

## ORIGINAL ARTICLE

# Healthcare financing in Nigeria: A systematic review assessing the evidence of the impact of health insurance on primary health care delivery

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**Received:** August 1, 2014

**Accepted:** October 30, 2014

**Online Published:** November 13, 2014

**DOI:** 10.5430/jha.v4n1p1

**URL:** <http://dx.doi.org/10.5430/jha.v4n1p1>

## Abstract

Strengthening health systems, improving health outcomes, as well as finding answers to the competing alternatives of healthcare financing are critical issues that continue to bother health policy makers. Irrespective of the options, the choice of health care financing should mobilize resources for health and improve access to quality care at the same time. Notably, the health financing policy in Nigeria provides a framework for establishing health insurance schemes so as to expand coverage in health care delivery for the formal and informal sectors as a strategy towards universal access to healthcare. Accordingly, the authors, through this review, systematically assess the evidence of the extent to which health insurance impacts on access to services and quality of primary healthcare in Nigeria. While this comes to bear, the findings reveal an evidence of moderate-to-high strength that health insurance increases access to care and improves the quality of care received; however, it remains equivocal in some instances. The review therefore contributes to the literature on healthcare financing by extending and qualifying existing knowledge and advocating for accelerated reforms if universal coverage will be achieved.

**Key Words:** Health insurance, Access, Quality, Primary health care, Nigeria

## 1 Background

Concerted efforts by member states of the World Health Organization (WHO) towards achieving universal health coverage (UHC) culminated in the Alma-ata declaration in 1978.<sup>[1]</sup> This was in recognition that the challenges (such as poor health care financing, poor public demand, inadequate utilization of health service facilities, inter alia) facing health systems' of developing countries would hinder UHC.<sup>[2]</sup> Notably, member states of the WHO adopted

primary health care (PHC) as the key strategy to achieve UHC.<sup>[1,2]</sup> Notwithstanding, the concerns on the subject of sustainable health care financing in many low-resource countries such as Nigeria continues to be a problem.<sup>[3,4]</sup>

In fact, it remains progressively difficult to sustain satisfactory levels of financing primary healthcare as out-of-pocket spending (OOPS) remains the main mechanism for payment for these services.<sup>[5]</sup> Unlike what prevails in high income countries where various arrangements have been made for

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pre-payment and health insurance,<sup>[6]</sup> evidence reveals that this payment method can be “catastrophic” in the sense of leading to or worsening poverty level by crowding-out important goods such as clothes, diet and housing.<sup>[7-9]</sup> While no explicit answer exists to the question as to how much should be spent on healthcare delivery, according to Bjorn Ekman in community-based health insurance in LICs: a systematic review of evidence “measures have been taken to address this financing challenge”.<sup>[10]</sup> To this end, and in order to achieve sustainable universal health coverage, the WHO in its World Health Assembly (WHA 58.33) in 2005 recommended that member states should be urged to adopt a method for prepayment for healthcare in order to share risk among the population and avoid catastrophic health-care expenditure.

Against this backdrop, the Nigerian government through its health financing policy provided a framework for establishing pre-payment schemes within the context of the national health insurance scheme (NHIS).<sup>[11]</sup> This is with a view to expand coverage in health care delivery for the formal and informal sectors as a strategy towards universal access to healthcare.<sup>[9, 12, 13]</sup> As a result; various health insurance schemes now exist in the country. Of such include the formal sector social health insurance programme (FSSHIP), community based health insurance schemes (CBHIs) and private health insurance schemes. However, it is important to note that, health insurance as a financing mechanism remains largely restricted to about four percent of the Nigerian populace who are for the most part are employees in the formal sector.<sup>[13]</sup> Nevertheless, these financing schemes are set-up to mobilize resources for healthcare and at the same time provide financial risk protection.<sup>[7, 8]</sup> There are reports that insurance have had positive impacts on healthcare financing and healthcare outcomes, by improving access to services and reducing OOPS for health services.<sup>[14, 15]</sup> In spite of this, the problems of adverse selections, risk ratings and moral hazards persists. More so, are the unresolved problems of coverage and the implementation of health insurance programmes.<sup>[16, 17]</sup>

With the foregoing in mind, it is an understatement to say that it is pertinent to periodically monitor and evaluate the ongoing reforms of Nigeria’s healthcare financing to ensure that it achieves the objectives of sustainable health financing and universal health coverage. However, there is no methodological review in existence, to appraise the quality of empirical evidence on these reforms and also to summarize the findings and observations in Nigeria. This review, therefore assesses the evidence of the extent to which pre-payment (health insurance particularly) schemes improves access to primary healthcare services and the quality of care for the target population. It is hoped that the findings from this review will inform health policy makers and constitute an important part of the basis on which decisions on healthcare financing can be taken in the country and beyond.

## 2 Methods

The approach used in this systematic review fits with up-to-date methods.<sup>[18]</sup> Systematic reviews are summaries of research evidence that address an objectively formulated question using logical and clear methods to identify, and critically appraise relevant research methods. Systematic reviews also collect and analyse data from the studies that are included in the review and have become increasingly important to provide evidence used to inform policy.<sup>[19]</sup> In line with this definition; this review was conducted in a series of steps. Firstly, the reviewers identified the specific research question(s). The authors wanted to know: what is the extent of the impact of pre-payment on access to primary healthcare services and how this has impacted on the quality of care. Of the four reviewers, two were assigned with searching, while two evaluated the titles and abstract of the articles. The search strategy involved defining the inclusion criteria and identifying the databases and search terms. The inclusion criteria used by the authors were: (1) The participants had to refer to Nigeria (in general). “Participants” include users of primary health services, where the reported mechanism of paying for health services was through health insurance; (2) The intervention (object of study) had to be a report of pre-payment schemes in primary health care services (social, private and community health insurance); (3) Comparison: primary health services without any form of prepayment or health insurance; (4) Outcome measures: changes in access to services, quality of care and other equity impacts of the schemes.

### 2.1 Identifying and describing studies

This review involved a broad search of the literature on health insurance. By using broad criteria and definitions of health insurance the review was made as inclusive as possible. Studies meeting the inclusion criteria as afore mentioned were included in the review after an agreement was met by at least three of the reviewers. More so, a number of studies such as data reviews, panel reviews, cross-sectional studies, retrospective observational designs and impact assessment studies were considered for inclusion in the review by the authors. Studies were excluded if they did not meet the inclusion criteria, *i.e.*, they didn’t make strong reference to health insurance and did not contain data or did not report impact of health insurance on primary healthcare delivery in Nigeria.

### 2.2 Search strategy

The authors employed a round of systematic searching for potentially eligible studies and two rounds of screening to identify studies that met the aforementioned criteria, and especially demonstrated impact, *i.e.*, provided evidence of resource mobilization; quality of care; provider efficiency; financial protection; physical access to primary health care and enrollee (dis)satisfaction. Key words were used to

search Pubmed, Embase, Ovid and Google Scholar (see Table 1). More so, advanced searches, and reference lists were scrutinized from published research articles which were relevant to the research question. Although it was difficult to identify studies meeting the research question, search terms were developed by the authors and materials included from hand searches were used. The search was limited to studies with a Nigerian medical subject heading (MeSH) term, involving health insurance, community financing, health services outcomes and impacts, at least in part, and other health services delivery such as drugs purchase, malaria treatment, maternal health and child health, inter alia. All database searches were developed iteratively and done only in English language. The titles and abstracts of the first 95 identified studies were analyzed for appropriate terms. To increase the search sensitivity, search terms not already within the searched database were added. Additionally, articles that potentially met the inclusion criteria were identified. The authors made effort to contact experts for their opinions to see if they knew of any additional unpublished or published data. Finally, all search histories were recorded.

**Table 1:** Some key words and search terms used to search some data base

	Data Base	Key Words	Hits	Retrieved
1.	PUBMED	Insurance and primary and health and services and Nigeria	31	5
2.	PUBMED	Prepayment and services and health care and Nigeria	16	3
3.	Google Scholar	Prepayment and services and health care and Nigeria	10	0
4.	OVID	Insurance and primary and health and services and Nigeria	0	1
5.	EMBASE	Prepayment and services and health care and Nigeria		0

### 2.3 Data extraction

Data extraction was conducted by the authors (reviewers) using a common, pre-defined reporting matrix to summarize findings. Where possible this information was also extracted from study papers and references. The characteristics of each study which determine the impact of health insurance on healthcare delivery was extracted. These characteristics which determine the impact of health insurance on health care delivery as shown in Table 1.

#### 2.3.1 Assessment of risk of bias

The included studies (which were non-randomized) were extracted from articles and references. Assessment of risk of bias/quality appraisal was done for study design, selection

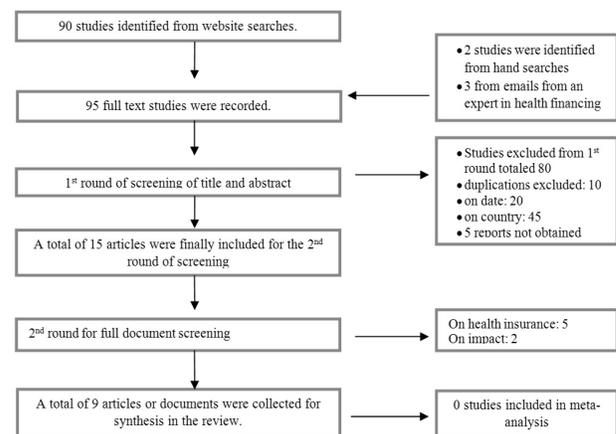
bias, confounders, data collection methods, withdrawals, reports and analyses using a modified checklist for observational studies in epidemiology.<sup>[20]</sup>

#### 2.3.2 Analysis

Statistical pooling of outcome data (for meta-analysis) wasn't considered as the heterogeneity of the studies with regard to contextual and health services factors would have rendered such a meta-analysis potentially misleading. Nevertheless, a narrative description of the results was conducted.

## 3 Results

The searches identified 95 titles and abstracts (see Figure 1). Key words were used to search identified database (see Table 1). Screening of titles and abstracts revealed 15 studies that potentially met the inclusion criteria and full text articles of these were obtained. Of these, only nine studies published between 2008 and 2013 finally met the reviewers' inclusion criteria. However, six studies did not meet the inclusion criteria and were excluded.<sup>[21–26]</sup>



**Figure 1:** Flow chart of search results of studies from searching and screening

### 3.1 Description of included studies

The key characteristics of the included studies are summarized in Table 2.

#### 3.1.1 Study settings

All studies were conducted in Nigeria. Of these, two studies were conducted in communities in Northern Nigeria,<sup>[20,27]</sup> six in communities in south eastern Nigeria,<sup>[28–33]</sup> and one study in south western Nigeria.<sup>[34]</sup> Overall, the findings reveal a fairly satisfactory impact of health insurance in strengthening health system and improving primary health care delivery in the country. The reports from the findings show that the health insurance policy has had a direct bearing on access to care, however, the quality of care varied as

it was equivocal in certain instances. These issues are itemized and critically reviewed in the section on study outcomes and discussion.

**Table 2:** Summary of the characteristics and findings of included studies

Author(s) /reference	Study design	Study objective(s)	Type of health insurance reported	Impact issue(s) considered	Principal outcome	Comments/conclusion	Risk of Bias
Mohammed <i>et al.</i> ,2013 <sup>[20]</sup>	Retrospective, cross-sectional survey	Assessing the insured users' perspectives of their health care services' responsiveness in Kaduna state, Nigeria (n= 796)	Social health insurance programme of the government amongst	Access to health care, utilization and quality of health care	-Members report an increased access to care and enrollees had improved satisfaction with the quality of care given. However, there was no evidence of quality improvements under insurance coverage within the period.	The findings suggests that even though health insurance improves access to quality primary care, future efforts should consider satisfaction with the quality of care given and other influencing factors.	No serious limitations of the risk of bias.
Mohammed <i>et al.</i> ,2011 <sup>[27]</sup>	Retrospective, cross-sectional survey	To determine the enrollee's satisfaction with health service provision under a health insurance scheme and the factors which influence the satisfaction in Zaria-Nigeria (n=280).	Social health insurance programme including the NHIS.	Access to health care, utilization and quality of health care	-Positive outcome on access to primary health care for enrollees and quality of care (self-reported) = 42.1%. Marital status, general knowledge & awareness of contributions positively influenced clients' satisfaction ( $p < .05$ ). Length of employment, salary income, hospital visits and duration of enrolment slightly influenced satisfaction. However, study could not assess the changes in observation with comparison groups.	The findings reveal that although health insurance improves access to quality primary care, efforts should reflect on satisfaction with the quality of care given and other influencing factors.	Limited risk of bias for methods used.
Iloh <i>et al.</i> ,2012 <sup>[28]</sup>	Descriptive cross sectional study	Evaluating patients' satisfaction with quality of care provided at the National Health Insurance Scheme (NHIS) clinic of a tertiary hospital in south-eastern Nigeria (n=400).	Social health insurance programme	Financing, the access, utilization and quality of health care.	Study showed positive outcomes as members reported increased access to care & satisfaction with the quality of care given (66.8%) statistically significant at ( $p < 0.05$ ). However, the difference in the quality of care was not significant for non-NHIS members.	The findings suggests that even though health insurance improves access to quality primary care, future efforts should consider satisfaction with the quality of care given and other influencing factors.	No serious limitations of the risk of bias for the methods used; however, there are problems with generalization of the findings.
Onwujekwe <i>et al.</i> , 2009 <sup>[29]</sup>	cross-sectional survey	To determine how equitable enrolment and utilization of community-based health insurance with varying levels of success in implementing the scheme (n=971).	Community based health insurance	Equity, access & financial risk protection	- Enrolment level was 15.5% in non-successful community and 48.4% in the successful community ( $p < 0.0001$ ). -Improved accessibility & better quality of care for enrollees as against non-enrollees -Also, there was no inequity in enrolment. However, enrolment was generally low and contributions were retrogressive. The average premiums were also small with evidence of vertical inequity.	There is the need to increase the enrollee participation and risk pooling, more so, subsidies from government and donors are needed to ensure equitable financial risk protection.	Limited risk of bias for methodology used.
Onwujekwe <i>et al.</i> ,2010 <sup>[30]</sup>	Exploratory cross-sectional survey (stated preferences study)	To provide an understanding of enrollees preference for benefit packages by different socio-economic status groups in urban and rural settings.	Community based health insurance	Equity and access	-there was no evidence of quality improvements, resource mobilization and financial risk protection, but the findings showed rural dwellers had a high preference for comprehensive package that cover all basic health needs if made available ( $p < .05$ ) while urbanites had preferences for selected primary health needs.	The study raises concerns for equity in allocating packages offered by community based health insurance, if these schemes should succeed in the country.	No serious limitations of the risk of bias.
Onwujekwe <i>et al.</i> ,2011 <sup>[31]</sup>	cross-sectional survey	Examine the level of acceptability of community-based health insurance (CBHI) among different population groups.	Community based health insurance	Equity in access & financial risk protection	There was improved access to good-quality health services, assessing financial risk protection could not be obtained directly. More so, the study reports that CBHIs do not eliminate the problems of vertical and horizontal inequities.	-To ensure equitable financial risk protection there is the need to increase enrollee participation and risk pooling as well as subsidies from government and donors are needed.	Limited risk of bias for methodology used
Adinma & Adinma,2011 <sup>[32]</sup>	Review/ Appraisal	Evaluating the impact of community healthcare financing on maternal health services	Community based health insurance	Financing of health care, access and utilization of health services.	-The health insurance programmes improved access to service delivery. Antenatal care and deliveries increased significantly following one year of commencement of scheme. ANC (129 $p < 0.05$ ) and deliveries (41 $p < 0.05$ ).	Provides evidence of the impact of CBHI schemes on strengthening primary health care and decreasing out-of-pocket expenses in Nigeria.	There is the risk of bias for method used
Onoka <i>et al.</i> , 2013 <sup>[33]</sup>	Comparative case approach study	The study aimed to understand why different state (sub-national) governments decided whether or not to adopt the FSSHIP for their employees.	Social health insurance	Financing and equity of social insurance programmes	There were reports of improved provider services delivery and utilization in Enugu state was the FSSHIP was adopted unlike in Ebonyi where it wasn't adopted. However, there were concerns fears that a central risk pooling system could lead to some form "adverse" selection for states enrollees as against federal enrollees.	This study strongly demonstrates and supports the observations that even when the content of FSSHIP is generally acceptable, context, actor roles, and the wider implications of programme design on actor interest can explain decision on policy adoption.	Limited risk of bias for methodology used
Ibiyowe and Adeleke, 2008 <sup>[34]</sup>	Explanatory survey	Examine the effect of the NHIS on access to quality healthcare as well as the effects on socio-economic factors affecting enrolment in the NHIS	National health insurance scheme (NHIS) a social health insurance programme of the government	Financing, access & quality of care	-It revealed that the NHIS increases physical access to quality care; however this did not significantly impact on the quality of care received when compared with non-members. It also showed that 11% saw cost as a barrier to membership, 36% had not heard of NHIS and there were concerns raised about HMOs & providers. More so, gender, age, income, marital, status, family size, education and occupation were significant explanatory variables of NHIS participation.	The authors are of the view that compulsory enrolment and NHIS campaigns will strengthen participation by the public.	Limited risk of bias for methodology used.

### 3.1.2 Study designs and outcomes

This review involved a range of non-randomized studies on health insurance conducted in Nigeria. Although, the authors made attempts to include interventional studies,

it was not possible due to unavailability despite rigorous search methods applied. Of the nine studies included, six were cross-sectional<sup>[20,27-31]</sup> with one using an exploratory method.<sup>[30]</sup> Also included in the review was a comparative case approach study,<sup>[33]</sup> a review/appraisal<sup>[33]</sup> and an ex-

planatory survey.<sup>[34]</sup> The main findings regarding our questions of interest, and the strength with which each issue can be addressed are summarized in Table 2 and Table 3 respectively.

The authors used the word “access” to imply enrollees physically gaining entrance and utilizing (or consuming) health services in an insurance programme. Findings revealed that there is evidence of moderate-to-high strength in the literature suggesting that social and CBHIs have a positive effect on access to primary healthcare delivery. However, there was no such evidence from the literature on private health insurance (for-profit). Almost all the studies revealed that insurance schemes enhanced financial access to quality care for primary health care needs in provider centres.<sup>[20–32,34]</sup> For instance, antenatal care (ANC) and deliveries increased significantly following one year of commencement of a CBHIs in Anambra state, one of the states in eastern Nigeria;

ANC (129,  $p < .05$ ) and deliveries (41,  $p < .05$ ).<sup>[32]</sup> Notwithstanding, it was however, unclear of the impact in one of the study how insurance impacts on accessing health care services in Ebonyi state, even though there were positive gains of accessing care in Enugu state.<sup>[33]</sup> Although, this review showed a positive impact of these schemes in scaling-up access to primary care, the impact of social health insurance was marginal for changes in utilization rates when compared with non-members, more so, findings from CBHIs was equivocal for access and utilization rates in most included studies that reported on CBHIs. Still, the evidence from three studies by contingent valuation (stated preferences) showed that CBHIs will improve rural, peri-urban and urban enrollees’ access to primary health care services as it is thought that the packages covered by these schemes address the essential health needs in these communities.<sup>[29–31]</sup>

**Table 3:** Study quality assessment protocol checklist of evidence

(1) Research/analytical question(s) Does the study have a clear and well-defined analytical/research question?	(2) Rational Does the study motivate its research question?	(3) Methodology (a) Does the study clearly describe the methods used to answer the analytical question(s)?	(b) Does the study make use of cross-sectional or time series statistical (descriptive/non-parametric) analysis, incl. significance levels in relevant sections?	(c) Does the study make use of statistical regression analysis?	(d) Does the study use any kind of controls or alternative comparisons?	(e) Is the type of information used in the study in terms of source, sample size, time period, levels etc. clearly described?	(4) Data (a) Does the study make use of primary data for its key analyses?	(b) Does the study make use of household or provider level data?	(5) Goal achievement Does the study answer (all of) the research/sub-question(s)?	(6) Findings and results (a) are all of the stated findings & results the outcome of the particular methods used in the current study?	(b) Are the results/findings credible with respect to method and data?	(7) Discussion and conclusions: Does the study critically discuss the robustness of findings, potential sources of bias, and possible limitations of the approaches of choice?	
Mohammed <i>et al.</i> , 2013	2	2	2	3	0	2	2	2	1	2	2	2	22
Iloh <i>et al.</i> , 2012	2	2	2	1	0	2	2	2	1	2	2	1	19
Mohammed <i>et al.</i> , 2011	2	2	2	3	1	2	2	2	2	2	2	2	24
Ibiyowe and Adeleke, 2008	2	2	2	3	0	1	2	2	2	2	2	2	22
Onwujekwe <i>et al.</i> , 2009	2	2	2	3	1	2	2	2	2	2	2	2	24
Onwujekwe <i>et al.</i> , 2010	2	2	2	1	1	2	2	2	2	1	2	2	20
Onwujekwe <i>et al.</i> , 2011	2	2	2	1	2	2	2	2	2	1	2	1	21
Adinma and Adinma, 2011	1	1	1	0	0	1	1	1	2	1	1	1	11
Onoka <i>et al.</i> , 2013.	2	2	1	0	0	2	1	2	2	1	2	1	17

Note. Source: Modified from Ekman B., 2004. Total points: Quality rating:

Total points possible: 25

- 2 points are credited if the paper conforms fully to the question.
- 1 point is credited if the paper conforms partially to the question.
- 0 points are credited if the paper does not conform at all to the question.
- 3 points are credited if the paper uses statistical regressions analysis under question 3(iii), consequently precluding a score on 3(ii). Grading scale • 22–25 points: 3 stars (\*\*\*)
- 17–21 points: 2 stars (\*\*)
- 0–16 points: 1 star (\*)

Additionally, there is evidence of moderate-to-high strength from the literatures that the available insurance programmes improve the quality of primary care, although some studies were equivocal on this. Notably, four studies on social health insurance showed that health insurance improves the quality of care provided.<sup>[20,27,28,33]</sup> Prompt attention, waiting time, availability of drugs and attitude of health workers to clientele amongst others were said to be satisfactory by enrollees. Statistically significant relationships at  $p < .05$  were shown.<sup>[20,27,28,33]</sup> However, a study on social health insurance was equivocal in this respect.<sup>[34]</sup> It was also not clear whether CBHIs actually improved the quality of care in service units as the findings from three studies were

inconclusive on this.<sup>[29–31]</sup> Nevertheless the stated preferences for CBHIs were significant as it is believed to improve on the quality of care received. One study on CBHIs showed better health outcomes for antenatal care and delivery amongst enrollees compared to non-enrollees in Anambra state.<sup>[32]</sup>

Similarly, findings from the review showed that despite the perceived gains of health insurance in strengthening access and the quality of primary health care there were challenges. Notable among the challenges is that the problem of vertical inequities between socioeconomic groups still occurred in CBHI schemes despite cross-subsidization amongst the

poor.<sup>[30]</sup> The exclusion effects are perceived to be due to limited pooling between groups and a negative trend in renewal rates.<sup>[29,30]</sup> These problems continue to be of concern in spite of the willingness to pay for full coverage insurance in CBHIs particularly by the poorest. On the other hand, there was no evidence of these in social health insurance programmes such as that of the NHIS.

#### 4 Quality assessment and risk of bias

The overall findings on study quality are summarized in Table 3. The following key findings are noted with regard to methodology, data and overall quality of the studies.

Firstly, in terms of methodology, studies reviewed used both descriptive statistics and regression analysis of data collected. Six studies used regression analysis of data collected to study the behavioural relationships (regarding stated preferences for CBHIs and satisfaction with the quality of care in social health insurance schemes),<sup>[20,27,30-32,34]</sup> while the others used descriptive analysis.

Secondly, while studies on social health insurance surveyed respondents within and outside the health facilities, studies on CBHIs used household survey data as their principal source of information. The sample sizes employed in those studies were not considered as small and as such did not produce any form of statistically insignificant relationships. Furthermore, the overall mean quality for the included studies was moderate. While five studies received the high grade, one study<sup>[32]</sup> was scored very low. More so, there may be concerns with the risk of potential bias in the included studies, given that the grading tool may not be sufficiently appropriate; its application may be considered to be faulty. However, to avoid any bias due to subjective considerations on account of the reviewers, it has been outlined in the methodological steps taken, see Table 3 and upon request further information on the grading forms will be made available.

Lastly, the generalization of the findings may be of concern because of the challenge of obtaining high external validity for non-randomized studies. Nevertheless, the findings of the review reveals the general problem facing health insurance in the country and this makes a case for the overall external validity and reliability of the evidence from this review.

#### 5 Discussion

As the design of policy reforms in the health care sector requires valid estimates of the impacts of improvements in access and quality, the reports identified in the literature provided evidence of the impact of health insurance on primary health care.

Firstly, the review brings to the fore the growing knowl-

edge and acceptance of the health insurance process in the country. This review showed positive outcomes as members reported increased access to care which were statistically significant ( $p < .05$ ). Almost all the studies revealed that insurance schemes enhanced financial access to quality care for primary health care needs in provider centres.<sup>[20-32,34]</sup> This corroborates the objective of the health insurance policy in Nigeria which explicitly seeks to provide a prepayment system that will improve access to quality healthcare by widening membership and thereby creating adequate pooling of risk.<sup>[13]</sup> While our findings suggests a march towards achievement of this objective of the NHIS, regrettably, evidence also reveals that wide gaps still exist in achieving the objectives of health insurance programme in the country.<sup>[13,20]</sup> There were concerns highlighted from the review. For instance, it was revealed that enrollees viewed cost of premiums and poor knowledge as barriers to membership.<sup>[34]</sup> More so; socio-economic factors such as income, marital status, family size, education and occupation were explanatory variables affecting participation in such schemes. These may also explain the insignificant proportion (*i.e.* 4%) of the population benefiting from the health insurance schemes in the country. Besides, the implementation of the NHIS remains largely in the public sector, constituting an insignificant proportion of the Nigerian populace, thus limiting the speed of spread of health insurance. This may have led to promotion of inequity in access to health services indirectly.<sup>[35]</sup> Again, the NHIS Act that set up the scheme does not make its implementation compulsory for all Nigerians unlike what obtains in other parts of the World. This has made it possible for state and local level bureaucrat and other public sector employees to exempt themselves from the scheme.

Additionally, our findings have shown that CBHIs have the potential to increase utilization base and quality of care in primary health services.<sup>[29-31]</sup> Although, in some of the included literatures for this review, the impact of these schemes on the quality of care remained equivocal<sup>[20,27,32]</sup> however some other studies reveal positive gains on the quality of care in primary healthcare delivery.<sup>[23-26]</sup> The challenge remains that health insurance; particularly the CBHIs are still rudimentary in the country and are fraught with implementation challenges including issues of acceptance by the people. The truth is that CBHIs seems to be the real hope of the people since a greater percentage of the population is of the informal sector. For this reason, this review therefore contributes towards developing the evidence base on the effects of insurance schemes on primary healthcare delivery as with a similar review in developing countries.<sup>[10]</sup>

Furthermore, the concern with access to quality primary health care delivery through health insurance bothers on the issue of inequity. Even where these schemes existed, evidence from the review, revealed the existence of retrogressive and inequitable contributions particularly in CB-

HIIs.<sup>[29–31]</sup> This is due to the methods adopted by most of the schemes. Although, there were reports of cross-subsidizations among the poor, exclusion continue to be of concern in these schemes despite high willingness to pay (WTP). This worsens the problems of adverse selection, community ratings and issues with solvency. In south-eastern states where these are being scaled-up particularly, the impact of these schemes on the quality of care may be insignificant. On the contrary, schemes such as the Baboantou (Tanzania), Bakoro (Cameroon), and the Masisi (hospital pre-payment scheme in D.R. Congo) have achieved high levels of equity ratios.<sup>[10,36]</sup> This is likely due to the fact that health insurance have existed in those countries for quite a longer period than in Nigeria. Consequently, they could have outgrown the “initial problems” of growth and development. However, it doesn’t underscore the fact that poor technical support in Nigeria could largely be responsible for the continued existence of these problems. More so, knowledge and attitude towards the utilization of health insurance could be a contributory factor. It should also be mentioned that it was not possible to assess the evidence base of the impact of private (for-profit) health insurance on access and quality of care. Nevertheless, they will contribute to improving health outcomes for primary health care delivery. In fact, it has been shown that, where they do exist and where regulation is adequate they are moderately successful, garnering a small but not negligible share of the health market and making modest profits.<sup>[37]</sup>

## 6 Conclusion

Even as progress is being made to improve on health outcomes, the results of this review strongly suggests that the

health sector reform in the country is making impacts. Accordingly, it has become necessary that financing arrangements through health insurance needs to be seen as a key strategy in achieving UHC in Nigeria. However, reviewed literatures expressed concerns with designs and implementation of the insurance schemes in the country. Nigeria, on the whole, needs to put the machinery in place to expand coverage outside the formal sector. Heavy disease burden, burden of poverty, remote rural settings and variability in insurance provision across the country makes it a daunting task to achieve universal coverage through insurance schemes in the near future. To overcome this, it is necessary to engage in far-reaching advocacy, increased community participation, increased government and international developmental assistance through subsidies so as to expand on current efforts and achieve greater outcomes from the primary healthcare system especially through health insurance schemes.

## Acknowledgements

The authors are grateful to the almighty for his inspiration; also we thank the reviewers for their very useful comments, which helped us to improve the paper.

## Conflicts of Interest Disclosure

The authors declare that they have no competing interests. The views and opinions expressed in this article are those of the authors and do not reflect the official policy or position of any governmental agency.

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