally well-trained workforce is their main strength, according to the PSLA. There are 23 employees on average for private hospitals. Private clinics reported having an average of 19 employees per location, including medical professionals, laboratory and pharmacy technicians, and administrative and support workers. Nursing and maternity homes have an average of 20 employees per facility. The majority of medical facilities assert to have at least one doctor; 17 of them had at least one full-time physician, 25 had at least one part-time physician, and 10 had just part-time physicians. Hospitals often have four doctors on staff, whereas clinics typically have three, and nursing and maternity homes typically have eight.

Sokoto State developed its first comprehensive Private Health Sector Engagement (PSE) strategy in 2022, which paves the way for a more structured PSE, including through PPPs. Given PPP is a new experience, SMOH will start with less complex, small-scale PPPs.

PPP for Expanded Program on Immunization (EPI): In Sokoto state, the percentage of fully immunized children is lower than 7 percent [3].

While the state and donors implement a surge plan to expand access and utilization of routine vaccination (RI) through public sector efforts, PPPs could also play a part in these efforts. PPP for RI was implemented in Afghanistan with remarkable success. According to the model, the Afghanistan Ministry of Public Health, with support from donors, provided cold chain and vaccine supplies to private for-profit hospitals and clinics, and trained private facility vaccinators, while private health facilities provided vaccinators and the space for the vaccination program. The initiative, which started in the capital Kabul and further expanded to a few regional provinces at a later stage, contributed to the increase in access and utilization of RI. The incentives for private health facilities were to ensure continuity of care (in the case of maternity care facilities) and increase the credibility of their facility by offering free RI and the potential to attract clients to other services at their facilities. The advantage for the government included leveraging private sector human resources and their facility space and saving resources that they could instead invest in priority areas. As of 2015, around 54 private hospitals and clinics in Kabul provided EPI services, in close coordination with the national EPI program, which constituted around 50 percent of the total health facilities providing EPI services in Kabul city. Public hospitals and clinics accounted for the remaining 50 percent of the vaccination coverage.

SMOH may use its current administrative structure and technical resources for the design and implementation of a pilot RI PPP. After success of the pilot stage, SMOH will strengthen its capacity further for scale-up as well as expanding the initiative to Malaria, TB, Nutrition, FPRMNCH, HIV and AIDS. In the mid, to long-term, SMOH may also consider engaging private sector in large PPP projects, such as management and operations of secondary and tertiary hospitals and manufacturing of medicines and medical products.

1.1. Other Potential Areas for Resource Optimization

In the medium to long term, SMOH will consider other areas for optimizing health resources. Potential areas for efficiency gains will include:

- Streamlining and simplifying procurement processes and procedures.
- Further strengthening pool procurement of medicines and other medical products and supplies.
- Digitalization such as telemedicine; transitioning human resource management from paper-based to electronic; and facility-based routine data entry into DHIS2.
- Full integration of services at PHCs (RI, MCH, FP/RH, malaria, HIV), including the current vertical programs.
- Decreasing fragmentation in the health sector through rationalization of organizational structure of public health administration and management structure.
- Smart use of medical technology.

2. Monitoring and Evaluation

Monitoring and Evaluation of the ROP implementation will identify progress and challenges in implementation of the plan; inform any corrective actions and help with documentation of the lessons learned. Some of the suggested indicators are provided below:

Table 7. Monitoring and Evaluation Framework

<u>Strategic Area/Intervention</u>	<u>Indicator</u>	<u>Baseline</u> 2022	<u>Targets</u>			<u>Comments</u>
			<u>Year</u> <u>2022</u>	<u>Year</u> <u>2023</u>	<u>Year</u> <u>2024</u>	
<u>Strategic Area 1:</u> <u>Increase Allocative Efficiency</u>	<u>Amount and % of additional funding shifted from other government health budget line items to PHC</u>					
	<u># and % of functional, accredited PHCs</u>					
<u>Strategic Area 2:</u> <u>Improve Technical Efficiency</u>	<u># of recommendations of PETS implemented</u>					
	<u>Amount and % of State and LGA CRF allocated and disbursed to SOCHEMA Equity Fund</u>					
	<u>Number of enrolees of SOCHEMA</u>					
	<u># of recommendations from the hospitals efficiency analysis implemented</u>					
	<u># of interventions from the Task-Shifting/Task-Sharing policy implemented</u>					
	<u># of children immunized through PPP facilities</u>					

1. Sokoto State Resource Optimization Detailed Implementation Plan

The ROP interventions are presented in the detailed implementation plan (DIP) below. The plan will be reviewed and updated on annual basis.

[illegible]

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