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HOUSEHOLDS INEQUALITY AND INSURANCE INCIDENCE DYNAMICS: IMPLICATIONS FOR HEALTH RISK FINANCING IN NIGERIA

ABSTRACT

Purpose: Due to an increase in out-of-pocket health care expenditure, inequalities in health insurance access have continued to widen throughout Nigeria's socioeconomic classes. As a result, the health risks, shocks, and financial burdens faced by Nigerians of various socioeconomic classes have increased. Given this, the impact of household inequality and insurance incidence on health risk financing in Nigeria is investigated.

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Methodology/approach: Anchored on the cumulative inequality theory, the study employed World Bank data on domestic general government health risk expenditure per capita, Out-of-Pocket Expenditure on health risk per capita. It also employed the Country Policy and Institutional Assessment (CPIA) policies for the social inclusion index. Finally, it adopted a content analytic method for analysis.

Findings: The findings of the study revealed that health risk financing has been unevenly shouldered by the government and households, with the poorest households bearing a larger portion of the expenses. In line with the findings, the study recommends that government at all levels should tax every socioeconomic stratum according to their abilities and provide health insurance to them in relation to their health needs.

Originality/value: This study adds to the sparse literature on the subject matter in Nigerian literature. This study will engineer policy interventions that address increasing inequality in health care accessibility and ensure effective means of health risk financing that can promote healthcare equity for all.

Keywords: financing; households; health risk; inequality; insurance; out-of-pocket

1. INTRODUCTION

As stated in the Sustainable Development Goal Three (SDG 3), ensuring healthy lives and encouraging well-being for all people of all ages has become a global mission (World Health Organization, 2020). This time-bound mandate aims to reduce the global maternal mortality ratio, stop preventable newborn and child deaths, as well as considerably improve health spending, particularly in developing economies by 2030. In realization of the pledge by the United Nations (UN, 2019) to 'leave no one behind', the global effort on universal and equitable health care coverage for all income groups has continued to meet frightening peculiarities of yawning inequality, poverty and poor public health financing in Nigeria.

According to the International Labour Organization (2014), Nigeria has had a very restricted scope of legal coverage for social security focused on health inclusive insurance since independence in 1960, resulting in over 90% of the Nigerian people being uninsured. The federal government of Nigeria's key health initiatives has failed to achieve the goal of making inexpensive health care available to Nigerians. Studies (David-Wayas et al., 2017; Campbell, 2018; Nevine et al., 2019) reveal that the medical structure in Nigeria does not actively allow for a thriving insurance system, particularly in times of emergency or risk among skewed demographic groupings such as in Nigeria's poor, vulnerable, and informal sector populations.

These have increased health risks, further disparities caused by inaccessibility to health insurance schemes and other shocks among Nigeria's income categories. Statistics from the United Nations Children's Fund (2017) and the National Bureau of Statistics (2018) show that malnutrition among children below the age of five has intensified across the nation with the northern region being the worst hit, as the child weighing rate (children who are underweight for their age group) grew from 24.2% to 31.5%, while child stunting (children who are underweight for their age group) grew from 34.8% to 43.6%. As noted by Sanni (2019), Nigeria is one of the nations with the lowest life expectancy rate across the globe.

In the developing world (particularly in Nigeria), access to health care insurance is hampered by the government's ineffective health measures. Second, because of socioeconomic sta-

tus disparities across households, utilization is lowest among the poorest (O'Donnell, 2007). In Nigeria, this is a source of worry from both an efficiency and equity standpoint. Households in the lower socioeconomic strata are also the least healthy and are more unlikely to benefit from healthcare insurance coverage. Howbeit, because of the peculiarities of their disparity, they cannot frequently focus their marginal resources on health risk financing. Such considerations drive the prioritization of initiatives that address the poor's healthcare requirements, such as primary, maternal and child healthcare interventions. Sadly, evidence suggests that even from these initiatives, there is a pro-rich skew in the distribution of the benefits (Gwartkin, 2001 as cited in O'Donnell, 2007).

This is no doubt considered as part of the likely responses to the increasing health risk that should have been avoidable, including the common preventable diarrhoea responsible for a huge financial burden for most coping households. According to the United Nations Programme on Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) report (2019), Nigeria has 100 million malaria infections every year, with over 300,000 deaths. Nigeria has the world's second-largest HIV epidemic and one of Sub-Saharan Africa's highest rates of new HIV infection. Similarly, Nigeria has the world's fourth-largest tuberculosis (TB) epidemic, with HIV and TB co-infection becoming a growing issue for HIV-positive people. While inadequate levels of antiretroviral treatment remain a problem for persons living with HIV, many AIDS-related fatalities continue to occur in Nigeria. In 2017, over 150,000 Nigerians died as a result of AIDS-related illnesses (UNAIDS, 2020).

The United States International Agency for Development has assisted in the detection and notification of approximately 40,000 tuberculosis patients (USAID, 2020). The report also shows that Nigeria continues to have the world's highest malaria burden which is still the leading cause of child illness and death. According to the Malaria Indicator Survey, malaria interventions through the United States President's Malaria Initiative (PMI) resulted in a 36% reduction in malaria parasites discovered in the blood of children under the age of five between 2010 and 2015. Since 2014, PMI and Nigeria have ramped up malaria control efforts, distributing 22 million mosquito bed nets, 14 million malaria fast diagnostic test kits, over 48 million malaria treatment courses, and eight million doses of malaria medication to pregnant women (USAID, 2020).

As part of remedial measures, however, studies (Ichoku & Okoli, 2015; Ele et al., 2017; Aregbeshola & Khan, 2018; Ibukum & Komolafe, 2018) have argued that the Nigeria government has made a huge commitment toward health care sustainability which is evidenced through several institutional and legal policies. They are the Primary Health care (PHC) programme drawn from the Bamako Initiative in 1987, Health Financing Policy, National Health Bill and National Strategic Health Development, National Health Policy, National Health Insurance Scheme, Community Based Insurance Scheme among others. These were all targeted at strengthening health care service delivery and accessibility by households in the country. Despite these governmental efforts, there is still a yearning disequilibrium between the health insurance supply (health insurance risk financing from the government) and the demand side among households despite their various health risk.

It is against this background that this study investigated the impact of household inequality and insurance incidence on health risk financing in Nigeria. The study's main goal is to find out whether the much-touted health care supply through health risk financing by the government has made health care available to meet the yearnings of the populace, or whether the populace has been unevenly disadvantaged along socioeconomic lines, thus beclouding

accessibility to health care for the low-income earners who may even be willing to offer their out-of-pocket financing. This study shall employ a content analytical method. The outcome of this study will engineer policy interventions that address increasing inequality in health care accessibility, and ensure effective means of health risk financing that can promote healthcare equity for all.

2. LITERATURE REVIEW

2.1. CONCEPTUAL INSIGHTS

Health risk financing is one of the financial protection strategies against the costs of utilizing healthcare services, especially through health insurance schemes (Nevine et al., 2019). Increasing concern on the rising catastrophic health care cost among different income groups in Nigeria due to increasing health care risk is gradually becoming a public issue due to the out-of-pocket expenditure on health. For others, this is gradually becoming a source of health care disparity as a result of the alternate access to health care utilization observed among Nigeria's poor and rich. Interestingly, Fiscella et al. (2000) have revealed how disparities represent a significant quality problem limiting existing quality health care. The study by Eggleston (2000) provides models that describe health policy dilemmas of risk selection and moral hazard that recognize how health care seekers pay healthcare providers and how they insure consumers against the risks of medical expenditure which to some extent have significant consequences for the equity and efficiency of a healthcare system. This could raise a concern about whether the much-touted health care supply through health risk financing by the government has created health care availability for the yearnings of the populace, or has the populace been unevenly disadvantaged along socioeconomic lines, thus beclouding accessibility to health care for the low-income earners who may even be willing to offer their out-of-pocket pay?

2.2. THEORETICAL LITERATURE

This research is based on Robert Merton's cumulative inequality theory, often known as the cumulative disadvantage theory, which was propounded in 1988. It provides a systematic explanation of how disparities occur, based on the notion that some people are more disadvantaged than others, affecting their quality of life and welfare in society. Hence, the theory provided an assumption that relates to the quality of life of the different income groups in the society. According to the theory, social structures cause inequality, which manifests itself throughout people's lives through developmental and demographic processes.

As a result, this theory is essential in this study since it demonstrates how inequality accumulation is reliant on the developmental stage, stability and duration of poor health, and accessible resources. The theory is also reviewed in this study due to its fundamental axioms on inequality and health risk financing which is associated with differential households that are disadvantaged by health insurance incidence. Many scholarly studies have also supported this theory such as Saksena et al. (2014) on financial risk protection. For analyzing financial risk protection and how it relates to universal health coverage, the study used descriptive statistics and Gini coefficient approaches. Jutting (2001) suggested community-based health

insurance programs as a way to fund health care in developing nations. To estimate the predictors of participation in mutual health care utilization and financial protection, the study employed a binary probit model.

Early and accumulated inequities alter life course trajectories, according to Ferraro and Shippee's (2009) study on ageing and cumulative inequality. This, they believe, can be influenced by available resources, perceived trajectories, and human action. This idea, according to them, has gotten a lot of attention from social scientists, who are paying more attention to family lineage as a cause of inequality; gestation, genes, and childhood inequities, as well as the size of exposures to opportunity and risk. Smith and Hanson (2015), on the other hand, provide a comparable foundation to the cumulative inequality theory by arguing from the perspective of social immobility how members of the households that begin their lives in impoverished conditions usually face disadvantages throughout their lives, while the initially privileged will frequently remain so as they grow older. This is true for a variety of adopted demographic factors such as health, socioeconomic level and spatial locations. Likewise, Ferraro and Kelley-Moore (2003) argue that there is evidence for the long-term effects of risk factors on health in their thesis on cumulative disadvantage and health. However, the research suggests that in the development of cumulative disadvantage theory, greater emphasis should be paid to compensatory mechanisms, given that it is reasonable to change assumptions about risk's unavoidable consequences to allow for human agency and risk factor reduction through changing social arrangements. Furthermore, ignoring compensatory mechanisms may lead to an exaggeration of the consequences of early disadvantage.

Bask and Bask (2015) went on to claim that cumulative (dis)advantage is a micro-level intra-individual phenomenon and that the Matthew impact is a macro-level phenomenon affecting individuals and that concentrates on the mechanism or dynamic process that produces inequality. According to the theory, because socioeconomic theory should be able to explain cumulative (dis)advantage, it is used to offer the foundation for exploring some of the specific objectives that address household inequality and insurance incidence on health risk finance in Nigeria. According to the theory, Nyman (1998) argued that notwithstanding the risk factors, people are more likely to purchase insurance when the price is inexpensive, in comparison to the value of the coverage to the buyer, which he perceived to be that moral hazard boosts the premium, as does the adverse selection, so that the existence of either makes the insurance purchase less likely. Nyman also demonstrated that, in the case of health insurance, a tax subsidy can lower the effective premium to less than the real fair cost of insurance, increasing the possibility that health insurance will be obtained. Given that health care is essential, making its demand a distinctive good, Nyman agreed that considering the high costs of most of these operations, health insurance is sometimes the only economical option for obtaining this care. This study will borrow a leaf from the study by Saksena et al. (2014) and Jutting (2001) in accordance with the propensity score matching model as well as a methodological framework to appraise the effect of inequality in health insurance incidence on health care risk in Nigeria.

The key assumptions of the cumulative inequality theory suggest that social structures promote inequality, which manifests itself throughout a person's life through demographic and developmental processes. Furthermore, disadvantage raises risk exposure, whereas advantage enhances opportunity exposure. This theory has been criticized in line with the axiom on the ground that developmental processes are geared towards poverty and inequality reduction and not a platform for the manifestation of poverty and inequality. However, this study finds

the theory handy as it helps lend credence to the fact that inequality in health care assessment and financing can be brought about by the imbalance in the social system.

2.3. EMPIRICAL LITERATURE

Several studies have looked into household inequality and insurance incidence as it concerns health risk financing around the world. Key studies among them are highlighted below.

Allegri et al. (2009) in a study identified the operational difficulties that impede the successful establishment of sub-Saharan Africa (SSA) community health insurance. The authors argued that community health insurance can expand access to care and provide financial protection against disease costs for impoverished people in SSA nations who are not covered by formal insurance networks. However, they maintained that the need for adequate risk management measures will provide good interventions for poverty and inequality reduction in Africa. Bernstein et al. (2010) appraised how insurance improves health outcomes by assisting patients in obtaining preventative and screening treatments, mental health treatments as well as enhancing continuity of care. The study discovered that insurance coverage is highly associated with better health outcomes. Similarly, Mackenbach (2012) discussed the paradox of health inequalities in modern welfare states and stated that one of the fundamental disappointments of public health is the persistence of socioeconomic inequalities in health, even in industrialized welfare states and European nations. As a result, health disparities have not only been maintained while welfare states were being constructed, but several indicators have also widened and are not lower in European nations with more extensive welfare systems. The study also found that inequalities in access to resources have not been abolished by the welfare state and remain significant as a result of greater intergenerational mobility, the makeup of lower socioeconomic groups, which has also become more uniform in terms of personal features on ill-health, as well as changes in the epidemiological regime, are all linked to the persistence of health inequities.

Several studies have also provided evidence on how health care financing negatively affects people's living standards and welfare. For instance, Amakom and Ezenekwe (2012) explored the influence of households' out-of-pocket (OOP) healthcare expenditure in Nigeria and the authors highlighted that roughly 4% of Nigerian households incur catastrophic health expenditure, with this being more prevalent among the nation's richest income quintiles. The study further reported that the incidence of health risk is ravaging most households in Nigeria. Bejaković (2013) employed the descriptive survey technique to unearth the criticality of social transfers such as health care services, pensions, social insurance services among others in lowering Croatia's poverty rate and the study discovered that social transfers are critical in poverty reduction

Saksena et al. (2014) evaluated the evidence and measurement of problems associated with financial risk protection and universal health coverage. By analyzing and contrasting existing methods of financial risk protection, the study concluded that financial risk protection is a critical component of universal health coverage. The study discovered a correlation between the poverty headcount and the difference in the poverty gap owing to out-of-pocket (OOP) payments using descriptive statistics and Gini coefficient approaches for quantifying financial risk protection and how this relates to universal health coverage. Subsequently, the related rise in the depth of poverty as a result of OOP payments has far-reaching consequences for a variety of risk factors. Using a decomposition technique, Novignon et al.

(2015) investigated the influence of socioeconomic determinants on the disparity in Ghana's child malnutrition. Their findings highlighted a pro-poor disparity in child malnutrition and household socioeconomic characteristics are critical in reducing Ghana's childhood malnutrition inequality.

Dragos et al. (2017) investigated the nexus between demand for life insurance and institutional factors, and the study established that demand for life insurance is influenced by institutional factors. In another study, Esteban and Peña-Miguel (2018) assessed the need for rethinking Spain's social welfare to propose a basic pension for everyone using the pay-as-you-go frameworks. The study discovered that the basic-pension-for-everyone idea is possible if the contributory aid system is implemented. Using a dynamic panel threshold technique, Wang and Lee (2018) explored the asymmetric effects of life insurance on health expenditure and economic growth in Taiwan. Life insurance growth has a regime switch element, according to the study, which could change the nexus between health spending growth and economic growth. As a result, the study suggests that asymmetrical information about life insurance growth influences the causal relationship that exists between health economic growth and expenditure growth. Guan (2020) used China's household-level data to determine if school-based private health insurance improves students' health status. Participation in uniform school-based private health insurance schemes does not increase student's health outcomes whereas personalized health insurance considerably improves student's health outcome

Discussions from empirical studies have provided unanimous conclusions as to why Nigerians are yet to be reasonably included in health care insurance at all schemes despite the increasing health risk and burden associated with the deplorable circumstances leading to countless deaths in the country, with the level of economic challenges, making it also difficult for households to partly enjoy the best of health care when compared with other countries of the world. As a matter of fact, from the countless studies reviewed, this yearning is yet to be answered. Some of the studies reviewed have also shown that one of the greatest shocks that low-income groups face in Nigeria is the ill health shock due to the huge proportion of Nigerians not being captured or insured by any insurance firm. Hence, many households fall back on out-of-pocket expenditure to address the health care situation as noted by Guan (2020). Some of the studies reviewed have also shown that previous studies done in Nigeria have failed to address the extent to which unequal access to health care can be created by low health care financing by the government or low effective demand by the households on health insurance incidence. Therefore, it is against this background that this study launches the point of departure to fill the prevailing gap by investigating the extent of households' inequality in access to health care and insurance incidence to highlight the level of equilibrium in health risk financing by the government and the households.

3. METHOD AND RESULTS

In this investigation, a content analytical method was applied. This is where the researcher assessed data from the literature in accordance with the study's theoretical framework. Content analysis, according to Krippendorff (2004), is the systematic interpretation of a body of words, images, and symbolic stuff, not necessarily from the standpoint of the author or user. In contrast to other types of social science research, the content analysis does not require collecting data from people. Content analysis, like documentary research, is the study

of recorded information, or information that has been captured in media, texts, or physical items (Iowa State University of Science and Technology, 2020). The study used data from the World Bank (2020a) on domestic general government health risk expenditure per capita, out-of-pocket health risk expenditure per capita, and Country Policy and Institutional Assessment (CPIA) policies for the social inclusion index.

STYLIZED FACTS ON HOUSEHOLDS INEQUALITY, INSURANCE INCIDENCE AND HEALTH RISK FINANCING IN NIGERIA

Health insurance emerged from the unpredictability and potential for financial devastation as a result of illness (Folland et al., 2013), hence the yearning by diverse households across the country. Following the high level of unequal access to financing health risks, O'Donnell (2007) notes that the problem of access has two sides. On the supply side, high-quality, cost-effective health insurance may be unavailable while on the demand side, individuals may be unable to access healthcare services. Both the demand and the supply side are related in the line with the theory of demand and supply. Poor quality health care supply by the government elicits little attention from the public while a high level of demand stimulated by purchasing power will result in the supply of quality care. However, in the Nigerian context, both the demand and supply sides of the theory have been demonstrated to be deficient.
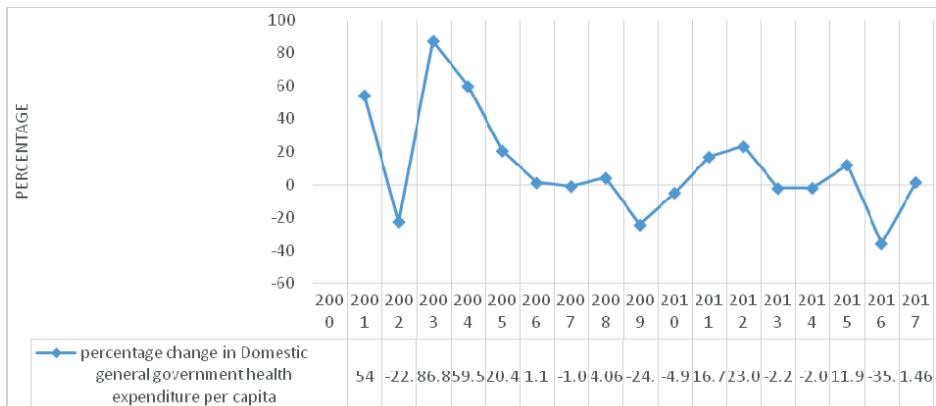
SUPPLY-SIDE HEALTH RISK FINANCING

Fig. 1. Domestic general government health risk expenditure per capita (US$)
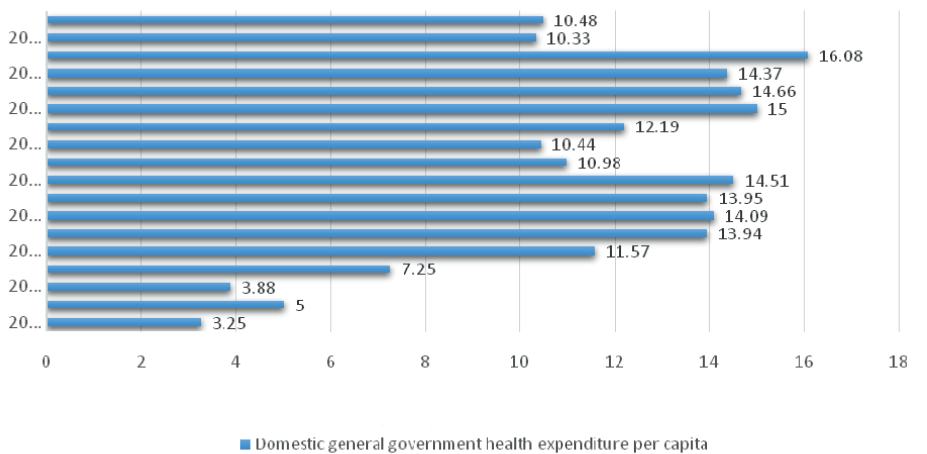
Source: World Bank (2020).

The wake of the millennium saw the staggering upward rise in the public sector's health spending per capita with the view to providing the much-needed insurance in health and providing financing for the health risks faced by the public. As shown in Figure 1, between 2000 and 2017, the country witnessed the highest per capita public sector health expenditure of about \$16.08 in 2015 with its lowest ever per capita public sector health expenditure put at about 3.25% in 2000. The growth rate as clearly shown in Figure 2 depicts that despite the perceived rise in the monetary value of the per capita health risk financing, there has been a persistent downward trend in the growth rate of health risk financing for the average Nigerian by the government. The four-year periods of 2003, 2004, 2005, 2006 and 2007 recorded continuous decline in public sector health financing of about 87%, 60%, 20%, 1.1% and -1.0% on Nigerians respectively.
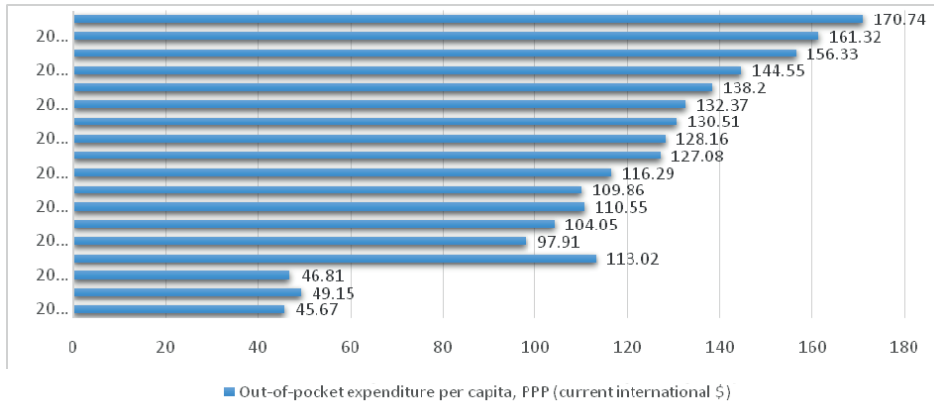
Fig. 2. Percentage growth rate in domestic general government health risk expenditure per capita as a measure for public health care financing

Source: World Bank (2020).

DEMAND-SIDE HEALTH RISK FINANCING

Fig. 3. Out-of-pocket expenditure on health risk per capita (USD)

Source: World Bank (2020).

On the demand side, however, Nigerians have been proven to be risk-averse; Figure 3 shows that people are willing to forfeit a portion of their income to purchase insurance that they will be protected from calamitous health spending from out-of-pocket payments. According to Olakunle (2012), out-of-pocket payments are payments made at the time of service for health care. In Nigeria, it can contain any combination of drug costs, entry fees, medical supplies, and consultation expenses. In Nigeria, out-of-pocket expenses account for the majority of health spending (World Bank, 2020b). This mode of financing health risk ranked 125.07 from 2000 to 2017 per capita for Nigeria and has continued to maintain steady growth in the years 2008, 2010, 2013, 2015, and 2017 at the respective values of $116.29, $128.16, $138.2, $156.33, and $170.74 (World Bank, 2020b). As the growth rates in Figure 4 illustrate, households bear the greatest weight of health risk spending in Nigeria.

Fig. 4. Percentage growth rate in out-of-pocket health risk expenditure per capita, PPP (current US$)
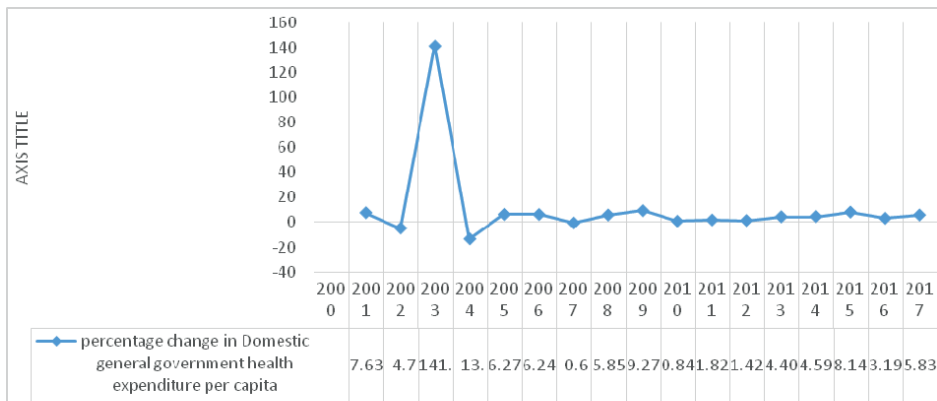
Source: World Bank (2020).

## HOUSEHOLD INEQUALITY IN ACCESS TO HEALTHCARE INSURANCE INCIDENCE IN NIGERIA

The Nigerian situation in terms of health care accessibility has been based primarily on the "user fee" out-of-pocket health risk spending launched by the Nigerian government in 1998 as part of the Bamako Initiative, which pushed for cost-sharing and community participation to improve health-care quality and sustainability (Olakunle, 2015). This was done to increase the resources accessible for health care, improve efficiency, and bring equity to health care insurance incidence.

However, till this present moment, the insurance incidences in Nigeria are unevenly distributed despite the intervention in the insurance market. In ensuring that vulnerable groups of households are insured against the risk of any emergencies that can lead to financial problems, the world bank reported that the benefit incidence of social insurance programs to the poorest quintile (% of total social insurance benefits) for Nigeria in 2012 was put at a paltry 0.544% with a marginal increase to 1.984% in 2015. At the same time, the portion of overall social insurance benefit incidence of social insurance programs controlled by Nigeria's richest quintile was 1.812% in 2012, increasing to a whopping 6.369% in 2015 (World Bank, 2020b).

In the same vein, households in the rural areas of Nigeria face severe exclusion from health care resources. Because of this disparity, Nigerian healthcare resources are skewed toward secondary and tertiary care, rather than primary healthcare facilities, which are frequently located in rural areas (Oyedeji & Abimbola, 2014; Abimbola et al., 2015). As a result, people are bypassing primary health care facilities in favor of seeking primary treatment at tertiary and secondary facilities, even though both secondary and tertiary facilities are inefficient and increase inequalities. It is also good to mention here that despite the clamor for secondary and the tertiary facilities, primary care service at secondary and tertiary levels is more expensive (inefficient), and impoverished households, particularly in rural regions, are

unable to get treatment because it is either unavailable or prohibitively expensive (inequality in access and payment) (Okpani & Abimbola, 2015). The outcome of the yearly Country Policy and Institutional Assessment (CPIA) report (see Figure 5) support this.

Fig. 5. CPIA policies for social inclusion index (1 = low to 6 = high)
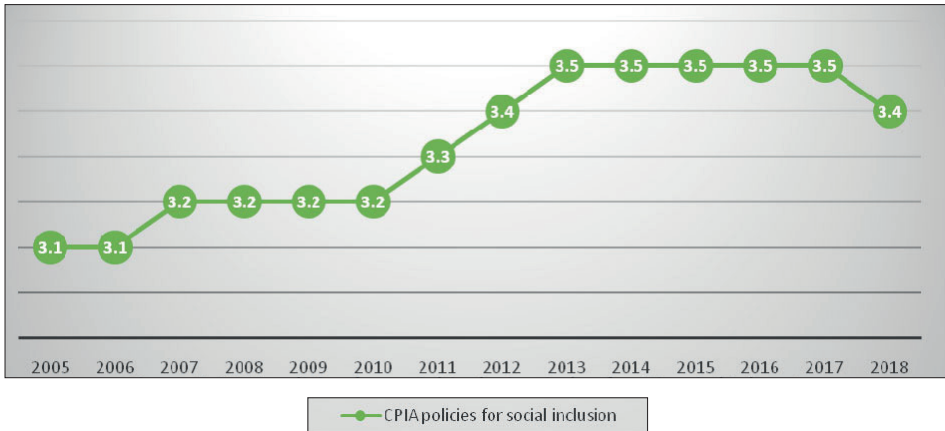
Source: World Bank (2020).

Drawing from the CPIA[1] policies for social inclusion/equity cluster average which specifically determines how well a nation's policy and institutional framework enable long-term growth and poverty alleviation, it is seen that social inclusion in Nigeria is quite low and marginally above the average mark of 3.0. From 2007 till 2010, the index maintained a static state of 3.2 with a marginal rise of zero. In the same vein, the marginal rise in the index was zero between 2013 and 2018 before it recorded a drop in 2018 to 3.4. This implied that within these grouped periods, there were no significant policy measures put in place by the government to shore up inclusiveness and mitigate the spate of household inequality in relation to health care access. This can be traced to the submissions of Abimbola, et al. (2015) who buttressed that in Nigeria, health workforce distribution is biased in favor of tertiary and secondary facilities in urban regions, because the incentives for healthcare workers to accept remote assignments are frequently fictitious or inadequate, thereby widening further the inequality in access to health care by members of households across several regions in Nigeria.

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[1] The CPIA policies for social inclusion and equity cluster contain equity of public resource use, gender equality, social and labor protection, building human resources, and policies and institutions for environmental sustainability.

4. CONCLUSION AND WAY FORWARD

This study confirmed the inequality in access to health insurance incidence dynamics among households in Nigeria. Based on this evidence, the study showed that health risk financing has been unevenly shouldered by the government and members of the households with the poorest household members carrying the highest share of the burden of out-of-pocket payments for insurance and health risk financing. This is true, as the benefit incidence of social insurance programs to the poorest quintile (as a percentage of overall social insurance benefits) in Nigeria was a pitiful 0.544% in 2012, rising to 1.984% in 2015; whereas in the same period, the percentage of overall social insurance benefit incidence of social insurance programs cornered by the richest quintile in the country amounted to 1.812% in 2012 and with an upward review of 6.369% in 2015. The study, therefore, concludes that household inequality and lack of health insurance incidence contribute to health risk financing in Nigeria. These have led to a lot of calamities such as shocks, financial burden (out-of-pocket expenditure) and death in Nigeria.

As a way forward, however, since the demand by poor households for health insurance incidence is high amidst their low socioeconomic status, the government should come up with a proportional health risk finance generating system that will tax every socioeconomic stratum according to their abilities and provide health insurance to them in relations to their health needs. Such a system could be taxing citizens of Nigeria 5% of the value of their monthly voice telephone and data subscription recharge as soon as they recharge their telephone lines in the subsequent month. This will assist in improving the health indices of the populace as health care supply services will equilibrate demand by the various households given the expected improvement in health risk financing.

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