



# HEALTHCARE FINANCING: IMPACT OF OUT OF POCKET EXPENDITURES ON NIGERIANS

*Oritseweyimi Ololo*

**Nigeria**

56th International Course in Health Development/

Master of Public Health (ICHD/ MPH)

September 16, 2019 – September 04, 2020

KIT (Royal Tropical Institute)

Development Policy & Practice

Vrije Universiteit, Amsterdam

The Netherlands


## **HEALTHCARE FINANCING: IMPACT OF OUT OF POCKET EXPENDITURES ON NIGERIANS**

A thesis submitted in partial fulfilment of the requirement for the degree of Master of Public Health

By: Oritseweyimi Ololo

Nigeria.

Declaration: Where other people's work has been used (either from a printed source, internet or any other source), this has been carefully acknowledged and referenced in accordance with departmental requirements. The thesis "**HEALTHCARE FINANCING: IMPACT OF OUT OF POCKET EXPENDITURES ON NIGERIANS**" is my own work

Signature: ..........

56th International Course in Health Development (ICHHD) September 16, 2019– September 04, 2020

KIT (Royal Tropical Institute)/ Vrije Universiteit Amsterdam Amsterdam, The Netherlands  
September 2020

Organized By:

KIT (Royal Tropical Institute), Development Policy & Practice Amsterdam, The Netherlands.

In cooperation with:

Vrije Universiteit Amsterdam/ Free university of Amsterdam (VU) Amsterdam, the Netherlands.

## CONTENTS

LIST OF TABLES AND FIGURES .....	v
ACKNOWLEDGEMENTS.....	vi
ABBREVIATIONS .....	vii
ABSTRACT.....	viii
CHAPTER 1: BACKGROUND .....	1
1.1 Geography.....	1
1.2 Demography and Population.....	2
1.3 Socio-economic Situation .....	2
CHAPTER 2: PROBLEM STATEMENT, JUSTIFICATION, OBJECTIVES, AND METHODOLOGY ....	3
2.1. Problem statement.....	3
2.2. Justification.....	6
2.3. General Objective.....	7
2.4. Methodology.....	7
CHAPTER 3: NIGERIAN HEALTH SYSTEM, OPTIONS, AND CHALLENGES OF POOLED FINANCING ARRANGEMENTS. ....	11
3.1. Organizational features of the health system .....	11
3.2. Options and Challenges for Pooled financing Arrangements.....	12
CHAPTER FOUR: IMPACT OF OUT-OF-POCKET HEALTHCARE EXPENDITURES AND COPING STRATEGIES.....	18
4.1 Reported Illness and Burden of diseases .....	18
4.2 Effect of Treatment Costs on Treatment Behaviour.....	19
4.3 Cost Burden or Illness Cost .....	20
CHAPTER FIVE: DISCUSSION, CONCLUSION, AND RECOMMENDATION .....	29
5.1 DISCUSSION.....	29
5.2. CONCLUSION .....	33
5.3. RECOMMENDATIONS.....	34
REFERENCES .....	36
ANNEX: 1 Total health spending for diseases with the highest burden in Nigeria .....	42
ANNEX 2: Factors Affecting the Choice of Healthcare Facility in Ekiti .....	43
ANNEX 3: Association between service characteristics and socio-demography .....	45
ANNEX: 4 Types of illness and mean cost of treatment .....	46

ANNEX 5: Statistics Of Proportions, Duration Of Hospital Stay And Compative Expenditure Incurred In The Treatment Of Neonatal Illnesses.....	47
ANNEX 6: Payment coping mechanisms in Ebonyi and Enugu.....	47
ANNEX 7: Socioeconomic differences in payment coping mechanisms for Diabetes in Enugu .....	50
ANNEX 8: Coping strategies used to pay for chronic disease treatment in Ile-Ife, Osun State. ....	51
ANNEX 9: TB/HIV/AIDS Infection Coping Strategies in Nigeria .....	52

## LIST OF TABLES AND FIGURES

### FIGURES

Figure 1: Map of Nigeria Showing its Boundaries.....	1
Figure 2: Domestic General Government Health Expenditure (GGHE) as part of General Government Expenditure.....	4
Figure 3: OOP as a percentage of CHE in Nigeria.....	5
Figure 4: Conceptual framework for analyzing catastrophic Health Expenditures.....	9
Figure 5: Governance structure of health service delivery.....	11
Figure 6: WHO Disease Burden in Nigeria.....	19
Figure 7: Coping Strategies for Out-of-Pocket Health Spending in Nigeria.....	24
Figure 8: Incidence of Catastrophic Out-of-Pocket (OOP) Health Payments by Quintile Using 40% of Total Consumption Expenditure.....	26

### TABLES

Table 1: Summary of Search Strategy.....	8
Table 2: A brief analysis of Nigeria's budget from 2014-2020.....	14
Table 3: Direct components of household health costs.....	21
Table 4: Indirect components of household health costs.....	22
Table 5: Incidence and Intensity of Catastrophic Health Expenditure.....	27

## ACKNOWLEDGEMENTS

My sincere gratitude to Almighty God for His unfailing love, grace, and mercy kept me safe and sound in these strange times. Thank you, Jesus

My sincere appreciation goes to the Netherlands Government for providing the finances, through the Orange Knowledge scholarship program, for my participation in the International Course in Health Development (ICHHD) at KIT.

Many thanks to all the amiable staff of the ICHD course for their dedication, enthusiasm, and commitment to make my learning experience very interesting.

My thesis advisor and academic tutor who supported and unwearingly guided me in writing this thesis; your contributions are highly appreciated.

My special thanks to my family and siblings for their unconditional love, understanding, and prayers.

To all my friends for their kind gestures and encouragement, thank you all.

I also recognize my course mates' contribution, and the learning experience from them has been fantastic; I will cherish always every moment we spent together. I could never have wished for better colleagues.

## ABBREVIATIONS

BHCPF	Basic Health Care Provision Fund
CHE	Catastrophic Health Expenditure
CRF	Consolidated Revenue Fund
CVD	Cardiovascular Disease
DOT	Direct Observation Therapy
FMOH	Federal Ministry of Health
FSSHIP	Formal Sector Social Health Insurance Program
GAVI	Global Vaccine Alliance
GDP	Gross Domestic Product
GGHE	General Government Health Expenditure
GPEI	Global Polio Eradication Initiative
HH	Household
HMB	Health Management Board
IDA	International Development Assistance
NCD	Non-Communicable Disease
NPHCDA	National Primary Healthcare Development Agency
NHIS	National Health Insurance
OOP	Out Of Pocket
PLWH	People Living With HIV
PPMV	Patent and Proprietary Medicine Vendors
PPP	Purchasing Power Parity
SHIP	Social Health Insurance Program
SHIS	State Health Insurance Scheme
SMOH	State Ministry of Health
SPHCDA	State Primary Health care Development Agency
THE	Total Health Expenditure
UCH	Universal Health Coverage
USAID	United State Agency for International Development
WHO	World Health Organization

## ABSTRACT

### **BACKGROUND/ PROBLEM STATEMENT**

Households in Nigeria incur high out-of-pocket payments for health financing due to insufficient public financing sources for health. Out-of-pocket payment (OOP) in Nigeria is high, and about 75% of total health expenditure is financed directly by families without protection from financial risk. OOP expenditures are forms of health care financing, which are usually regressive and inequitable and restrict the capacity to access health care services at the point of need, especially for poor and vulnerable households and even sometimes rich households.

### **OBJECTIVE**

To inform and advocate for improvement in health care financing in Nigeria by examining current literature on the nature, risk groups, and impacts of out-of-pocket expenditures on Nigerians in order to formulate recommendations on financing policies based on the findings.

### **METHODOLOGY**

A literature review of the nature, risk groups, and impacts of OOP in Nigeria was carried out by me using peer-reviewed literature and other published and unpublished documents. Findings were analyzed using a conceptual framework for analyzing catastrophic expenditures by Steven Russell. In addition, options for expanding fiscal space were analysed for Nigeria following the framework proposed by ILO, 2017 (1).

### **RESULTS AND CONCLUSION**

Out of pocket payment is the predominant health financing mechanism in Nigeria because pooled financing arrangements are grossly insufficient for various reasons. Communicable diseases such as malaria are responsible for most direct and indirect costs, deaths, and disability, and also NCDs are on the increase. With no pre-payment financial arrangement and protection from financial risk, millions of Nigerians, especially the poor, are deterred from accessing care. In contrast, others suffer catastrophic expenditures and become poorer as a result of high OOP. To decrease OOP and ensure access to quality health care by Nigerians, the Government needs to commit to realizing UHC and make more serious work of many of the initiatives and intentions formulated in policies and strategies. In the short term objective strengthening PHC and ensuring social safety nets while in the long term general fiscal space for health needs to be expanded.

**KEYWORDS:** *Health financing mechanism, out-of-pocket payment, catastrophic expenditures, impoverishment*

**WORD COUNT:**



## **INTRODUCTION**

I am a dentist with several years of experience working in public service. A crucial part of my clinical practice has been in the rural areas where patient access and utilization of health services has been limited by out of pocket payment. As a result, most of the individuals, who are mainly the poor and vulnerable, presented late to the clinic. Sometimes with life-threatening complications that otherwise could have been prevented. They do not have access to quality health services due to a weak health system characterized by inadequate funding and no insurance coverage. They cannot afford the treatment costs, and those who do access services may suffer catastrophic consequences due to out of pocket payments.

I have experienced the enormous challenges patients, especially the poor and vulnerable, face while accessing health care services. During my routine calls in the Accident and Emergency care unit, I have helplessly watched as relatives lose loved ones who could not receive care because of high OOP payments. This sad and emotional situation motivated me to choose this topic: Impact of OOP expenditures on Nigerians.

World Health Organization in 2010 estimated that 150 million people incur catastrophic health expenditures, and about 100 million people become poorer as a result of out of pocket payments (2). High and unpredictable out-of-pocket spending for health care services may drive households to spend a significant part of their disposable income and, when severe, push families into poverty (3). There is a consensus that pre-payment and risk pooling mechanisms bring countries closer to universal health coverage and reduce financial catastrophe. Nigeria still lags far behind from moving closer to universal health coverage due to a lack of financial risk protection despite the commitment agreed by all countries in 2005 to achieve universal coverage and the support for universal health coverage by Ministers of Health and Finance at the African Union meeting in 2012. (2)(4)

Out of pocket health payments remain consistently the dominant healthcare financing mechanism in Nigeria (5). Besides, health indices are still very poor even when compared to African regional averages, with life expectancy at birth at 54.3 years (3). Many Nigerians pay a significant amount for what is still poor-quality health care. Millions of Nigerians, especially the poor, are unsure how to pay the medical bills' high cost.

## CHAPTER 1: BACKGROUND

This chapter gives background information about the Federal Republic of Nigeria. It describes the geography, demography, and socioeconomic situation of the country.

### 1.1 GEOGRAPHY

The Federal Republic of Nigeria is seated in the coastal region of West Africa. It has approximately 923 769 square kilometers (consisting of 909,890 square kilometers of land area and 13,879 square kilometers of water area). It shares a border with Chad and Niger in the north; Cameroon in the east, in the west with Benin, and the Gulf of Guinea borders the south (6).



**Figure 1: Map of Nigeria Showing its Boundaries**

## 1.2 DEMOGRAPHY AND POPULATION

Nigeria has an estimated 208 million people, accounting for an estimated 2.64% of the world population, and is the most populated nation in Africa, accounting for about half of West Africa's Population. It has an annual growth rate of 2.58%, with females constituting about 51% of the population (7). The median age in the general population is estimated to be 18 years, and around 52% of the population is urban (7)(8).

Nigeria is consists of 36 autonomous states and a Federal Capital Territory (FCT), Abuja. They are further into six geopolitical zones - North-Central (NC), North-East (NE), North-West (NW), South-East (SE), South-South (SS), and South-West (SW) Zones. Nigeria has 774 Local Government Areas spread across all the states in the country (6). Nigeria is amongst the most ethnically and linguistically diverse countries globally, with the major ethnic groups being Yoruba, Igbo, and Hausa. The official language is English, but Yoruba, Hausa, and Igbo languages are spoken mainly along with over 500 other languages. The predominant religions are Christianity, mostly practiced in the country's central and southern parts, and Islam is mainly in the north (6).

## 1.3 SOCIO-ECONOMIC SITUATION

Nigeria is classified as a middle-income country by the World Bank with a gross domestic product (GDP) of US\$ 448 billion. Real GDP growth was approximated at 2.3% in 2019, slightly more than 1.9% in 2018, but this is too little to pull the lowest quintile out of poverty (9). Oil price fluctuation continues to affect the country's growth performance. Between 2000 and 2014, it recorded a gross domestic product growth rate of 7% on the average per year. However, following the oil price crash in 2014-2016, the GDP growth rate dropped to 2.7% in 2015 (9). In 2019, growth was primarily driven by information and communications technology, transport, and an improved oil sector. Agricultural development slowed by heavy flooding and on-going farmer-herdsmen clashes, and continuous insurgency in the north(10). More than 50% of the country's population lives below \$1.90 a day (2011 PPP). (9) Poverty is prevalent but unevenly distributed across the country, with the north affected more than the south (11). The national average of 69% poverty is associated with a rising unemployment, which is approximated at 27.1% in 2020, up from 23.1% in 2018 (12). This of course, concerns more formal employment because it is often difficult to talk about unemployment for a great majority of the population that has informal jobs.

## CHAPTER 2: PROBLEM STATEMENT, JUSTIFICATION, OBJECTIVES, AND METHODOLOGY

This chapter describes the identified problem that this study is addressing and justification for the choice of topic. The study's objectives and the methodology used for the research are also outlined and the conceptual framework introduced.

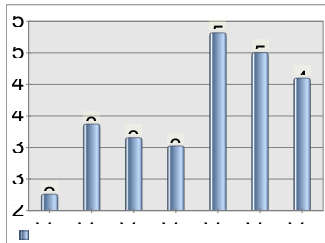
### 2.1. PROBLEM STATEMENT

Governments worldwide have committed themselves to move towards universal health coverage (UHC) for their people, implying that everybody gets the health care service they need without incurring financial hardship (2)(13). Although countries have expressed determination to explore alternative financing arrangements (14)(15), several low and middle-income countries, including Nigeria, lack well-structured and practical frameworks for financing healthcare and achieving universal coverage for health services (16)(17). It leaves the populace with no other choice than out-of-pocket payment (OOP) for health services at the point of access to these services and when they need them (17).

Revenue for health financing in the Nigerian health sector is a combination of tax revenue, out-of-pocket payments, donor funding, and health insurance (social, private, and community) (18). Public financing (pooled resources) of health services is mainly from government budget allocations (tax), a small share of national health insurance (NHIS) premiums (only formal employees, mostly at the federal level). Also, a part of external aid (low because Nigeria is a middle-income country) that passes through the Government contributes to it. Being a commonwealth country, Nigeria has basically "inherited" the tax-funded financing model with public government services funded through general revenues (19). However, revenues in Nigeria are meager; even worldwide, they are at the bottom. Revenue is composed of tax and non-tax income. Non-tax income has immensely been affected by a prolonged period of weak oil prices worldwide. Also, tax income is meager even compared to other (low income) countries (20). When the General Government Expenditure (GGE) is low, there are always competing priorities, and different ministries employ advocacy, lobbying, and diplomacy to get increased funding. Since no additional funds are available, allocation to other ministries must be reduced for increment in another ministry allocation. However, these sectors often are represented by groups with vested social and political interests, and as a result, the priority for increased fiscal space for health is low (21).

Although Nigeria's GDP per capita at purchasing power parity (PPP) increased from US\$5,190 in 2017 to US\$5,348 in 2019 (9), budgetary allocation for health in Nigeria has been low and insufficient; for the past ten years, it has remained below 6% of General Government Expenditures (GGE). In 2017, the Domestic General Government Health Expenditure (GGHE-D) was 4% of GGE, down from 5% in 2016, as shown in figure 2. It is a default on the commitment to spend at least 15% of the national budget on health due to the agreement reached in the 2001 Abuja declaration (4)(19). In 2011, the World Health Organization

reported Nigeria among countries with insufficient progress towards the Abuja 2001 Declaration (4).

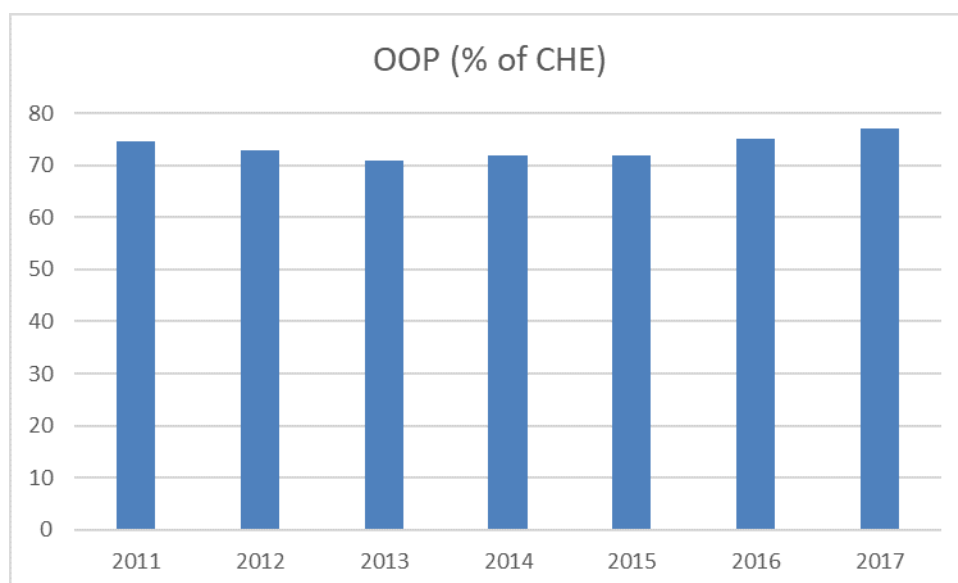


**Figure 2: Domestic General Government Health Expenditure (GGHE) as part of General Government Expenditure(22)**

The insufficient spending on health by the Nigerian Government is further evident when relating domestic government health expenditure to Gross Domestic Product (GDP). The IMF World Economic Outlook in 2018 reported that, as a share of GDP, domestic general government health expenditure (GHE) was only about 1% in 2017, as against the 5% recommended by WHO (23). It is low, considering the increased demand and consumption for medical care, especially by the rich and the urban (24). The low prioritization of the health sector in the Federal Government's budget is partly responsible for its insufficient healthcare funding. It has been the trend for several years. Although Nigeria's weakening macroeconomic

and fiscal context contributed to inadequate spending and investments in health in the last 20 years, even in economic boom times, spending has been consistently low compared to countries of similar financial status (25).

The domestic general government expenditure on health as a share of Total Health Expenditure (THE) was 14% in 2017, decreasing from 16% in 2015 (22). Consequently, households are compelled to increase their out of pocket health expenditures to fill up public funding insufficiency. Recent data from National Health Account shown in figure 3 revealed an increased to 77% as a percentage of THE in 2017, up from 75% the previous year, indicating that most of the financing for health in Nigeria is borne by households (22). About 70% of the Nigerian population lives in poverty below \$2 a day, with most Nigerians' low capacity to pay for health care services (9)(26). With the lack of adequate risk protection mechanisms such as fee exemptions, health insurance coupled with the low Government and pooled health funding of the public health care system, the cost of seeking care is unaffordable for most people in Nigeria (27).



**Figure 3: OOP as a percentage of CHE in Nigeria(22)**

Almost two decades since the onset of the National Health Insurance Scheme (NHIS) in 1999, it has not substantially impacted the fiscal space for health in the country. Its coverage is limited because it is not compulsory and excludes the large informal sector, plus most states are reluctant to buy-in (13). Currently, only about 5% of the population, mainly federal Government employees, are subscribers to the scheme, and about 1% of the population has voluntary private insurance. In terms of volume, the NHIS contributes around 1% to its overall health financing (22). It leaves most Nigerians without any form of financial protection from healthcare costs beyond the grossly underfunded public services (24). Additionally, there is inequitable budgetary allocation and distribution of human and infrastructural resources

among the three levels (primary, secondary, and tertiary) of Nigeria's healthcare system. The insufficient funding for health has led to the shortage of human and material resources to provide quality and affordable care for the people (28).

An underfunded public health service can lead to informal fees (under the table payments, part of OOP), referrals to private pharmacies because of drug stock-out, or people patronizing informal providers (e.g., traditional), and public services are perceived to be of bad quality. It has also led to catastrophic expenditure among many households and pushing many of them below the poverty line to pursue healthcare (29). The high cost of health care has contributed to poor access to health care, lack of treatment adherence, delayed presentation, and increased likelihood of complications and mortalities. It may partly account for Nigeria's low health indices compared to Africa's average (17). For example, due to the financial burden caused by OOP payments, adherence to TB treatment has been affected with resultant poor health outcomes and impact on the economy (30). Furthermore, intergenerational inequality may widen if the households' have limited ability to finance their children's health and education (8). Households are thus, often confronted with the dilemma of whether to pay for health services or pay for other basic needs such as shelter, food, or the children's education (31). Households may resort to reducing expenditure on essential non-medical goods and services, be forced to sell property and assets, incur debts, and divert funds meant for children's education to meet healthcare bills (32).

## 2.2. JUSTIFICATION

Universal Health Coverage, the umbrella indicator for SDG-3, is only achievable when a sufficient and sustainable level of funding of the health system can be achieved, with a decrease in inequalities in access. Besides, the health system can only function optimally in providing risk protection to the population when the population can access health services without incurring catastrophic health expenditure. Hence, there is a need to understand the nature and the impacts of OOP on households in Nigeria: on what do they spend the most money?; what are the consequences?; how do people cope with these OOP payments?; and which groups are significantly affected?

However, there are limited reports that have wholly characterized the OOP spending. Similarly, few studies are identifying the financial burden of specific diseases on Nigerian households. This study seeks to review the literature to examine and explore the nature and the various impacts of Nigerian households' health spending. This review intends to understand better the impacts of OOP health payments on catastrophic health expenditure and impoverishment in Nigeria in recent years. Results from this study will guide the Government and other stakeholders on targeting measures and reducing out of pocket health expenditures.

### 2.3. General Objective

To examine the nature and impacts of Nigerian citizens' current health spending to formulate recommendations Federal Government to reduce out-of-pocket expenditures while promoting universal access.

#### 2.3.1. Specific Objectives

- To describe and analyze the organizational features and financing arrangements of the Nigeria Health system and the challenges for the expansion of pooled financing arrangements;
- To examine the nature and impacts of out-of-pocket healthcare expenditures on Nigerians;
- To describe household coping strategies in response to out-of-pocket expenditures;
- To formulate recommendations to the Federal Government to reduce out of pocket expenditures and mitigate its consequences for the poor while promoting universal access

## 2.4. METHODOLOGY

**Data collections:** The author did a comprehensive literature review. Peer and non-peer literature were sourced using Google scholar search engine and as well as from PUBMED, National Health Account, and Global Health Databases. Articles and reports were also identified from relevant organization websites such as WHO, NHIS, Federal Ministry of Health, National Population Commission, PharmAccess, and World Bank. Search keywords used are presented in table 1. Only articles in English relevant to the study were selected after reading the abstract. Articles used were limited to those published between 2010 and 2020, except some older ones relevant to my work. Snowballing retrieval of texts using the reference lists from published articles was used to get additional articles manually searched to compliment the search. Table 2 presents a summary of the search strategies using the keywords.



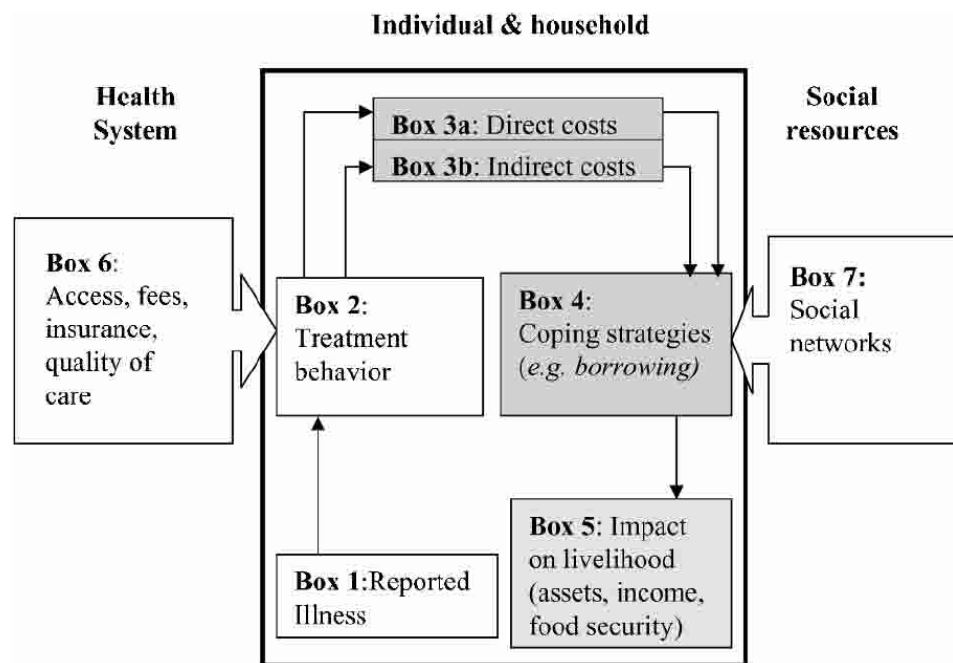
**Table 1 Summary of Search Strategy**

<b>S/N</b>	<b>Objectives</b>	<b>Search Engine/Database/Websites</b>	<b>Keywords</b>	<b>Publication/Articles</b>
1	To describe and analyze the organizational features and financing arrangement of the Nigeria Health system and the challenges for the expansion of pooled financing arrangements	<p><b>Search engine/Databases</b></p> <p>Google scholar, PUBMED, Global Health Database, National Health Account</p> <p><b>Institution Websites</b></p> <p>WHO, NPC, FMoH, World Bank, Pharm Access</p>	Tax revenues, health insurance, out of pocket expenditure, donor funding/aid, health financing arrangement, basic healthcare provision fund, health system organization	<ul style="list-style-type: none"> <li>• Peer Review</li> <li>• Grey literature</li> </ul>
2	To examine the nature and impacts of out-of-pocket healthcare expenditures on Nigerians	<p><b>Search engine/Databases</b></p> <p>Google scholar, PUBMED</p> <p><b>Institution Websites</b></p> <p>WHO, NPC, FMoH, IHME, World Bank, Pharm Access</p>	Out of pocket expenditures, universal health coverage, catastrophic health expenditure, health financing arrangements, health insurance, cost of illness, burden of diseases, treatment behaviour, health expenditure impact, health expenditure effect, consequence of illness, livelihood	<ul style="list-style-type: none"> <li>• Peer Review</li> <li>• Grey literature</li> </ul>
3.	To describe household coping strategies in response to out-of-pocket expenditures	<p><b>Search engine/Databases</b></p> <p>Google scholar, PUBMED</p> <p><b>Institution Websites</b></p> <p>WHO, NPC, FMoH, World Bank, Pharm Access</p>	Out of pocket expenditures, out of pocket coping strategies, universal health coverage, catastrophic health expenditure, health financing arrangements, health insurance, cost of illness, burden of diseases, treatment behaviour, health expenditure impact, treatment behaviour, health-seeking behaviour	<ul style="list-style-type: none"> <li>• Peer Review</li> <li>• Grey literature</li> </ul>

## 2.5. Conceptual framework for analyzing catastrophic expenditure

The conceptual framework used for this thesis review is one derived from previous studies that have investigated out-of-pocket spending on the lines of the household costs of illness, coping strategies, and their economic consequences on households. Decisions about treatment and coping strategies are based on negotiations within the household, and illness costs are incurred by both the caregivers and the patient. The costs fall on the household budget with an impact on their livelihoods. Therefore, the household is the preferred unit of analysis for assessing the costs of illness.

The framework by D. McIntyre that described the experience of illness, expenditures of healthcare, and economic consequences was considered. However, the impact on livelihood was not addressed by this framework. In contrast, the framework by Steven Russell appears to give concise categorization, and it additionally addresses the impacts of catastrophic expenditures on households' livelihood. Nevertheless, this framework laid less emphasis on the reported illness and treatment behavior, and it was limited to catastrophic health expenditure incurred. Still, it does not address other catastrophic expenses experienced in anticipation of high OOP payments due to refraining or delaying utilization of needed services.



**Figure 4: Conceptual framework for analyzing catastrophic Health Expenditures (68)**

From the conceptual framework in figure 4, in response to perceived illness (indicated in Box 1), households make choices about seeking medical care and where to seek such care (indicated in Box 2). The health system displayed in box 6 is shown as a care resource outside the household. The household can seek the care they need, both in terms of financial coverage (health insurance) and direct medical care (treatment). In terms of organizational features of the financing arrangements in the health systems, the various providers' structures (in access and quality) are public and private, formal and informal. In seeking this care, households either enjoy the coverage of insurance or incur costs (in the absence of insurance coverage), which are termed Illness costs and broken down into direct costs (Box 3a) and indirect costs (Box 3b)

While direct costs refer to household expenditures linked with seeking treatment, including non-medical expenses such as transportation, indirect costs refer to the loss of productive household time by patients and caregivers. Indirect and direct costs are influenced by the type and severity of illness (Box 1) and health service characteristics (Box 6) that affect healthcare providers' access and choice. When illness costs begin to go beyond the household's daily or monthly budget, coping strategies such as borrowing or selling assets may trigger (Box 4). When households find it difficult to meet daily food and needs or the loss of a daily wage due to illness, then a relatively small treatment expense is likely to trigger these strategies. It includes claims on resources outside the household, such as social networks or local organizations that offer credit (Box 7). Illness costs and coping strategies ultimately impact households' livelihoods that ultimately impact people's wellbeing and health (Box 5). Boxes 1-7 illustrate this paper's focus.

In **chapter 3**, I intend to provide the background of the Nigerian Health system (box 6), including an overview of the current financing arrangements and the challenges for expanding pooled arrangements that are at the basis of the high OOP payments. For the analysis of the financing options, the model proposed in the working document "Fiscal Space for Social Protection and the SDGs: Options to Expand Social Investments in 187 Countries" is used as a more detailed approach to the elements of box 6.

These high OOP provide the background for people's current health-seeking behavior and their coping strategies: boxes 1-5 in **chapter 4**; social networks (box7) are discussed in connection to coping strategies (box 4).

And in **chapter 5**, I will discuss how the findings of chapter 4 can assist in advocating, prioritizing, and designing feasible options for expanding fiscal space for health in Nigeria, and therefore reduce OOP payments, particularly for the most vulnerable population groups.

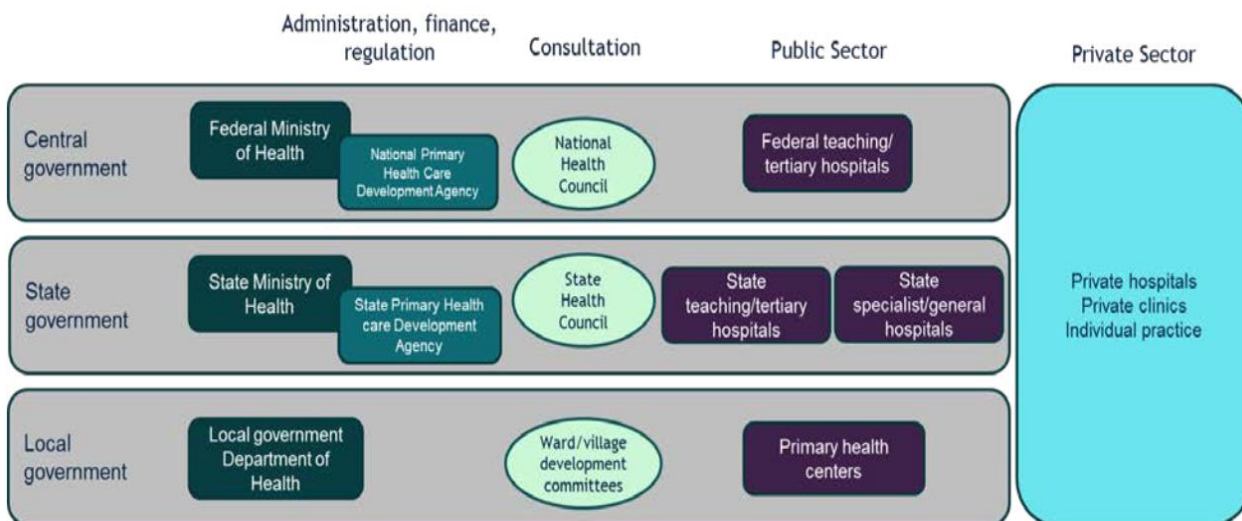
## CHAPTER 3: NIGERIAN HEALTH SYSTEM, OPTIONS, AND CHALLENGES OF POOLED FINANCING ARRANGEMENTS.

This chapter describes the health system's organizational features. It gives an analytic description of the pooled financing arrangements and the challenges of increasing the fiscal space for health in Nigeria to achieve universal health coverage.

### 3.1. ORGANIZATIONAL FEATURES OF THE HEALTH SYSTEM

#### 3.1.1 Primary, Secondary and Tertiary Healthcare system

The health services organization in Nigeria is complex. It comprises public and private providers at three levels of healthcare provision (33). The public sector is decentralized. It is structured into three tiers; primary, secondary, and tertiary reflect the government system's three arms with a shared responsibility of healthcare provision, but coordination is lacking (26). The Government at the Federal level, through the Federal Ministry of Health (FMOH) and National Primary Health Care Development Agency (NPHCDA), is in charge of the overall policymaking, coordination, and regulation, as shown in figure 5. Additionally, it funds and controls the tertiary hospitals (33) and disease control programs such as malaria control, while the state government is in charge of the general hospitals providing secondary level care and the local governments run the primary health centers, which provides the largest share of the public sector health care (26). However, the LGA level receives the lowest funding. It is the least organized government level, which has affected its capacity to finance adequately and organize primary healthcare, leading to a very frail base for the healthcare system (33). The tertiary facilities (mostly teaching hospitals) provide specialized services such as cancer treatment and advanced surgeries. The secondary facilities provide less specialized services, and the primary healthcare facilities, which include health centers, health posts and dispensaries provide primary healthcare, preventive and referral services (33).



## Figure 5: Governance structure of health service delivery(25)

### 3.1.2 Private and Public Healthcare system

Nigeria has a private and public healthcare system (33). The country's northern states have a higher proportion of public to private hospitals than the southern (34). Nigeria's public health sector is run by the Government in three levels as described above. There are 22,853 public health facilities in the country, and the primary health facilities constitute 88%, secondary 11.7%, and tertiary 0.25%. The federal capital territory and each of the 36 states in the country have at least a public tertiary health facility, and there are primary health centers scattered across the country (33). Health service provision in the public health facilities is weak and inequitable. It is marred by widespread regional inequalities in service delivery, decaying infrastructure, inadequate human resources management for health, poor healthcare workers' attitude, weak referral systems, unavailability of essential drugs and consumables, and low supervision support services and resource availability (26).

The private health sector in Nigeria is increasingly extensive and contributes significantly to healthcare delivery. The Government inadequately regulates the private sector, and they mostly provide services based on their discretion. There are 11,323 private health facilities in the country, delivering 60% of the healthcare services, which are usually primary and secondary ambulatory care. These include not-for-profit services offered by non-governmental and faith-based organizations; and private-for-profit providers. This sector also has traditional healthcare providers, drug shops, patent and proprietary medicine vendors (PPMVs), and alternative health practitioners who are patronized to no small extent by the Nigerian population (33).

## 3.2. OPTIONS AND CHALLENGES FOR POOLED FINANCING ARRANGEMENTS

Fiscal space for health is the ability of governments to expand their spending on health without threatening the sustainability of its financial position. The Sustainable Development Goals (SDGs) identifies its crucial role in poverty eradication by mobilizing significant resources for all sectors, including the health sector, as a critical target for countries to achieve. It is possible to create Fiscal space for health and sustain it in many ways. This section draws on the indicative framework outlined in "Options to Expand Social Investments in 187 Countries," examining the following methods to create fiscal space: Mobilization of domestic revenue, reprioritization of health expenditure, Development assistance aid, increasing efficiency in health financing as well as debt and borrowing for health financing.

### 3.2.1. Mobilization of domestic revenues

Health financing for UHC is usually evaluated by whether governments expend sufficiently on health; therefore, generating adequate revenue is central to a country's capacity in delivering essential healthcare services (25). Findings indicate that Nigeria's health expenditure over the past two decades is grossly insufficient. Except huge funding is provided to the health sector, realizing the UHC goals might be an illusion (35). A favorable macroeconomic setting, such as economic growth, improved revenue generation, and low levels of fiscal deficits and debts, is vital to creating general fiscal space for all sectors in the economy, including health. Evidence shows that macroeconomic growth can lead to a sizeable room for increases in fiscal space for health, even without increasing the government health spending share of GDP (36). Since the late 1960s, Economic growth in Nigeria has been mainly by high oil prices, and oil receipts continue to account for about 90% of fiscal revenues (25). In oil-based revenue countries like Nigeria, where macroeconomic performance is linked strongly with fluctuations in oil prices and production, the possibilities for raising fiscal space for all public purposes, including for health, are also considered to be limited (37). Therefore, when there is insufficient general fiscal space, health prioritization becomes more difficult, given the many priorities in Nigeria, such as the North's insurgencies, the Farmers-herdsmen clashes, and Niger-Delta region militancy. However, to ensure the fiscal space increases in conjunction with economic growth, the tax revenue contribution to GDP must be optimal. Findings in Nigeria showed that the tax-to-GDP ratio in 2018 was 6.3%, which is lower than the emerging markets average of 20% and lower than the regional average (16.5%) and one of the lowest globally (20). The country's tax base is also narrow, with about 75% of small and medium enterprises not captured in the tax scheme. The over-reliance on oil revenues, corruption, and a weak tax administration and compliance system has kept the nation's revenues (both tax and non-tax) extremely low.

### 3.2.2. Reprioritization of Health expenditure

The reprioritization of health sector expenditure in government budgets, which means reviewing priorities in favor of health, is another vital element for fiscal space expansion for health in existing frameworks (36). The concept here is to reallocate resources from lower to higher priorities and less useful to a more efficient outcome (38). Favoring health above, for instance, the military, or agriculture, or education, is an example of prioritizing budgets between sectors. Over the last decade, some African governments have improved their health expenditure, reflecting the Abuja commitment for an increased health budget share as a percentage of public spending on health (39).

Year	Total National Budget (NGN Billion)	Total Health Budget (Federal Government) (NGN Billion)	% Health Budget	15% of Total Budget (NGN Billion)	Gaps (Amount Needed to Meet Abuja Declaration of 2001 (15% Of Budget Size) (NGN Billion)
2014	4695.19	339.38	7.23	704.28	364.90
2015	5067.90	347.26	6.85	760.19	412.93
2016	6060.48	353.54	5.83	909.07	555.53
2017	7441.18	380.16	5.11	1116.18	736.02
2018	9120.33	528.14	5.79	1368.05	839.91
2019	8830.00	372.70	4.22	1324.50	951.80
2020	10594.36	463.80	4.38	1589.15	1125.35
					NGN 4.99 trillion

**Table 2: A Brief Analysis of Nigeria’s Budget from 2014 Till Date (Amount in Billion) Nigerian Naira [NGN] (40)**

However, the Nigerian government spending on health is insufficient, and it is lower than the regional average of 10% and lower than almost any country in the world (25)(41). For example, in 2016, the total government health expenditure was US\$ 2.2 billion, representing only 0.6% of GDP. An assessment of table 2 above shows remarkable discrepancies in budgetary allocation to the health sector between 2014 and 2020. While the general government budget's health share was 7.23% in 2014, it has been declining and was 4.38% in 2020 (40).

According to the WHO report, Health prioritization on the continent is not directly associated with a nation's income. Some LICs like Malawi, Gambia, and Ethiopia have achieved the 15% Abuja target (41). Despite increases in available fiscal space, public health expenditures have been under-prioritized as the Government struggles to meet other commitments (34). The de-prioritization of health by many sub-Saharan nations, especially Nigeria, stems from the fact that health matters are usually not noticeable in political agendas. Findings suggest the importance of factors such as the prevalence of corruption, poor governance, ethno linguistic fractionalization, and average education levels in the population as determinants of the extent to which governments prioritize health (34)(1). Each sector of the economy is important and advocates for its increased funding. Moving one sector, a step above implies moving another sector a step-down, and such displacements cannot take place without superior arguments

given limited resources. No additional resources are available. Therefore, the budget of other sectors must be reduced to allow for increased investment in another. These sectors are often represented by some important vested political and social interests in a country. Thus the process of budget allocation is a highly politicized one and governments have competing needs (36).

### 3.2.3. Development Assistance for Health (DAH)

It refers to financial aid and support given to developing countries to assist in health and socioeconomic development. Agencies usually achieve this and through Development Banks, contributions of developed countries, and other sources such as philanthropists and donor cooperation. The donors pool their funds individually, and the funds are channelled through grants and concessional loans, employing aid modalities such as technical assistance, project financing. They add little to no direct budget support. Development aid sent through regions to respective countries is managed by designated parastatals', specifically the federal Ministry of Budget and National Planning office in Nigeria (42).

External assistance for health has been an essential source of fiscal space in many LMICs. Development assistance for health has been rising in absolute terms and as a percentage of total health expenditure in most LMICs. Since the start of the millennium, the large increases in DAH were partly driven by the signing in 2000 of the Millennium Declaration with all 189 member states of the UN adopting the Millennium Development Goals (36). However, middle-income countries like Nigeria give brief attention to DAH. It contributes only about 8% to total health financing in the country compared to about 50% in other African countries like Rwanda and Uganda (37).

The emergence of global funds initiatives is an essential aspect of additional resources for health in LMICs. Funds are usually from external institutions such as the Gates Foundation, the US President's Emergency Plan for AIDS Relief program (PEPFAR), the Affordable Medicines Facility malaria (AMFm), International Development Association (IDA), the Global Fund to fight AIDS, tuberculosis, and malaria (GFATM), the United States Agency for International Development (USAID), and the Global Vaccine Alliance (GAVI). However, these institutions have policies that change over time, and so Nigeria's health financing transition will substantially depend on its ability to receive donor aid in the future (25)(36).

Access to external aid falls because eligibility criteria are usually tied to income thresholds. Therefore, Nigeria, having transitioned from a low to middle-income country in 2008, is confronted with limited future access to concessional loans, grants, and debt relief. Thus over the next two decades, it is expected that Nigeria will not qualify for some external aid for health financing from the World Bank and Global fund as a result of the country's improvement in economic development and the timelines of funds that are due to expire. Furthermore, with programs such as GAVI and Global Polio Eradication Initiative (GPEI) transitioning and their support declining, the Government will be required to increase its domestic funding gradually over the period (25).



### 3.2.4. Increasing Efficiency in Health Financing

It refers to increasing fiscal space efforts by maximum use of resources allocated to the health sector, which requires an improvement in health institutions and policies. Improvement in efficiency of health expenditure has the prospect to create additional fiscal space for the sector. The efficiency of health resources could be improved by minimizing wastage and curbing corruption in the health system.

Despite delegating the delivery of health services to states and local governments, most health expenditures are at the federal level (43). The National Health Accounts reported that in 2016, the government health expenditure was 67% at the federal level while state and local were 26% and 7%, respectively. In Nigeria, this asymmetry between responsibility and resource allocation in the health sector results in inefficiency and wastage in the utilization of health resources, with high priority given to administration at the expense of service delivery. In 2014, the total government health schemes spending on ambulatory health centres and prevention (full cost of delivering BMPHS) was N3,374 (or US\$11.04) per person, representing only about 8% of government health expenditure, and this was mostly by the local governments. The federal agencies use power to control and concentrate resources at the central level while the frontline delivery agencies are poorly financed. Consequently, the primary Health Care services often lack equipment, basic amenities, and medicines.

Also, a vast share of the capital budget is allocated to the federal level with associated corruption in the award of contracts and funds diversion resulting in waste and unnecessary expenditures. Furthermore, frontline delivery units are similarly associated with wastage. A study in Nigeria revealed large inefficiencies in the health sector, with a 60% average efficiency based on input-output technical efficiency (44). Reprioritization of public spending within the health sector is lengthy and technically cumbersome. This knowledge is of particular significance in a country like Nigeria with substantial resource needs, diverse political, and massive inequalities. With public spending on health tilted towards high-end care health facilities, the rich who use it proportionally benefit from it while the poor cannot access essential treatment a dysfunctional health system (41).

### 3.2.5. Borrowing for Health Financing

It involves active search of international and local means of borrowing at low charges, including concessional after comprehensive and dynamic debt sustainability assessment. The nature of the health sector's relevance and sensitivity allows it to be prioritized for borrowing. Health spending is broadly regarded as recurrent expenditure, though some have claimed that it should be seen as a human capital investment that will create taxable returns (43).

According to the Nigerian Economic Summit Group, the debt service ratio is too high and unsustainable. Although this ratio improved to 72% in May 2020 from 99% recorded at the end of March 2020, it is still high and unsustainable, making it challenging to meet non-debt responsibilities such as infrastructural development, and human capital development, and protection for large vulnerable people (45). The current debt to GDP ratio in Nigeria, a measure of debt sustainability, is projected to increase to 36.5%, up from 29% in 2019 as

the country suffers from lower oil prices and demand (46)(47). The servicing of these debts will take a significant percentage of the national budget to service every year with severe implications for productive economic investments and the social sector.

## CHAPTER FOUR: IMPACT OF OUT-OF-POCKET HEALTHCARE EXPENDITURES AND COPING STRATEGIES

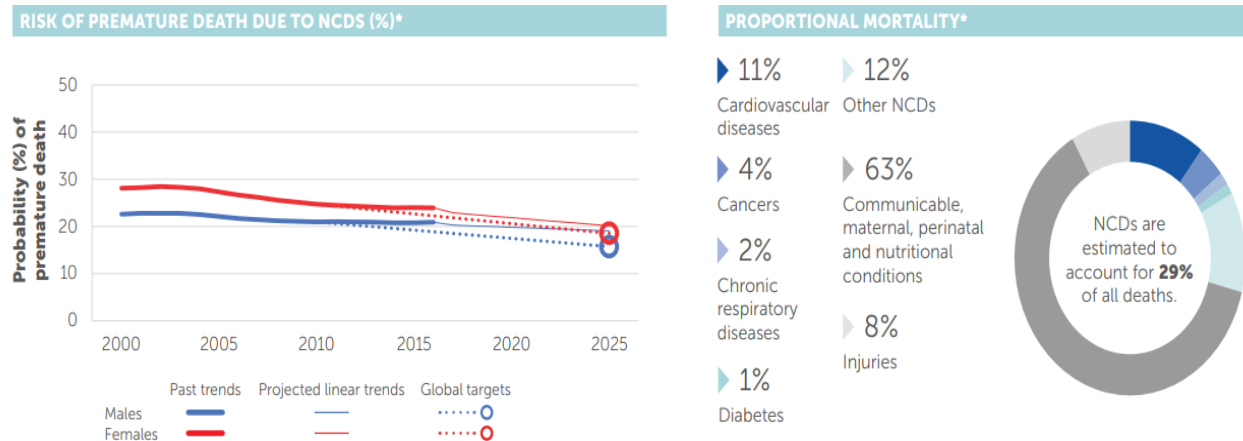
This chapter examines the nature of out of pocket expenditures: what people spend the most money on, and who is most affected. It then looks at the impacts of OOP expenditure on people's livelihoods and their coping behavior in response to these impacts. The role of community and social networks in these coping behaviors is also discussed. It corresponds to box 1-5 & 7 of the conceptual framework.

### 4.1 REPORTED ILLNESS AND BURDEN OF DISEASES

Nigeria's health outcomes are among the worst in Africa, with wide disparities between the privileged and vulnerable populations (24). The country reported 31% of infants fully vaccinated in 2018, a maternal mortality ratio of 512 deaths/100,000 live births, and Infant and Under 5 Child mortality rates of 67 and 132 deaths per 1000 live births, respectively (22). With a fertility rate of 5.38 and a population growth rate of 2.58% yearly, the country is one of the fastest-growing populations globally. It is estimated to reach 440 million people by 2050 (48).

According to a report by the Institute for Health Metrics and Evaluation, communicable diseases including malaria, lower respiratory infections, neonatal disorders, HIV/AIDS, diarrheal diseases, among others, are recorded as causing the most death and disability combined in Nigeria (49). Malaria is the most typical illness reported in Nigeria. The FMOH estimates 60% of outpatient visits, 30% of hospitalizations, and 300,000 child mortality are attributed to malaria annually in Nigeria (50)(51). Besides, about 50% of the population experience at least one malaria episode annually, resulting in high productivity losses (52). The report of a study conducted in Enugu (south-east) Nigeria showed that more than half of the illnesses (63.7%) reported by respondents were malaria infection (53). Another study in Abakiliki (south-east) showed malaria, tuberculosis, respiratory infections, and HIV/AIDs were the most reported diseases. (54). Similarly, malaria was the predominant illness reported in a community-based study in Benue state, North-central Nigeria (55).

Similarly, non-communicable diseases (NCDs) are increasingly reported in Nigeria, with the main types being cardiovascular diseases (CVDs), cancers, chronic lung diseases, and diabetes (56). NCDs account for an estimated 29% of all deaths in the country (57). It is projected that, due to the aging of the population, NCD's increasing prevalence will have significant macroeconomic consequences for Nigeria in the coming years (58). A study conducted in Ekiti (south-west) Nigeria reported that NCDs constituted 64% of admission cases (59). As shown in figure 8, the estimated proportional mortality attributable to CVDs in 2018 was 11%. The prevalence of CVDs in hospital-based studies across Nigeria showed 20.5% in Enugu (south-east)(60) and 20.1% in Port-Harcourt,(south-south Nigeria) (59).



**Figure 6: WHO Disease Burden in Nigeria**

Source: WHO Health Data, 2018

#### 4.2 EFFECT OF TREATMENT COSTS ON TREATMENT BEHAVIOUR

In the event of an illness, when faced with or anticipating high cost consequences, households decide whether to seek treatment or ignore it, and decisions are also made about the choice of the provider (formal or informal), depending on the cost, the type, and severity of illness (box 2). Other factors such as the type and quality of service providers influence the household health-seeking and treatment behavior.

Studies in Nigeria show that patients do not visit the health facilities for treatment when ill because of high OOP. A study done among mothers of under-five children in Cross River State (southern Nigeria) revealed that the women reduced the number of hospital visits for their sick children because of high OOP costs (61). Similarly, a study conducted in the region showed that women refrain from child delivery in the health facility because of the cost of delivery items not covered by the maternal healthcare program and the direct fee paid informally to the health workers (62). Another study conducted among Ile-Ife (southwest Nigeria) students revealed that healthcare services' cost poses a significant barrier to seeking medical attention (63).

It was also reported that high OOP payments reduces the likelihood of seeking healthcare from formal health providers, and people resorting to informal and often unqualified providers such as traditional healers and patent medicine vendors (55). A study showed that the cost of treatment for an illness determines whether rural dwellers in Ekiti, South-western Nigeria,

visit informal or formal healthcare providers. Of all the factors identified in the study to affect health-seeking behavior, the cost of treatment influenced 32.9% of the 1,257 respondents (64). Results from another study in Nsukka, south-eastern Nigeria, showed that the largest proportion of respondents claimed that their choice of a particular healthcare provider depended on their ability to pay for the medical bills. Proprietary patent medicine vendors were the most patronized, especially by the poorer people, because they offer cheaper services (65). These studies reveal that households tend to alter their healthcare provider choice in anticipation of high treatment costs. When treatment cost is relatively high at a particular facility, patients patronize other facilities with a relatively lower cost or the informal providers.

#### 4.3 COST BURDEN OR ILLNESS COST

Healthcare costs frequently present significant challenges to households' economic sustainability, especially in settings with limited resources and no effective pre-payment financial arrangements (66). The costs of illness for households lead to unfairness in access to health care, with the poor being discouraged from healthcare access, whereas they are in greater need of it because of a higher burden of disease (67). In determining the costs of illness or cost burden on households, two leading indicators were used: direct and indirect costs, as shown in box 3 of the conceptual framework (68).

Direct healthcare costs (medical and non-medical) are household spending utilized on seeking treatment. It includes diagnosis, medication, inpatient care, outpatient care, transportation, and particular food preferences. The indirect costs are measured as the opportunity costs (loss of productivity) or loss of income of patients and relatives for the whole illness episode due to morbidity and mortality associated with the disease (69). The human capital approach for quantifying the indirect cost calculates the lost labor time due to the illness, which often denotes a reduced capacity for households to generate income (68).

The cost burden of chronic illnesses on patients and households is enormous. Chronic and communicable diseases are linked to disability, which can cause severe economic costs to the individual and their households (70). In a study in southeast Nigeria, the total treatment cost of malaria for an individual was between US\$7.6 to US\$25.6 monthly, with the drug accounting for more than 70% of the total cost (71). Similarly, a study conducted in south-west Nigeria showed that among 443 respondents, the average direct cost was \$137.72 for chronic illness, with about 79% of the respondents spending more than 10% of their monthly household income on health (72). The indirect costs of illness recorded were 18.9% (\$503.92) loss of productivity for the patient and 5.1% (\$134.56) for the caregivers yearly (72). Also, in another study in Enugu (south-east Nigeria), for neonatal illnesses/disorders, the costs recorded, especially in treating neonatal sepsis and low birth weight, were on average US\$223 (NGN36,383) and US\$341 (NGN54,969) respectively, with OOP payment accounting for 100% of the expenditure (71). Another study in a public hospital in Osun (south-west Nigeria) showed that the average direct and indirect costs for asthma were \$190.65 and \$118.34, respectively, per patient. The direct costs of treatment constituted 62.7%, and the

hospitalization and drug costs component accounted significantly for the direct costs for asthma treatment (73).

The expenses measured in these studies generally include those related to outpatient services, hospitalizations, certain diseases, drugs, rehabilitation, diagnosis, healthcare for elderly, health insurance, non-cash gifts for service providers, disability, decreased productivity, housing, food, transportation, information, and communication technology used during treatment. . It is clear from these studies that both direct and indirect costs contribute considerably to cost burden of people; where prepayment systems or exemptions can contribute to lowering expenditures for direct costs, indirect costs depend on wider social security systems, and also on the accessibility of health services in the case of transport costs (see tables 4 and 5).

Table 3: Direct components of household health costs (73)(74)

<b>S/N</b>	<b>Direct health costs components</b>	<b>S/N</b>	<b>Direct health costs components</b>
1	General Practitioner services (public and private)	9	Official drugs, uncovered by health insurance, according to the approved price (available at pharmacies)
2	Public Health services, particularly maternal and child services (public and private)	10	Patient food expenses
3	Outpatient surgery (public and private)	11	Patient transportation expenses to receive health services
4	Hospitalization for surgical services (public and private)	12	Receive health services as non-official person (who are ineligible approved by the Ministry of Health)
5	Hospitalization without surgical services (acute diseases) (public and private)	13	Receive diagnostic services (including laboratory, imaging, and genetic counseling clinic)
6	Hospitalization without surgical services (chronic disease) (public and private)	14	Receiving rehabilitation services (including physiotherapy, speech therapy, optometrist, audio-logical and occupational therapy, and prosthetics services)
7	Services related to a specific disease	15	General dentists services (public and private)
8	Day clinic services	16	Emergency services (public and private)

Table 4: Indirect components of household health costs (66)(68)

<b>S/N</b>	<b>Indirect health costs components</b>	<b>S/N</b>	<b>Indirect health costs components</b>
1.	Expenses related to the patient's permanent disability due to illness	6	Transportation expenses associated with patient family
2	Expenses related to the patient's temporary disability due to illness	7	Patient's family food expenses (in excess of the normal cost of food)
3	Expenses related to the patient's family temporary disability	8	Expenses related to patient's family housing (In place of service receiving)
4	Expenses related to the patient's changing jobs	9	Expenses of information and communication technologies (telephone, Internet, etc.)
5	Expenses related to the patient's family changing jobs	10	Expenses of information and communication technologies (telephone, Internet, etc.)

#### 4.4 Description of Coping Strategies (Box 4)

In the event of an illness and response to high treatment costs and limited health insurance or absence of other pooled financing arrangement, households make treatment decisions and employ different strategies to cope with the economic consequences of illness and the use of health services (74). Although it is hard to generalize across different settings, studies have identified some key strategies that households in LMICs, including Nigeria, employ in response to OOP payment (74). In response to illness, households' immediate coping strategy to pay for healthcare expenditures is the use of available cash and savings. However, studies reveal that this applies to a small fraction of households with adequate savings to draw on (67). Studies report the use of a variety of coping strategies (as shown in figure 12 below) with the use of own money (personal savings) as the primary strategy utilized, especially by the poor (71)(75). In a study conducted in Enugu (southeast Nigeria), 90% reported the use of personal money/savings, which include cash and food items set aside as emergency funds to pay for health bills in the event of ill health (71). Another study at a tertiary institution in Aba (southeast Nigeria) reported that 99% of the respondents used personal savings to pay for medical bills (76).

Although savings can alleviate the economic shock of medical expenses, in most households in LMICs, savings are little and often insufficient to pay for the high cost of healthcare. As a result, poor households often resort to cheaper informal providers (67)(77)(78). In Nigeria, other coping strategies employed by households include the sale of assets such as lands & livestock (79), interruption of children's education, goodwill support from churches, reduced food consumption, and begging on the streets. Formal and informal borrowing of money from family and friends with collateral to pay for treatment, reflecting the importance of social networks, is also employed (80). The possibilities of obtaining loans differ widely between

households. While the richer households benefit from a greater range of borrowing opportunities, the poorer households are often unsuccessful in collecting money from friends to pay for ill member treatment costs. The poor are pushed to take loans on unfavorable terms and conditions and often being forced to mortgage their assets in the process (78).

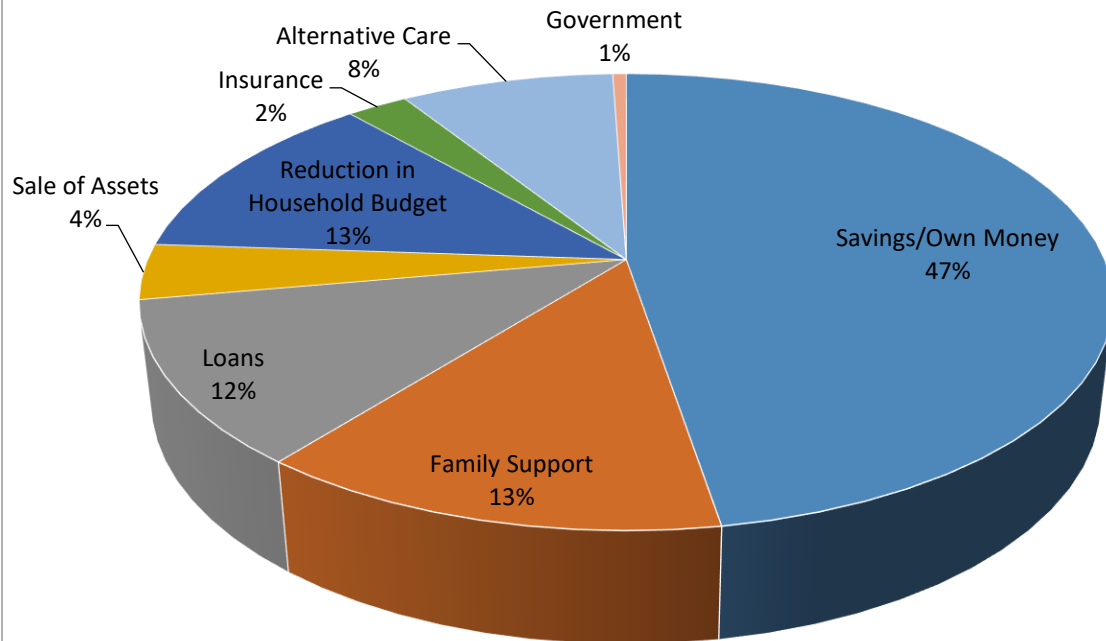
The Onah and Govender study (65) reported working extra hours to generate more income to offset healthcare expenditure as one of the coping strategies. Similarly, family members are sent to work for people from whom money was borrowed to cover the OOP payment. In the short run, these coping strategies can cushion the effect allowing households to pay, but this can be detrimental for them and their resources in the long run. Sometimes these coping mechanisms may gradually denote a practical trade-off (investing in the present for improved health and potential returns on assets in the future). In the long run, it increases the household susceptibility to economic hardship, especially for substantial medical treatments, because the borrowed monies have to be repaid often with exorbitant interest rates (81). In many severe cases, for direct costs, households try to diversify their income by increasing work hours or doing a second job to generate additional revenue to cater to health and other expenditures.

In contrast, for indirect costs, tasks may have to be reallocated to cope with losing a working member of the household or care for a sick child (82). Previously unemployed family members (mostly women, and children) may be mobilized in periods of need. However, this alternative may not be feasible where they are needed to cater for the ill household member (67)(78)(82).

As reported by a multi-country African study, borrowing and selling of assets amongst others appear to be the principal mechanisms used by households to pay for their healthcare. The study revealed that 23%-68% of households in these countries employ these two strategies (66). In determining the selection of a coping strategy, a household's asset base, and the ability to transform assets into cash are usually considered.



## Coping Strategies for Out-of-Pocket Health Spending in Nigeria



Source: author

Figure 7: Coping Strategies for Out-of-Pocket Health Spending in Nigeria

#### 4.5. Impact of OOP on Livelihood

The burden of healthcare expenditures and the economic consequences and the social effects on households is dependent on the country's healthcare system and the capacity of individual households to pay (83). Catastrophic financial implications of a disease are one with high productivity loss and result in premature mortality or high morbidity for the working population described by Berki, recognized as the originator of the concept of catastrophic health expenditure (84). Several studies have used different thresholds ranging from 5% to 20% of household income in defining thresholds for catastrophic health expenditure in other countries (83). A household is usually said to have incurred catastrophic expenditure if it spends 40% or more of its non-food spending or 10% or more of its total healthcare expenditure (85)(86).

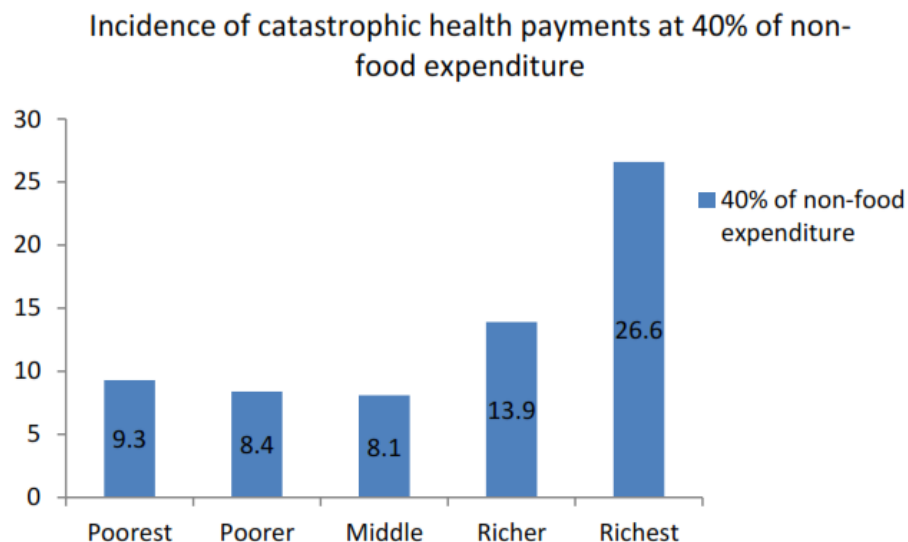
Another study described catastrophic health expenditure, focusing on its opportunity cost (such as food and education) and the consequences on individuals and households within it (87). In 2003, Xu et al. described catastrophic health expenditures for a household as exceeding 40% of the income remaining after subsistence needs have been met (80). Some other studies included the impoverishment effect of health expenditure on the household in developed and developing countries. These studies revealed a set of possible factors that may influence households' probability of incurring catastrophic health expenditure and becoming impoverished due to OOP health expenses. Among such factors are increasing age, functional disability, household size, pre-existing poverty level, healthcare facility visits, health insurance, and type and severity of illness (80)(88).

In table 6 below, a study analyzing the General Household Survey in Nigeria in 2016 revealed that at all thresholds levels (10%, 20%, and 40%), the lowest quintile incur most (72.5%, 62.2%, and 48.2%, respectively) CHE which decreases with improvement in socioeconomic status. But the table also shows that even in the highest SES groups, a considerable proportion still suffers from catastrophic health expenditures: 54, 41, and 27%, respectively. The North-western region has the most ratio of incurred CHE at 20% and 40% (56.8% and 40.2% respectively), while the South-south region has the highest incurred CHE at 10% (70.9%). CHE rises with increasing household heads' age at all thresholds, and households with unemployed heads' incurred higher CHE at all thresholds (89). These results also show that 75% of households headed by individuals with no education incurred CHE at all thresholds (89).

Similarly, another report from a study in Ebonyi, south-east Nigeria, showed an inverse relationship between the rates of catastrophic expenditures for TB with the household income level, with 37% of households spending a minimum of 15% household income on TB treatment. While 44% of households incurred CHE for TB care, the richer households with a better capacity to pay suffered lower economic consequences (90). However, contrasting finding was also reported from two studies separately analyzing the 2009/2010 Harmonized Nigeria Living Standard Survey and the 2003/2004 Nigerian Living Standard Survey (NLSS) data. It showed catastrophic OOP health payments disproportionately concentrated among the

richer households in Nigeria (figure 10) (3)(19). An explanation could be assuming that the poorest avoid seeking needed care or seek care from informal, cheap providers, limiting their health expenditures. Another possible reason is that people who have slightly more income prefer and search private providers' services and pay considerably more for their health care needs (19).

Figure 8: Incidence of catastrophic health payment at 40% of non-food expenditure (19)



Incidence of Catastrophic Out-of-Pocket (OOP) Health Payments by Quintile Using 40% of Total Consumption Expenditure.

The means of living and meeting necessities of life that make up a livelihood includes skills and resources, activities, and assets. Assets as a component of livelihood is multifaceted. It comprises of material (cash, food stock, lands, jewellerys, equipment, livestock, building) and immaterial assets such as claims (appeals and demands which can be made for moral, material, or other practical support) and access to social and public services (91). The majority of the population in Nigeria sustain their livelihood through Agriculture (92). Livelihood assets in Nigeria include land ownership, years of formal education, farm and livestock ownership, membership of local institutions, and access to credit facilities (93).

Table 5: Incidence and Intensity of Catastrophic Health Expenditure (89)

Variable	Description	Percentage of Non-Food Expenditures					
		10%		20%		40%	
		No	Yes	No	Yes	No	Yes
<b>Socio-economic Quantile</b>	Lowest	27.50	72.50	37.78	62.22	51.80	48.20
	Second	29.50	70.50	41.13	58.88	59.13	40.88
	Middle	34.97	65.03	50.55	49.45	64.79	35.21
	Fourth	35.66	64.34	52.65	47.35	69.64	30.36
	Highest	45.60	54.40	59.29	40.71	73.21	26.79
<b>Geo-political Zone</b>	North	39.77	60.23	53.75	46.25	67.15	32.85
	Central						
	North East	32.87	67.13	44.23	55.77	61.89	38.11
	North West	31.14	68.86	43.18	56.82	59.80	40.20
	South East	33.18	66.82	45.16	54.84	60.52	39.48
<b>Residence</b>	South South	29.11	70.89	47.15	52.85	63.45	36.55
	South West	42.86	57.14	57.88	42.12	71.43	28.57
	Urban	42.12	57.88	57.33	42.67	72.23	27.77
<b>Gender of Household Head</b>	Rural	31.47	68.53	44.48	55.52	60.17	39.83
	Male	35.48	64.52	49.30	50.70	64.61	35.39
<b>Age of Household Head</b>	Female	31.19	68.81	44.24	55.76	60.51	39.49
	20-40years	39.35	60.65	52.30	47.70	69.01	30.99
	41-60years	36.66	63.34	50.86	49.14	66.23	33.77
	61-80years	30.66	69.34	44.81	55.19	59.72	40.28
	81years & Above	18.75	81.25	27.84	72.16	41.48	58.52
<b>Education of Household Head</b>	No Education	25.00	75.00	25.00	75.00	25.00	75.00
	Nursery and Primary	30.62	69.38	44.48	55.52	61.45	38.55
	Secondary	39.49	60.51	53.95	46.05	68.53	31.47
	Post-	41.32	58.68	56.31	43.69	72.06	27.94
<b>Household Size</b>	Less than 5	36.97	63.03	49.37	50.63	64.16	35.84
	More than 5	34.26	65.74	48.34	51.66	63.96	36.04
<b>Health Insurance</b>	Insured	45.79	54.21	64.49	35.51	77.57	22.43
	Uninsured	34.56	65.44	48.13	51.87	63.64	36.36
<b>Total</b>		34.85	65.15	48.56	51.44	64.01	35.99

### **Impoverishing impact of OOP payment**

Healthcare out of pocket payment increases the household poverty level. Ichoku et al. reported that despite 57% of their study population lived in poverty, OOP further induced headcount poverty index by 7% (94). Aregbeshola and Khan (19) also reported that 1,268,800 Nigerians are being pushed into poverty due to OOP payment, representing an increase of 0.8% in the poverty headcount ratio. Another study also reported that 3.5% of the households in Nigeria become poor after paying for healthcare from their pocket, which is more pronounced for households in the lower economic quintiles (95). Another study on the implication of OOP on households in Nigeria reported a sharp downward pull into poverty due to high OOP expenditure in the different quintiles (3).

### **Medical suppression impact of OOP payment**

Studies also showed that OOP influence perceived medical needs and suppressed it. The majority of the poor and population with low income avoided using health facilities due to cost and suppressed their perceived medical needs (94). They may think they don't need the care when they don't have the money to pay for it. The real needs in terms of illness that could benefit from care do not change because they have to pay for care. Onah and Govender (65), in their study, also reported that the OOP cost burden results in untreated morbidity among the poor respondents. Similarly, Omotosho and Ichoku (95) reported that poorer households grossly underspend on health, spending ten times less of their per capita health expenditure as a percentage of per capita total income than their rich counterparts, hence not seeking healthcare even when needed. A study conducted in south-western Nigeria reported that 25% of referred chronic renal failure and End-Stage Renal Disease patients delayed and suppressed the needed dialysis due to inability to pay out of pocket for the use of dialysis machine (96).

### **Social impact of OOP payment**

A study conducted in Port-Harcourt (southern Nigeria) reported the impact of paying for Intensive Care Unit medical expenses on the households. While 9.4% reported not feeling any effect, although this reduced with prolonged stay in the unit, 18.8% reported incapacity to pay house rent, 15.5% reported household members dropping out of school and 25.0% reported household feeding difficulty, and 31.3% had to reduce spending on other family projects (97)

### 5.1 DISCUSSION

This chapter discusses the results from the reviewed studies on the reported illness and burden of diseases, the effect of treatment cost on treatment behavior, cost of illness, impacts of OOP and coping strategies to high OOP, considering the organizational features as well as options and challenges of financing arrangements of the Nigerian health system as the context.

#### **Gross inadequacy of fiscal space for health**

This review revealed the pluralistic and weakly coordinated nature of the Nigerian health system. It also showed low funding, especially at the health system's primary level, which serves most of the population. It reflects a weak health system without adequate financial capacity and governance to cater for the people suffering from preventable causes of morbidity and mortality. Inequitable distribution and utilization of public resources for health has implications for financial risk protection, particularly for the poor. Because public OOP payments mostly finance access to essential services and public funding is not appropriately targeted, the poor continuously face financial distress. Although it is similar to most health systems in sub-Saharan Africa, and the World Health Organization reported that most killer diseases in Africa are preventable if adequately funded and coordinated, cost-effective interventions are employed by the health system (98). However, in some respects, the situation is different from sub-Saharan Africa in general: given the fact that Nigeria is a middle-income country, Nigeria has a shallow fiscal space; and besides, the health sector gets low priority within the government budget.

The health system financing in Nigeria is modeled like the British system and is similar to many other commonwealth countries (99), where government financing constitutes the single largest source. The report shows that economic growth will increase general government revenue and more funding for the health sector (36). The country's economy is still heavily reliant on oil revenue receipts (non-income tax). Therefore, it is imperative to note that the fluctuation and cut back in the global oil and gas price and militant activities in the Niger Delta region have significant potential implications for revenue generation in Nigeria's financing health (43). Additionally, the current tax-to-GDP ratio of about an abysmal 6% is too low, even compared to African averages, to stimulate economic growth. Thus increasing the tax-to-GDP ratio to the 15% benchmark, which can improve budgetary allocation to the health sector, remains a tall task, given the widespread corruption, narrow tax base, and inefficient tax policies in the country.

The Basic Health Care Provision Fund (BHCPF) scheme came into existence following the signing of the National Health Bill in 2014 (100); seeks to remove financial barriers to accessing PHC, particularly for the poor and vulnerable, by the allocation of an extra 1% of the consolidated revenue fund (CRF) to mainly primary health care. But have not yet fully materialized, partly because of lack of coordination between the three layers of Government. As of 2018, the BHCPF was still underfunded (101). A fall in oil price in 2020 saw the budget of BHCPF slashed from NGN44.4billion to NGN25.5billion, representing a 42.5% decrease

(102). The current meager funds available to the Fund cannot expand primary healthcare to a 65% target of the population by 2023. The consistent scarcity of data on the availability of health resources and the infrastructure and human resource challenges that characterize the sector militate against efficient planning and advocacy for additional health investments, which could have provided funding for the mandate (36). Also, the NHIS plays a minimal role in Nigeria, with mainly federal civil servants covered, and the participation of other groups is still not made mandatory (27). The low coverage of NHIS in Nigeria after almost two decades of inception also reflects the scheme's weak design and implantation. Besides, the large informal sector in the country, like other LMICs, weakens the ability to expand coverage to the informal sector (19). The coverage of only formal Federal employees in the NHIS in Nigeria do not encourage equity, delivery of quality services, and access to universal health coverage (103). Also, external donor funding is expected to continue to reduce due to the country's increasing GDP, which excludes high GDP countries from accessing donor funds (36). Moreover, donor funding is unsustainable in driving an equitable and efficient health system.

Though occupying the larger proportion of the health service provider, the private sector is not well regulated by the Government, which could lead to poor service provision and excessive exploitation of the patient/clients (33). The largely insufficient pooled financing arrangements are mainly from tax and non-tax revenues. They do not contract private providers' services, leaving this private sector mostly with financing through OOP payments.

The health system financing in Nigeria is similar to many other commonwealth countries (99), where government financing constitutes the single largest source. It is imperative to note that the fluctuation and cut back in the global oil and gas price have significant potential implications for revenue generation in Nigeria's financing health (43). The results also show that the percentage of OOP is higher than most LMICs (5); hence, the inability to achieve UHC and risk protection for the population, especially the poor and the vulnerable. Beyond the NHIS and the BPHCF initiative, Nigeria probably has a problem of Public Finance management, which is further complicated because of the poor coordination across the three levels of government, widespread corruption, a weak and inefficient tax system, and over-reliance on oil revenues and insecurity in the country. All these factors make fiscal space for health in Nigeria severely constrained, more severe than most other countries with the same GDP. Consequently, the government is incapable of offering sufficient financial protection, and people are left to pay for their health care almost entirely through OOP payments.

### **What do people spend the most money on, and who is most affected?**

The review revealed that malaria is the most reported illness in the country. The pattern of other reported illnesses in Nigeria reflects a double burden of diseases similar to most countries in the tropics. While the health system struggles to reduce morbidity and mortality due to communicable diseases, non-communicable diseases are rising. It is explained mainly from the demographic and epidemiological transitions typical of most developing countries (56).

The cost implication of chronic illnesses on households is vast, with households spending more than 10% of their income on direct cost. Chronic and communicable diseases such as malaria are related to disability, resulting in severe economic costs to the individual and their

households, especially for the poor and vulnerable (70). Findings revealed the direct costs (avoidable through prepayment systems, like insurance or free PHC funded through public revenues like the BPHCF) is due mainly to drug cost and hospitalization. While indirect costs, which reduces production time, require broader social security systems (like unemployment compensation, pensions, sick pay) and a health system that is easily accessible (to avoid travel expenses). Thus, cost-effective preventive programs such as (policies on smoking, overweight and salt use, and subsidized malaria diagnosis and treatment programs) could lower these diseases' burden. One way of doing this is to prioritize PHC and ensuring preferential funding for PHC, as it also tends to be pro-poor. In fact, it is the entire population that suffers from OOP payments, although the poorest suffer proportionally more from CHE.

### **Impacts of OOP payments**

Due to anticipated high cost, health-seeking behavior can lead to not seeking perceived care or delaying needed medical care, or seeking care from unqualified informal providers. These have severe implications for health morbidity, developing complications, and mortality outcomes. For instance, most of the unregulated informal sector is patronized as alternatives to formal care due to anticipated high cost. They provide substandard care, which translates to poor health outcomes (104).

The high direct and indirect healthcare cost, coupled with the country's high poverty and unemployment level, enhances catastrophic expenditure and household impoverishment. Furthermore, the labor loss as a form of indirect cost has implications on the nation's productivity with potential cyclic effect on economic development and availability of funds for the health sector, thus undermining Nigeria's ability to achieve sustainable development goals.

Some contradictory reports of the burden of CHE among the poor and the rich is quite remarkable. While most studies reported a higher burden of CHE among the lower quintiles, some others reported a higher burden among the richer quintiles. Although the poor arguably spend most of their income to access healthcare, which probably explains the former scenario, it is not uncommon for the poor to ignore illness, self-medicate or visit alternative healthcare providers due to anticipated high cost. Thus, only the rich are left to pay out of pocket for health services, which probably explains the latter scenario. Nevertheless, reports on the prevalent use of alternative health providers are opposed to formal medical and health service providers varied greatly in developed and developing countries, with prevalence of use ranging from 7% to 80% (105). It suggests that the richer patients are likely to visit hospitals or less likely to disclose their visits to informal service providers.

In addition to this, the rich bypass the lower levels of healthcare providers such as primary health centers to obtain healthcare from private and referral facilities that are expensive, thereby paying more for their health care needs (19). Similarly, the government's exemption services and free healthcare programs sometimes provided to the poor and the vulnerable is also a plausible reason for the higher burden of catastrophic OOP among the rich (106). This



study showed various coping strategies to high OOP, which in the short run, alleviate the effect of high healthcare cost but may compromise future available resources.

Evidently, from the studies reviewed, high OOP confers negative socio-economic impacts on Nigeria's households, ranging from poverty, ill-health, and social consequences. Poverty has been reported as a determinant of quality of life. Hence, the health system's inability to provide financial protection indirectly compromises the population's quality of life. The inability to pay for health services due to OOP leads to poor health-seeking behavior and medical suppression and, consequently, increased deaths from preventable diseases (96). As revealed by this study, the withdrawal of children and wards from school can fuel the household's poverty cycle. Studies showed that education is a protective determinant against poverty and poor health. Therefore, OOP harms the life-course of an individual and households.

## 5.2. CONCLUSION

This thesis reviewed studies and reports on the impacts and consequences of high OOP payments, health-seeking behaviors, and coping strategies people use. The health system's organizational features, options, and challenges of pooled financing arrangements are discussed as background. In Nigeria, health finance indicators revealed underfunding and lack of risk protection by the weakly coordinated, complex health system. It has resulted in high OOP with severe implications for catastrophic expenditure. The Nigerian Government's political will and commitment are crucial to ensuring adequate health financing, as observed in the progressing case of countries like Ghana and Rwanda.

This study revealed high incidence and intensity of OOP payments inequitably distributed in Nigeria, leading to catastrophic health expenditure and aggravated poverty. Therefore, seeking medical care plunges households into financial hardships, ultimately resulting in limited access to quality healthcare. The level of CHE varies according to the threshold used. However, a high CHE percentage is anticipated due to its high level of poverty and unemployment. Over the years, inadequate financing has been undermining the achievement of health goals, including the health-related SDGs. Fiscal space in Nigeria is constrained mainly by shallow general fiscal space of government, weak allocation to the health sector, and misallocation within the health sector from the government budget due to under-prioritization of health. Also, the inefficient public finance management and widespread corruption across all government sectors further reduce fiscal space, and the oil crisis has not helped in economic growth either.

The laudable initiative to commit an additional 1% of consolidated revenue fund to PHC has not yet materialized due to underfunding. Also, coordination problems across all government levels and weak public finance management further reduce fiscal space. The NHIS has not contributed significantly to financing in the health sector due to institutional flaws associated with its establishment and operational pattern, leaving most Nigerians with no insurance coverage. There is a strong indication that the gross insufficient pooled financing arrangement has been ineffective and inefficient in providing financial risk protection to a large percentage of the population, forcing households to incur financial burden due to OOP payments. It is improbable to see a swift expansion of government spending on health without heightened pressure by advocating for politicians and policymakers to increase the government budget's health share. Ultimately, more qualitative and longitudinal research, including studies spanning generations, is needed to inform vulnerable groups and comprehensively monitor Nigeria's financial risk protection.

### 5.3. RECOMMENDATIONS

Results of this review done and discussed have policy implications for policy-makers in Nigeria. Policy-makers should consider the following recommendations for program design, management, and stakeholders.

- First, the government must significantly increase public spending on health. To achieve sustainable health spending that will lead to sustainable health outcomes, Nigeria needs to improve healthcare by implementing the National health bill and providing adequate funding to the BHCPF. It will strengthen the primary health care service delivery by providing the benefits package for the vulnerable and the poor to improve access to affordable and quality healthcare services and health outcomes. The bulk of the disease burden is from communicable, neonatal & child, maternal, and nutritional diseases. Highly cost-effective intervention programs at the PHC and community level could prevent these conditions. Also, malaria diagnosis and treatment could be subsidized to make it affordable and accessible, particularly for the poor.
- The government should strengthen social protection programs such as Health, subsidized risk pooling mechanisms -cooperatives, insurance, community essential services provision, premium waivers, fee waivers for social services, school subsidies, and cash transfers. It will provide a social safety net, especially for the poor and vulnerable in the meantime
- The government should improve health sector efficiency and absorptive capacity. It will ensure that the benefits of available resources are maximized as well as justify health sector prioritization.
- Government roles in the sector must be adequately redefined and sharpened, and coordination across the three tiers of government strengthened. It will reduce duplication of functions and duties and address gaps in governance and stewardship, as seen by the government's lack of transparency at all tiers in healthcare financing.
- The government should increase fiscal space by strengthening innovative taxes (on tobacco, sugar, alcohol, and luxury goods) earmarked for health, improving tax administration and compliance, and maintaining public finance management. It will contribute to more revenue for the health and social sectors and enhance its commitment and implementation of BHCPF.
- Through well-targeted government spending and subsidy to the sector, more people, especially the poor and vulnerable, will benefit. There should be availability of financial provisions for poor and more vulnerable populations in exemptions, subsidies, paying for insurance contributions, or any other methods.
- Through the NHIS, the government should support states to establish their health insurance by providing technical assistance to state governments to develop non-profit insurance schemes. It will help expand coverage to the state employees and progressively target the informal sector through cooperatives and community insurance.

- The government should mobilize and harmonize resources from domestic and external aid and partnerships for financing health while ensuring the efficiency of such funds to improve access to quality health care for Nigerians.
- The government should increase Public-Private Partnership (PPP) by looking at government partnerships with private health care providers, traditional health providers, and nongovernmental health care providers is another strategy that could be of help to the country. Health services in public health institutions can be contracted out to these groups by the government and increase rural health facilities' investment.

### **LIMITATIONS TO THE STUDY**

This thesis work is based on a literature review. Due to the time constraints, the researcher has had limits on the secondary data available. This review's data and information have been subject to recall bias or subjective judgments during primary data collection that may have caused inaccuracies. The dynamics of health-seeking behaviors, changing demand, and expectations over time, and other health system features conclude that some studies may be time and place-bound. Therefore, it is recommended that this study's findings be interpreted with caution in light of such limitations.

## REFERENCES

1. Ortiz I, Cummins M, Karunanethy K. Fiscal Space for Social Protection and the SDGs: Options to Expand Social Investments in 187 Countries. 2017.
2. WHO. Health Systems Financing: The Path to Universal Coverage. World Health Report 2010. Reli Bosques excepcional Divers en los Andes Cent del Per [Internet]. 2010;9–9. Available from: [http://www.who.int/whr/2010/whr10\\_en.pdf](http://www.who.int/whr/2010/whr10_en.pdf)
3. Amakom U, Ezenekwe U. Implications of households catastrophic out of pocket (OOP) healthcare spending in Nigeria. J Res Econ Int Financ [Internet]. 2012;1(5):136–40. Available from: <http://www.interestjournals.org/JREIF>
4. WHO. The Abuja Declaration : Ten Years On. Heal (San Fr. 2011;(September 2000):1–4.
5. WHO. The World Health Report Health Systems Financing: The path to universal coverage. 2010; Available from: [https://apps.who.int/iris/bitstream/handle/10665/44371/9789241564021\\_eng.pdf?sequence=1%0D](https://apps.who.int/iris/bitstream/handle/10665/44371/9789241564021_eng.pdf?sequence=1%0D)
6. National Bureau of Statistics (NBS). Annual abstract of statistics , Federal Republic of Nigeria. Natl Bur Stat Fed Repub Niger [Internet]. 2012;1–602. Available from: [www.nigerianstat.gov.ng](http://www.nigerianstat.gov.ng)
7. Worldometer. Nigeria population 2020 [Internet]. 2020. Available from: <https://www.worldometers.info/world-population/nigeria-population/>
8. IndexMundi. Nigeria Population Growth Rate. 2012 [Internet]. 2012;1–5. Available from: [http://www.indexmundi.com/nigeria/population\\_growth\\_rate.html](http://www.indexmundi.com/nigeria/population_growth_rate.html)
9. World Bank. world Bank in Nigeria Overview. 2019;(December):2019. Available from: <https://www.worldbank.org/en/country/nigeria/overview>
10. Group ADB. NIGERIA: Economic Outlook. Africa Res Bull Econ Financ Tech Ser. 2020;51(7):20485A-20487A.
11. Family Health Department. National Strategic plan of Action For Nutrition. 2014;78. Available from: <http://www.health.gov.ng/doc/NSPAN.pdf>
12. Statistics NB of. Nigeria’s Unemployment rate. 2020.
13. WHO. Sustainable health financing , universal coverage and social health Insurance. Resolutions and Decision of the 58th World Health Assembly. World Heal Organ. 2005;(4):139–40.
14. McIntyre D, Ranson MK, Aulakh BK, Honda A. Promoting universal financial protection: Evidence from seven low- and middle-income countries on factors facilitating or hindering progress. Heal Res Policy Syst. 2013;11(1):1–10.
15. Reich MR, Harris J, Ikegami N, Maeda A, Cashin C, Araujo EC, et al. Moving towards universal health coverage: Lessons from 11 country studies. Lancet [Internet]. 2016;387(10020):811–6. Available from: [http://dx.doi.org/10.1016/S0140-6736\(15\)60002-2](http://dx.doi.org/10.1016/S0140-6736(15)60002-2)
16. Adesina AD, Ogaji DS. Out-of-Pocket Payment for Healthcare and Implications for Households: Situational Analysis in Yenagoa, Bayelsa State. J Community Med Prim Heal Care [Internet]. 2020;32(1):1–16. Available from: <https://www.ajol.info/index.php/jcmphc/article/view/194172/183420%0Ahttps://www.ajol.info/index.php/jcmphc/article/view/194172>

17. Aghaji AE, Gilbert C, Ihebuzor N, Faal H. Strengths, challenges and opportunities of implementing primary eye care in Nigeria. *BMJ Glob Heal*. 2018;3(6):1–5.
18. A Soyibo, Lawanson AO. Health Care Financing in Nigeria: National Health Accounts Perspective. *Asian J Humanit Soc Stud* [Internet]. 2014;2(2):2321–799. Available from: [www.ajouronline.com](http://www.ajouronline.com)
19. Aregbeshola BS, Khan SM. Out-of-pocket payments, catastrophic health expenditure and poverty among households in Nigeria 2010. *Int J Heal Policy Manag* [Internet]. 2018;7(9):798–806. Available from: <https://doi.org/10.15171/ijhpm.2018.19>
20. OECD. Revenue Statistics in Africa 2020 [Internet]. 2020. Available from: [http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/revenue-statistics-in-africa-2017\\_9789264280854-en-fr#.Wl6\\_n9-nHIU](http://www.keepeek.com/Digital-Asset-Management/oecd/taxation/revenue-statistics-in-africa-2017_9789264280854-en-fr#.Wl6_n9-nHIU)
21. Ortiz I, Chai J, Cummins M. Identifying Fiscal Space: Options for Social and Economic Development for Children and Poor Households in 184 Countries [Internet]. 2011. Available from: [http://www.unicef.org/socialpolicy/files/Fiscal\\_Space\\_-\\_REVISED\\_Dec\\_2011.pdf](http://www.unicef.org/socialpolicy/files/Fiscal_Space_-_REVISED_Dec_2011.pdf)
22. World Health Organization. Global Health Expenditure database: Nigeria profile [Internet]. WHO. 2017. Available from: [https://apps.who.int/nha/database/country\\_profile/Index/en](https://apps.who.int/nha/database/country_profile/Index/en)
23. Xu K, Saksena P, Jowett M, Indikadahena C, Kutzin J, Evans DB. Exploring the thresholds of health expenditure for protection against financial risk [Internet]. 2010. Available from: <http://158.232.12.119/healthsystems/topics/financing/healthreport/19THE-thresv2.pdf>
24. Uzochukwu BSC, Ughasoro MD, Etiaba E, Okwuosa C, Envuladu E, Onwujekwe OE. Health care financing in Nigeria: Implications for achieving universal health coverage. *Niger J Clin Pract*. 2015;18(4):437–44.
25. Hafez R. Nigeria Health Financing System Assessment. Health, Nutrition and Population (HNP). 2018.
26. Federal Ministry of Health. National Strategic Health Development Plan (NSHDP) 2010-2015. *Fed Minist Heal*. 2010;(November 2010):136.
27. Aregbeshola BS, Khan SM. Determinants Of Impoverishment Due To Out Of Pocket Payments In Nigeria. *J Ayub Med Coll Abbottabad*. 2017;29(2):194–9.
28. Riman HB, Akpan ES. Healthcare Financing and Health outcomes in Nigeria: A State Level Study using Multivariate Analysis. *Int J Humanit Soc Sci* [Internet]. 2012;2(15):296–309. Available from: [http://www.ijhssnet.com/journals/Vol\\_2\\_No\\_15\\_August\\_2012/38.pdf](http://www.ijhssnet.com/journals/Vol_2_No_15_August_2012/38.pdf)
29. Obansa SAJ, Orimisan A. Health care financing in Nigeria: Prospects and challenges. *Mediterr J Soc Sci*. 2013;4(1):221–36.
30. Adebisi YA, Agumage I, Sylvanus TD, Nawaila IJ, Ekwere WA, Nasiru M, et al. Burden of Tuberculosis and Challenges Facing Its Eradication in West Africa. *Int J Infect*. 2019;6(3):1–20.
31. Alam K, Mahal A. The impacts of health shocks on households in low and middle income countries: A review of the literature. *Global Health*. 2014;10(1).
32. Xu K, Evans DB, Kadama P, Nabyonga J, Ogwal PO, Nabukhonzo P, et al. Understanding the impact of eliminating user fees: Utilization and catastrophic health

- expenditures in Uganda. *Soc Sci Med*. 2006;62(4):866–76.
33. Federal Ministry of Health-Nigeria. Second National Strategic Health: Ensuring healthy lives and promoting the wellbeing of the Nigerian populace at all ages. 2018;1–150.
  34. Makinde O. r Fo Pe er Re vi ew r Fo Pe er Re vi. *Int J Health Plann Manage* [Internet]. 2016; Available from: <https://www.google.com/search?q=primary+care+paradox&oq=primary+care+paradox&aqs=chrome..69i57.8532j0j15&sourceid=chrome&ie=UTF-8>
  35. Yusuff Adebayo Adebisi ORCID , Joshua Ottah Umah , Omotayo Carolyn Olaoye , Aishat Jumoke Alaran , Ayomide Busayo Sina-Odunsi 5 DEL-PI. ssesment of Health Budgetary Allocation and xpenditure Toward Achieving Universal Health overage in Nigeria. *Int J Heal LIFE Sci*. 2020;
  36. Tandon A, Cashin C. Assessing Public Expenditure on Health From a Fiscal Space Perspective. *HNP Discuss Pap*. 2010;(February):1–80.
  37. Barroy H, Sparkes Susan, Dale E. Assessing fiscal space for health expansion in low-and-middle income countries: a review of the evidence [Internet]. 2016. Available from: [https://www.who.int/health\\_financing/documents/assessing-fiscal-space/en/](https://www.who.int/health_financing/documents/assessing-fiscal-space/en/)
  38. Hagen-Zanker J, Tavakoli H. An analysis of fiscal space for social protection in Nigeria [Internet]. 2012. Available from: <https://www.researchgate.net/publication/265243652>
  39. Piatti-Fünfkirchen M, Lindelow M, Yoo K. What are governments spending on health in east and Southern Africa? *Heal Syst Reform* [Internet]. 2018;4(4):284–99. Available from: <https://doi.org/10.1080/23288604.2018.1510287>
  40. Republic F, Nigeria O. Budget Document Sub Categories [Internet]. 2020. Available from: <https://budgetoffice.gov.ng/index.php/resources/internal-resources/budget-documents?layout=columns>
  41. Organization WH. Public Financing for Health in Africa: from Abuja to the SDGs [Internet]. *Health Financing toward UHC*. 2016. Available from: <http://www.who.int/healthsystems/topics/financing/healthreport/en/>
  42. PharmAccess Foundation. Nigerian Health Sector Market Study Report. *pharmAccess Found* [Internet]. 2014;(March):1–52. Available from: [https://www.rvo.nl/sites/default/files/Market\\_Study\\_Health\\_Nigeria.pdf](https://www.rvo.nl/sites/default/files/Market_Study_Health_Nigeria.pdf)
  43. Ichoku HE, Okoli CI. Fiscal Space for Health Financing in Nigeria. *African J Heal Econ*. 2015;0002:18.
  44. Ichoku HE, Fonta WM, Onwujekwe OE, Kirigia JM. Evaluating the Technical Efficiency of Hospitals in Southeastern Nigeria. *Eur J Bus Manag* [Internet]. 2011;3(2):1–15. Available from: <http://iiste.org/Journals/index.php/EJBM/article/view/158/42>
  45. Nairametrics. Nigeria records debt service to revenue ratio of 99 % in first quarter of 2020 . [Internet]. 2020. Available from: <https://nairametrics.com/2020/06/13/nigeria-records-debt-service-to-revenue-ratio-of-99-in-first-quarter-of-2020/>
  46. International monitoring Fund. Credit Facility and Purchase Under the Rapid Financing Instrument — Press Release. 2020.
  47. Security and Exchange Commission N. Analysis of recent Economic/Financial Development. Vol. 5. 2020.
  48. Nigeria. 2018;

49. Institute for Health Metrics and Evaluation (IHME). Global Burden of Disease: Nigeria Profile [Internet]. 2017. Available from: <http://www.healthdata.org/results/country-profiles>
50. National Population Commission Federal Republic of Nigeria Abuja N, ICF International Rockville, Maryland U. Nigeria Demographic and Health Survey 2013. *Hosp Heal Networks*. 2013;83(5):9.
51. Nigeria. The Federal Republic of Nigeria Nigeria Malaria Indicator Survey 2015 Final Report National Malaria Elimination Programme Federal Ministry of Health Federal Republic of Nigeria Abuja, Nigeria National Population Commission Federal Republic of Nigeria Abuj [Internet]. 2016. Available from: [www.DHSprogram.com](http://www.DHSprogram.com).
52. Federal Ministry of Health. Malaria situation analysis. Niger Strateg Plan 2009-2013 A Road Map Malar Control Niger [Internet]. 2008;(June 2008):12. Available from: [http://www.nationalplanningcycles.org/sites/default/files/country\\_docs/Nigeria/nigeria\\_draft\\_malaria\\_strategic\\_plan\\_2009-2013.pdf](http://www.nationalplanningcycles.org/sites/default/files/country_docs/Nigeria/nigeria_draft_malaria_strategic_plan_2009-2013.pdf)
53. Okeke TA, Okafor HU. Perception and Treatment Seeking Behavior for Malaria in Rural Nigeria: Implications for Control. *J Hum Ecol*. 2008;24(3):215–22.
54. Madubuko G, Onwujekwe O, Obikeze E, Uzochukwu B, Okoronkwo I, Ochonma O. Burden of endemic disease and health seeking behaviour in Ebonyi State, Nigeria: Socio-economic status and geographic differences. *Afr J Nurs Midwifery*. 2009;11(2):98–112.
55. Audu O, Bako Ara I, Abdullahi Umar A, Nanben Omole V, Avidime S. Sociodemographic Correlates of Choice of Health Care Services in Six Rural Communities in North Central Nigeria. *Adv Public Heal*. 2014;2014:1–7.
56. Njoku1 PO, Enomina M, Obehighe EE, Mbah IO, , Emeka Obumneme Okoro2 MEE, Asalu AF, et al. Pattern of non-communicable diseases seen in a tertiary hospital in Keffi, North Central Nigeria. *Niger J Cardiol*. 2018;45–9.
57. WHO. Noncommunicable Disease. Heart of Africa: Clinical Profile of an Evolving Burden of Heart Disease in Africa. 2018. 155–157 p.
58. Abegunde DO, Mathers CD, Adam T, Ortegón M, Strong K. The burden and costs of chronic diseases in low-income and middle-income countries. *Lancet*. 2007;370(9603):1929–38.
59. Ogunmola OJ, Oladosu OY. Pattern and outcome of admissions in the medical wards of a tertiary health center in a rural community of Ekiti state, Nigeria. *Ann Afr Med*. 2014;13(4):195–203.
60. Oguanobi N, Onwubere B, Aneke E, Anisiuba B, Ejim E, Ike S, et al. Pattern of cardiovascular disease amongst medical admissions in a regional teaching hospital in Southeastern Nigeria. *Niger J Cardiol*. 2013;10(2):77.
61. Akpan HBR and ES. Healthcare Financing and Health outcomes in Nigeria: A State Level Study using Multivariate Analysis. *Int J Humanit Soc Sci*. 2012;(2114):0–33.
62. Edu BC, Agan TU, Monjok E, Makowiecka K. Effect of free maternal health care program on health-seeking behavior of women during pregnancy, intra-partum and postpartum periods in Cross River State of Nigeria: A mixed method study. *Maced J Med Sci*. 2017;5(3):370–82.
63. Afolabi MO, Daropale VO, Irinoye AI, Adegoke AA. Health-seeking behaviour and student perception of health care services in a university community in Nigeria. *Health (Irvine Calif)*. 2013;05(05):817–24.



64. Omotoso D. Health Seeking Behaviour among the Rural Dwellers in Ekiti State, Nigeria. *African Res Rev.* 2010;4(2):125–38.
65. Onah MN, Govender V. Out-of-pocket payments, health care access and utilisation in south-eastern Nigeria: A gender perspective. *PLoS One.* 2014;9(4).
66. Leive A, Xu K. Coping with out-of-pocket health payments: Empirical evidence from 15 African countries. *Bull World Health Organ.* 2008;86(11):849–56.
67. Sauerborn R, Adams A, Hien M. Household strategies to cope with the economic costs of illness. *Soc Sci Med.* 1996;43(3):291–301.
68. Russel S. The economic burden of illness for households in developing countries: A review of studies focusing on malaria, tuberculosis, and human immunodeficiency virus/acquired immunodeficiency syndrome. *Am J Trop Med Hyg.* 2004;71(2 SUPPL.):147–55.
69. Suhrcke M, Nugent RA, Stuckler D RL. Chronic disease: an economic perspective. 2006;(November).
70. Boutayeb A, Boutayeb S. The burden of non communicable diseases in developing countries. *Int J Equity Health.* 2005;4:1–27.
71. Ewelukwa O, Onoka C, Onwujekwe O. Viewing health expenditures, payment and coping mechanisms with an equity lens in Nigeria. *BMC Health Serv Res [Internet].* 2013;13(1):87. Available from: BMC Health Services Research
72. Okediji PT, Ojo AO, Ojo AI, Ojo AS, Ojo OE, Abioye-Kuteyi EA. The Economic Impacts of Chronic Illness on Households of Patients in Ile-Ife, South-Western Nigeria. *Cureus.* 2017;9(10).
73. Oloniniyi I, Aloba O, Akinsulore A. Economic Cost of Asthma and Psychiatric Morbidity in Nigerian Patients with Asthma. *West Afr J Med.* 2019;(September).
74. McIntyre D, Thiede M, Dahlgren G, Whitehead M. What are the economic consequences for households of illness and of paying for health care in low- and middle-income country contexts? *Soc Sci Med.* 2006;62(4):858–65.
75. Onwujekwe OE, Uzochukwu BSC, Obikeze EN, Okoronkwo I, Ochonma OG, Onoka CA, et al. Investigating determinants of out-of-pocket spending and strategies for coping with payments for healthcare in southeast Nigeria. *BMC Health Serv Res.* 2010;10.
76. Nwaneri, Ada, Ijeoma Okoronkwo, Ekpemiro JN OO. Socioeconomic inequities payment copi mechanisms used in the treatment of type 2 diab mellitus in Nigeria. *Niger J Clin Pract.* 2016;1–8.
77. Kruk ME, Goldmann E, Galea S. Borrowing and selling to pay for health care in low- and middle-income countries. *Health Aff.* 2009;28(4):1056–66.
78. Kabir A, Rahman A, Salway S, Pryer J. Sickness among the urban poor: A barrier to livelihood security. *J Int Dev.* 2000;12(5):707–22.
79. World Bank. Advancing Social Protection in a Dynamic Nigeria. [Internet]. 2019. Available from: <http://documents1.worldbank.org/curated/en/612461580272758131/pdf/Advancing-Social-Protection-in-a-Dynamic-Nigeria.pdf>
80. Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJL. Household catastrophic health expenditure: A multicountry analysis. *Lancet.* 2003;362(9378):111–7.

81. Wagstaff A. Measuring financial protection in health. 2008.
82. Russell S. Illuminating cases: Understanding the economic burden of illness through case study household research. *Health Policy Plan.* 2005;20(5):277–89.
83. Wyszewianski L. Families with catastrophic health care expenditures. *Health Serv Res* [Internet]. 1986;21(5):617–34. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/3102403><http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC1068978>
84. Berki SE. A look at catastrophic medical expenses and the poor. *Health Aff.* 1986;5(4):138–45.
85. Ke Xu W. Distribution of health payments and catastrophic expenditures Methodology. FER/EIP Discuss Pap ; [Internet]. 2005;1–6. Available from: [http://whqlibdoc.who.int/hq/2005/EIP\\_HSF\\_DP\\_05.2.pdf](http://whqlibdoc.who.int/hq/2005/EIP_HSF_DP_05.2.pdf)
86. Wagstaff A, van Doorslaer E. Catastrophe and impoverishment in paying for health care: With applications to Vietnam 1993-1998. *Health Econ.* 2003;12(11):921–33.
87. Russell S. Ability to pay for health care: Concepts and evidence. *Health Policy Plan.* 1996;11(3):219–37.
88. Brinda EM, Rodríguez Andrés A, Enemark U. Erratum: Correlates of out-of-pocket and catastrophic health expenditures in Tanzania: Results from a national household survey (*BMC International Health and Human Rights* (2014) 14:5 (Doi: 10.1186/1472-698X-14-5)). *BMC Int Health Hum Rights.* 2014;14(1):1–8.
89. Cleopatra I, Eunice K. Household Catastrophic Health Expenditure : Evidence from Nigeria. *Sci Acad Publ* [Internet]. 2018;6(1):1–8. Available from: <http://article.sapub.org/10.5923.j.m2economics.20180601.01.html>
90. Ukwaja KN, Alobu I, Abimbola S, Hopewell PC. Household catastrophic payments for tuberculosis care in Nigeria: Incidence, determinants, and policy implications for universal health coverage. *Infect Dis Poverty.* 2013;2(1):1–9.
91. Krantz L. The Sustainable Livelihood Approach to Poverty Reduction. Swedish Int Dev Coop Agency. 2001;
92. Food and agricultural Organization of the United Nations. Nigeria at a glance [Internet]. 2020. Available from: [http://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en/#:~:text=In spite of the oil,of livelihood for most Nigerians.&text=Nigeria is the continent’s leading,rice importers in the world.](http://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en/#:~:text=In%20spite%20of%20the%20oil,of%20livelihood%20for%20most%20Nigerians.&text=Nigeria%20is%20the%20continent%27s%20leading%20rice%20importers%20in%20the%20world.)
93. Adewusi O.A AA. Rural Livelihood Diversification and Poverty in Southwestern Nigeria. *Eur J Soc Sci.* 2007;5(1):28–42.
94. Ichoku, E. H. W. M. Fonta, and Obina O. Incidence and Intensity of Catastrophic Healthcare Financing and Impoverishment Due to Out-Of-Pocket Payments in Southeast ... *J Insur Risk Manag* [Internet]. 2009;4(4):47–59. Available from: [https://www.researchgate.net/publication/52000176\\_Ichoku\\_E\\_H\\_W\\_M\\_Fonta\\_and\\_Obina\\_Onwujekwe\\_2009\\_%27Incidence\\_and\\_Intensity\\_of\\_Catastrophic\\_Healthcare\\_Financing\\_and\\_Impoverishment\\_Due\\_to\\_Out-Of-Pocket\\_Payments\\_in\\_Southeast\\_Nigeria%27\\_Journal\\_of\\_Insurance\\_](https://www.researchgate.net/publication/52000176_Ichoku_E_H_W_M_Fonta_and_Obina_Onwujekwe_2009_%27Incidence_and_Intensity_of_Catastrophic_Healthcare_Financing_and_Impoverishment_Due_to_Out-Of-Pocket_Payments_in_Southeast_Nigeria%27_Journal_of_Insurance_)
95. Omotosho Omotunde, Ichoku HE. Financial Protection and Universal Health Coverage in Nigerian. *Int Aff Glob Strat.* 2016;51(2010):5–14.
96. Arogundade FA, Sanusi AA, Hassan MO, Akinsola A. The pattern, clinical characteristics and outcome of ESRD in Ile-Ife, Nigeria: Is there a change in trend?

- Afr Health Sci. 2012;11(4):594–601.
97. Mato C., Tobin M. Out-of-pocket health expenditure: a preliminary survey of impact on households of patients in the intensive care unit of a tertiary hospital in Nigeria. *African J Anaesth Intensive Care* [Internet]. 2010;9(2):7–10. Available from: <https://www.ajol.info/index.php/ajaic/article/view/52456>
  98. Auta A, Banwat S, Dayom D, Shalkur D, Avu M. Occurrence and treatment of common health problems in a Nigerian community. *J Young Pharm.* 2012;4(1):49–53.
  99. Adam Wagstaff. *Social Health Insurance Reexamined.* 2009;1131(2007):1127–31.
  100. Wright J. Health Finance & Governance Project. July 2015. *Essential Package of Health Services Country Snapshot: Nigeria* [Internet]. Health Finance & Governance Project, Abt Associates Inc. 2015. Available from: <https://www.hfgproject.org/essential-package-of-health-services-country-snapshot-bangladesh/>
  101. Federal Ministry of Health-Nigeria. *Health Care Waste Management Plan (Hcwmp) for Nigeria Basic Health Care Provision Fund Project (Bhcfp).* 2018;(March).
  102. Akinkuotu E. Revised budget: FG gives National Assembly N27bn for renovation, cuts health, UBE votes –. *Punch* [Internet]. 2020; Available from: <https://punchng.com/revised-budget-fg-gives-national-assembly-n27bn-for-renovation-cuts-health-ube-votes/>
  103. Echendu D Adinma B-DJIA. Community based healthcare financing: An untapped option to a more effective healthcare funding in Nigeria. *Niger Med J* [Internet]. 2010;51(3):95–100. Available from: <http://www.nigeriamedj.com/article.asp?issn=0300-1652;year=2010;volume=51;issue=3;spage=95;epage=100;aualast=Adinma>
  104. Auta A, Omale S, Folorunsho TJ, David S, Banwat SB. Medicine vendors: Self-medication practices and medicine knowledge. *N Am J Med Sci.* 2012;4(1):24–8.
  105. World Health Organization (WHO). *WHO Traditional Medicine Strategy 2002-2005.* World Heal Organ Geneva [Internet]. 2002;1–74. Available from: [http://www.wpro.who.int/health\\_technology/book\\_who\\_traditional\\_medicine\\_strategy\\_2002\\_2005.pdf](http://www.wpro.who.int/health_technology/book_who_traditional_medicine_strategy_2002_2005.pdf)
  106. Ijadunola KT. *Free Health Services in Nigeria : How beneficial to the poor?* Department of Community Health College of Health sciences , OAU [Internet]. 2016. Available from: <https://www.coursehero.com/file/28149696/Dr-K-T-Ijadunola-Free-Health-Services-in-Nigeriadoc/>

## ANNEX: 1 TOTAL HEALTH SPENDING FOR DISEASES WITH THE HIGHEST BURDEN IN NIGERIA

**Total health spending for diseases with the highest burden in Nigeria.**

S/N	Disease	Total Spending on Health (US \$, Millions)	Government Spending	Out-of-pocket spending	Development Assistance Spending
1	<b>Malaria</b>	424.4	19.2% (\$81.84 million)	37.8% (\$160.4 million)	16% (\$ 67.9 million)
2	<b>HIV/AIDS</b>	1082.6	19.2% (\$207.86 million)	1.1% (\$11.91 million)	79.6% (\$861.75)
3	<b>Neonatal Illnesses</b>	-	23%	63%	14%
4	<b>Tuberculosis</b>	263.7	19.3% (\$50.9 million)	51.6% (\$136.07 million)	27.7% (\$73.05 million)

Source: Hay et al; Annie et al; Angela et al. (31,32,33)

	<b>Ijesa</b>	<b>Orin</b>	<b>Ogotun</b>	<b>Ogbese</b>	<b>Ikoro</b>	<b>Awo</b>	<b>Total</b>
<b>Isu</b>							
<b>Affordable cost</b>	39.8	28.7	37.5	34.9	38.6	32.6	35.9
<b>Closeness of Centre</b>	11.5	51.7	19.4	30.3	15.0	30.8	24.3
<b>Staff/Attitude</b>	8.2	1.7	22.0	8.6	10.7	6.9	10.3
<b>Quality of services</b>	22.5	4.6	11.6	18.4	25.7	11.4	16.7
<b>Knowledge of ownership</b>	2.0	2.3	0.9	00	1.1	1.1	1.2
<b>Neatness of Environment</b>	7.0	4.0	6.9	3.9	3.9	5.1	5.3
<b>Availability of service</b>	2.5	3.4	1.7	3.9	3.9	5.1	5.3
<b>Drugs required</b>	3.3	1.7	0	0	2.9	6.9	2.5
<b>Others</b>	3.3	1.7	0	0	1.4	1.1	1.4
<b>Total</b>	100	100	100	100	100	100	100

Ref: Omotosho (69)

## ANNEX 3: ASSOCIATION BETWEEN SERVICE CHARACTERISTICS AND SOCIO-DEMOGRAPHY

### Association between service characteristics and socio-demographic characteristics in Ibadan

	Good services provided n (%)	Readily available drugs n (%)	Near n (%)	Affordable services n (%)	Prompt attention n (%)	Polite Workers n (%)
<b>Gender</b>						
Male	40(37.4)	13 (12.1)	20 (18.7)	15(14.0)	14 (13.1)	5(4.7)
Female	33(41.8)	12 (15.2)	14 (17.7)	12(15.2)	7(8.9)	1(1.3)
<b>Level of Education</b>						
Basic	7 (13.0)	16 (29.6)	12 (22.2)	18(33.3)	1(1.9)	0(0.0)
Tertiary	66 (50.0)	9(6.8)	22 (16.7)	9(6.8)	20 (15.2)	6(4.5)
<b>Marital Status</b>						
Single	5 (20.8)	1(4.2)	6(25.0)	7(29.2)	5(20.8)	0(0.0)
Married	67 (42.1)	24 (15.1)	27 (17.0)	19(11.9)	16 (10.1)	6(3.8)
Separated/Divorced	0(0.0)	0(0.0)	0(0.0)	1(100.0)	0(0.0)	0(0.0)
Widowed	1(50.0)	0(0.0)	1(50.0)	0(0.0)	0(0.0)	0(0.0)
<b>Age Group</b>						
0 – 29	4(25.0)	0(0.0)	3(18.8)	5(31.2)	4(25.0)	0(0.0)
30 – 39	15(30.6)	5(10.2)	13(26.5)	8(16.3)	8(16.3)	0(0.0)
40 – 49	25(41.0)	13(21.3)	13(21.3)	5(8.2)	4(6.6)	1(1.6)
> 50	29(48.3)	7(11.7)	5(8.3)	9(15.0)	5(8.3)	5(8.3)

Ref: Latunji and Akinyemi (68)

## ANNEX: 4 TYPES OF ILLNESS AND MEAN COST OF TREATMENT

### Types of illness and mean cost of treatment

Types of Illness	Patient number (%)	Mean Costs (N) ± SD
Parasitic infections	175 (59.7)	37,131.86±37,563.037
CNS	18 (6.1)	44,418.8±44,189.28
CVS	26 (8.9)	40,497.58±31,976.12
GIT/Liver	21 (7.2)	49,831.43±60,268.69
Respiratory system	11 (3.8)	25,509.09±14,377.34
Hematological	22 (7.5)	37,348.18±22,358.84
Endocrine and diabetes	6 (2.0)	34,526.67±35,832.82
Renal and hypertension	4 (1.4)	35,395.00±29,875.77
Rheumatic/MSS	7 (2.4)	20,720.00±18,672.75
Others	3 (1.0)	50,503.33±3423.69
Total	293 (100)	38,036.05±37,428.13

**GIT: Gastrointestinal tract, MSS: Musculoskeletal system, SD: Standard deviation; CVS: Cardiovascular system, CNS: Central nervous system**

Ref: Okediji et al. (71)

ANNEX 5: STATISTICS OF PROPORTIONS, DURATION OF HOSPITAL STAY AND COMPARTIVE EXPENDITURE INCURRED IN THE TREATMENT OF NEONATAL ILLNESSES

Disease Conditions	Proportion N=106 n(%)	Duration of Hospital Admission Mean ± SD (range)	Cost of materials used in management (₦) ± SD			Total cost(₦) Mean ± SD
			Drug & Utility	Laboratory Tests	Hospital	
Neonatal sepsis	65 (61.3)	15.3±9.6 (4-50)	10,239±3,830	10,110±3,169	23,499±14,987	42,611±19,011
Neonatal jaundice	49 (38.7)	13.1±9.1 (4-47)	8,476±4,841	11,690±3,183	2,336±15,026	37,850±20,039
Malaria	4 (3.8)	5.5±2.3 (3-8)	3,738±2,098	8,400±2,226	9,055±3,845	18,893±5,639
Low birth weight	18 (17.0)	23.6±13.5 (6-55)	9,267±3,910	11,472±4,498	39,863±18,624	54,969±24,003
Severe anemia	10 (9.4)	20.2±10.5 (11-44)	11,022±4,624	11,310±2,581	40,504±13,923	57,615±17,725
Pneumonia	4 (3.8)	9.0±3.8 (5-14)	6,630±5,463	7,650±661	14,360±5,042	24,515±12,106
Necrotizing enterocolitis	2 (1.9)	24.5±2.8 (5-44)	9,115±7,799	12,950±2,475	40,340±43,897	56,755±52,545
Transient tachypnea	3 (2.8)	5.0±2.0 (3-7)	1,453±263	933±833	10,083±1,078	12,470±2,050
Birth asphyxia	24 (22.6)	14.8±10.5 (4-55)	11,097±4,834	7,896±5,377	24,398±14,096	41,453±20,422
Meningitis	6 (5.7)	17.3±3.8 (14-23)	13,330±5,480	8,867±1,187	26,731±7,675	48,312±13,166

Ref: Ekwochi et al. (72).

ANNEX 6: PAYMENT COPING MECHANISMS IN EBONYI AND ENUGU



	<b>Abakaliki (urban)</b>		<b>Ezilo (semi-urban)</b>		<b>Nkalagu (rural)</b>		<b>Eke-naene (rural)</b>		<b>Enugu (urban)</b>		<b>Udi (semi-urban)</b>	
	<b>N = 229</b>		<b>N = 244</b>		<b>N = 333</b>		<b>N = 209</b>		<b>N = 321</b>		<b>N = 174</b>	
	<b>N</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>
<b>Own money</b>	210	91.7	181	74.1	283	85	190	90.9	311	96.9	144	82.8
<b>Borrowed money</b>	3	1.3	34	13.9	38	11.4	4	1.9	2	0.6	44	25.3
<b>Sold households' assets</b>	1	0.4	20	8.2	1	0.3	1	0.5	0	0	4	2.3
<b>Sold land</b>	0	0	0	0	1	0.3	0	0	0	0	1	0.6
<b>Someone else paid</b>	11	4.8	4	1.6	7	2.1	7	3.3	8	2.5	8	4.7
<b>Was exempted from payment</b>	3	1.3	1	0.4	1	0.3	0	0	2	0.6	2	1.2
<b>Payment was subsidized</b>	1	0.4	2	0.8	2	0.6	0	0	1	0.3	0	0
<b>Others</b>	0	0	2	0.8	9	2.4	7	3.3	3	0.9	1	0.6
<b>Payment coping for other household members</b>												
	<b>N = 277</b>		<b>N = 273</b>		<b>N = 348</b>		<b>N = 160</b>		<b>N = 312</b>		<b>N = 179</b>	
	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>
<b>Own money</b>	268	96.8	192	70.3	300	86.2	150	93.8	302	96.8	125	69.8

<b>Borrowed money</b>	8	2.8	27	9.9	36	10.3	6	3.8	2	0.6	42	23.5
<b>Sold households' assets</b>	1	0.4	41	15	2	0.6	0	0	0	0	3	1.7
<b>Sold land</b>	0	0	0	0	1	0.3	1	0.6	0	0	1	0.6
<b>Community solidarity</b>	0	0	2	0.7	5	1.4	0	0	0	0	1	0.6
<b>Was exempted from payment</b>	0	0	2	0.7	0	0	1	0.6	3	1	1	0.6
<b>Payment was subsidized</b>	0	0	5	1.8	3	0.9	0	0	2	0.6	2	1.1
<b>Others</b>	0	0	4	1.5	1	0.3	2	1.2	3	1	4	2.2

**ANNEX 7: SOCIOECONOMIC DIFFERENCES IN PAYMENT COPING MECHANISMS FOR DIABETES IN ENUGU**

<b>Coping strategies</b>	<b>N</b>	<b>Poorest n (%)</b>	<b>Very poor n (%)</b>	<b>Poor n (%)</b>	<b>Least poor n (%)</b>
<b>Savings</b>	291	74 (100)	73 (100)	72 (98.6)	72 (98.6)
<b>Family Support</b>	249	64 (86.5)	68 (93.2)	59 (80.8)	58 (80.6)
<b>Donation from friends</b>	161	47 (63.5)	40 (54.8)	40 (54.8)	34 (47.2)
<b>Borrowing</b>	54	20 (27.0)	13 (17.8)	15 (20.5)	6 (8.3)
<b>Use of alternative health remedies</b>	24	7 (9.5)	4 (5.5)	9 (5.6)	4 (5.6)
<b>Interruption of Children's education</b>	20	13 (17.6)	3 (4.1)	2 (2.7)	2 (2.8)
<b>Community-based support</b>	13	7 (9.5)	0 (0.0)	4 (5.5)	2 (2.8)
<b>Selling assets</b>	10	6 (8.1)	4 (5.5)	2 (2.7)	4 (5.6)
<b>Sale of land</b>	9	4 (5.4)	2 (2.7)	2 (2.7)	1 (1.4)
<b>Government Support</b>	2	0 (0.0)	0 (0)	1 (1.4)	1 (1.4)

Ref : Ogochukwu et al. (41)

**ANNEX 8: COPING STRATEGIES USED TO PAY FOR CHRONIC DISEASE TREATMENT IN ILE-IFE, OSUN STATE.**

<b>Coping Strategy</b>	<b>Frequency (%)</b>
<b>Had borrowed money for any aspect of treatment at any time</b>	<b>198 (44.7%)</b>
<b>Source of borrowed money (n=198)</b>	
<b>Bank</b>	<b>7 (3.5%)</b>
<b>Cooperative society</b>	<b>36 (18.2%)</b>
<b>Church</b>	<b>9 (4.5%)</b>
<b>Friends</b>	<b>108 (54.5%)</b>
<b>Family</b>	<b>38 (19.2%)</b>
<b>Sold assets to get money for treatment</b>	<b>22 (5.0%)</b>
<b>Health insurance ownership</b>	<b>38 (8.6%)</b>
<b>Health insurance reduced the impact of the chronic illness on the household</b>	<b>36 (94.7%)</b>

Ref: Okediji et al. (71)

## ANNEX 9: TB/HIV/AIDS INFECTION COPING STRATEGIES IN NIGERIA

<b>Coping Strategies</b>	<b>Subjects (N=675) (%)</b>
<b>Use of herbal drugs</b>	345 (23.2)
<b>Reduction in household budget</b>	354 (23.8)
<b>Sale of household assets</b>	302 (20.3)
<b>Use of child labour</b>	276 (18.6)
<b>Family financial assistance</b>	177 (11.9)
<b>Loans</b>	192 (12.9)
<b>Prayers</b>	345 (23.2)

Ref: Anochie et al. (77)