A systematic review of the impact of the National Health Insurance Scheme in Nigeria

Awojobi O.N.

Abstract

Objectives: To determine the impact of NHIS, this study conducted a systematic review of peer-reviewed literature.

Methods: A broad literature search was undertaken on Google Web and Google Scholar for studies published between 2013 and 2018. A total of fourteen studies met the inclusion criteria. Thirteen studies are qualitative, and one is quantitative. They included neither experiment nor quasi-experimental design in the review.

Results: Outcomes observed in the review were summarised qualitatively owning to study sample, data collection technique and impact measures. Generally, most studies reported the impact of NHIS on various variables; the most significant impact was on financial protection and healthcare utilisation. Other impacts observed were of mixed outcomes and of low quality.

Conclusion: The impacts recorded in this review showed that workers in the formal sector are the beneficiaries while the poor informal sector workers are excluded from the services of NHIS. The Nigerian government needs to reform the NHIS to include the poor if it is serious about enhancing Universal Healthcare Coverage (UHC).

Keywords: Enrolees, NHIS, systematic review

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Examen systématique de l'impact du régime national d'assurance maladie au Nigéria

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Resume
Objectifs: Pour déterminer l'impact des NHIS, cette étude a procédé à une revue systématique de la littérature évaluée par des pairs.

Méthodes: Une recherche documentaire approfondie a été entreprise sur Google Web et Google Scholar pour des études publiées entre 2013 et 2018. Au total, quatorze études répondaient aux critères d'inclusion. Treize études sont qualitatives et une quantitative. Ils n'ont inclus ni expérimentation ni plan quasi expérimental dans la revue.

Résultats: Les résultats observés lors de la revue ont été résumés qualitativement comme appartenant à l'étude, à la technique de collecte de données et aux mesures d'impact. De manière générale, la plupart des études ont rapporté l'impact du SNIS sur diverses variables; l'impact le plus significatif concerne la protection financière et l'utilisation des soins de santé. Les autres impacts observés étaient des résultats mitigés et de faible qualité.

Conclusion: les impacts enregistrés dans cette revue ont montré que les travailleurs du secteur formel en sont les bénéficiaires, tandis que les travailleurs pauvres du secteur informel sont exclus des services de NHIS. Le gouvernement nigérian doit réformer le SNIS pour inclure les pauvres s'il veut vraiment améliorer la couverture des soins de santé universelle.

Mots-clés: Enrolees, NHIS, revue systématique

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INTRODUCTION

In December 1884, the then German Chancellor, Otto von Bismarck set up the initial broad-scale mandatory health insurance cover for German workers (1). Ever since then, health insurance has been appealing to more and more recognition in developing countries as a system of enhancing healthcare usage and protecting individuals against impoverishment from out-of-pocket expenditures (2,3).

Different types of health insurance for people are available (3). The Nigerian government officially introduced the National Health Insurance Scheme (NHIS) in 2005 with the aim of making healthcare accessible and affordable to Nigerians (4–6). This was after it was established that the Nigerian health sector was in a poor state, coupled with the high cost of healthcare services and the lack of funds to sustain the effective delivery of healthcare services (2,5). Furthermore, the inability of the Federal and State government hospitals to cope with the demands of healthcare services and the dependence on out-of-pocket expenditures by Nigerians in accessing healthcare prompted the Nigerian government to embrace the health insurance scheme as a way of meeting the health needs of the population (2,5).

A male employee contributing to the NHIS scheme, has him, the spouse and four biological children not over 18 years covered by the scheme (6). In the case of a child who is above 18 years, the principal beneficiary must make an additional contribution for the child to be covered by the scheme and for children over 18 years in higher institutions, they are covered by the Tertiary Insurance Scheme (6). In terms of contributory rate, an employer contributes 10% while the employee contributes 5% of his or her basic salary to have access to healthcare benefits (2).

Some benefits of the NHIS include drug prescription, pharmaceutical care, diagnostic tests and maternity care for up to four live births (6). Others are immunisation, family planning, hospital care, antenatal and post-natal care and consultation with specialists (6). The Nigerian government designed the NHIS to provide basic healthcare services for formal and informal sector workers, the vulnerable people and rural communities at a lower cost (2,4,6). Despite the intention of the government to provide accessible and affordable healthcare services, those covered by the scheme are less than 10% of the Nigerian population (4).

Empirical evidence indicates the impact of health insurance on the population they serve (1,3). There are various types of impacts of health insurance and this prompted this study to analyse the impact of NHIS on the population it covers and is the specific objective of this study.

This study is not informed about past systematic reviews that have assessed the impact of NHIS in Nigeria. Thus, this is the reason for employing systematic review on the impact of NHIS on its beneficiaries. Systematic reviews provide a potential approach to establish, analyse, and synthesise vast volumes of research articles (7). Unlike popular literature reviews, where the inquiry and inclusion criteria are usually vague and hardly validated, systematic reviews are better clear, reliable and producible (7).

MATERIALS AND METHODS

This study employs a systematic review to assess the impact of NHIS on its enrolees. Systematic reviews are literature reviews related with an apparently defined research question or aim that uses systematic explicit techniques to identify, select, and painfully evaluate related research from published articles connected to the question at hand (8). The systematic review of this study applies literature review techniques to single out only research articles that satisfy specific criteria.

Search procedure: Following the conditions attach to conducting a systematic review, an electronic literature search was conducted for research articles with the search titles “NHIS in Nigeria”, the impact of NHIS and “Assessing NHIS in Nigeria” The study used Google and Google Scholar to find relevant literature between 2013 and 2018.

Eligibility criteria: inclusion and exclusion criteria: Research articles assessing the impact of NHIS in Nigeria were included in this review. Most of the studies on the web discussed the awareness of NHIS and only those that focused on assessment and the impact of NHIS formed part of the included studies while those that concentrated only on the awareness of NHIS were excluded. Furthermore, this review included only peer-reviewed studies that were published in different academic journals and excluded grey literature, policy papers, report and online web articles.

Data extraction: A data extraction form was used to extract the following data from included studies: citation, study location, data sample, methods, data collection methods and study outcome. The quality of these studies was evaluated using criteria peculiar to each study design.

Data synthesis: This review is qualitative in nature, so a qualitative synthesis was used to summarise the findings of individual studies. This process involved the use of themes and interpreting the findings. Some study findings fell into one coding category and others fell within various coding categories.

RESULTS

Study flow: The first search produced 100 publications and an additional search yielded 30. A total of 130 research publications followed the selection process that left 14 publications as the final included studies for this review. Figure 1 presents the selection process and study flow.

Study characteristics: Table 1 summarises the characteristics of the 14 included studies. In terms of study locations, 4 studies each were conducted in the North Central, South East, South West and only 2 studies were conducted in the South-South geopolitical zone.

The data samples of the included studies consist of civil servant, formal sector workers, NHIS enrolees, healthcare workers, NHIS officials, hospital patients and non-clients of NHIS. The 14 studies under review included 13 that employed mixed methods and the remaining one adopted quantitative approach. Most studies used questionnaires and structured interviews as methods of data collection and two studies used administrative documents in their data collection. Impact issues considered by most of the studies include the followings financial protection, quality care, coverage, health utilisation and treatment.

Evidence of outcomes and impacts: The studies in this review reported various impacts of NHIS on financial protection (8 studies), quality care (8 studies), satisfaction of the scheme (7 studies), utilisation of healthcare (7 studies) and satisfaction with care (4 studies), but less on coverage (5 studies) and treatment (4 studies).

Financial protection: The low premium of the NHIS is one benefit that enrolees of the scheme are entitled to. Eight studies reported the impact of NHIS on financial protection (4–6,9–13). In Calabar, the southern part of Nigeria, some people enrolled in NHIS because of the lower premium it charges (10). Under the current dispensation, workers' employers contribute 10% of the basic salary of the insured while the balance 5% is paid by the employee (4,10). At the Obafemi Awolowo University in Osun State, enrolees interviewed agreed that healthcare services under the NHIS are affordable and the extortion by private healthcare providers has reduced (10). However, this was contrary to the work of (Eyon et al. 2016) (9) whose findings revealed that a significant number of enrolees interviewed acknowledged that the cost of healthcare is still high with NHIS.

Using interview and questionnaire to gather information from NHIS clients, the study of (Owumi et al. 2013) (13) revealed that a large majority of NHIS clients preferred the services of NHIS because it decrease the out-of-pocket expense borne by the service users and they can have access to healthcare services without paying the medical fee immediately. Other studies that took place in Ilorin, Jos and Nnewi showed that NHIS reduces financial hardship during illness (4,5,11,12).

Quality care: Eight studies knowledge the improvement of quality healthcare as reported by some enrolees (9–16). In Cross River State, enrolees believed that the quality of healthcare has improved due to NHIS, but it is not significantly different with previous healthcare services (9). Quality and accessible healthcare are two major benefits of health insurance. A significant number of enrolees of NHIS admitted that NHIS made them recuperate quickly after treatment, improved their health status, makes treatment more efficient and makes the availability of drugs possible (10–13,16). However, the findings from the studies of (Ele et al. 2017 and Mgbe and Kevin, 2014), (14,15) indicated that despite NHIS, drug availability is extremely low and non-NHIS enrolees get better treatment than enrolees.

Utilisation of care: Seven studies reported the utilisation of healthcare (5,6,10,12,13,16,17). An overview of the included studies and their outcomes on utilisation of healthcare services due to NHIS as reported by each study is provided in Table 2.

Satisfaction of the NHIS: Out the fourteen studies in this review, seven reported on the satisfaction on NHIS services (5,6,10,12,14–16). In Jos, Plateau State those that have benefited from HNIS services confessed that they are satisfied with the scheme (6). Just like in Plateau State, enrolees in Calabar, Ife and Nniwe felt satisfied and confident with the services of NHIS, they adjudged the scheme to be better than previous healthcare delivery service and felt NHIS is a very convenient project (6,10,12,14). The affordability and accessibility of healthcare allow enrolees at the Enugu State Teaching Hospital to be satisfied with NHIS services (15) while enrolees in Ibadan accepted the scheme has met their expectation (16). However, enrolees in the study undertaken by (9) admonished the scheme of the delay in seeing medical practitioners even with NHIS card.

Satisfaction with care: Satisfaction with care was an outcome in four studies (6,9,10,16). For enrolees that have visited the hospitals for treatment in Calabar revealed that healthcare delivery services have improved with the availability of pharmaceutical products and nursing care since the introduction of NHIS (9). In Cross River State, it was acknowledged that healthcare services have improved after the introduction of NHIS (10). At the Obafemi Awolowo University health centres, modest and affordable healthcare delivery system was observed by enrolees who make use of the health centres (10). The non-payment of hospitalisation bills, receiving drugs at a subsidised rate below 90% and the not paying of laboratory fees, made enrolees in Ibadan to be satisfied with the healthcare delivery system under NHIS (16).

Treatment: Patients that have received treatment of various types of diseases were reported in four studies (6,10,13,17). Malaria accounted for the largest volume of cases (6,17). Other cases reported included typhoid fever, childbirth, surgery and prenatal care (10). In Ibadan, enrolees reported free maternity care, consultation, nursing care, medical treatment and drug prescription are the benefits they have enjoyed since enrolling in the NHIS (13). For enrolees in Ilorin, it was reported that most of the enrolees enjoy comprehensive healthcare that cut across curative, preventive and consultative services (10).

Coverage: Coverage level is one pertinent issue of health insurance anywhere in the world. Five studies mentioned the coverage level of enrolees in the NHIS (2,4,5,11,18). Two of these studied revealed that the NHIS covered a very low segment of the Nigerian population (4,11). For instance, in the South West geopolitical zone, less than two per cent of the entire population are enrolled in the NHIS. In Ilorin, the coverage among the formal sector workers is very low compared to the number of formal sector workers in the zone.

Despite the high level of poverty and poor health indicators in Nigeria, NHIS covered only workers in the formal sector, especially workers in government departments (2,5,18). This has made it difficult for the poor to have access to quality and affordable healthcare services.

The adverse impact of NHIS on healthcare services: Some selected studies found various challenging issues affecting NHIS in delivering efficient healthcare services. For instance, some enrolees in Calabar are not satisfied with the performance of the scheme (10). In Osun State, it was discovered that healthcare equipments such as X-ray machines, computerised testing equipment and sophisticated scanners are not available for use in one of the NHIS accredited health centres (10).

On the quality of service, two studies revealed that the lack of personnel hinders the quality of service being rendered by the NHIS and this has resulted in the delay of attending to patients (9,10). Health insurance aims at improving efficiency by increasing access to healthcare, but two studies claimed that NHIS has not resulted in an efficient health delivery system (6,13). In Calabar, enrolees complained of the issuance of identity card as a challenge when trying to enlist in the scheme (10). In Ibadan, the delay of releasing names in accessing healthcare services was a major obstacle to them (13). Other factors affecting NHIS delivery services include funding (10,12,16), inadequate personnel (10,16), non-standard equipment (16) and the delay in meeting the health needs of enrolees (10,13). In order to improve the delivery of services of the NHIS due to challenges confronting its operation, two studies call for reforming the scheme (10,16). The formal asserts that the "identification of enrolee through data record needs to be put in place to ensure a more successful implementation of the scheme" while the latter want a reformation of the scheme to improve efficiency.

DISCUSSION

This study is the first systematic review to assess the impact of NHIS on its enrolees. From the available evidence from the included studies in this review, it is clearly demonstrated that NHIS has made health accessibility and financial protection possible for the enrolees who are registered with the scheme. This is in support of other studies that have investigated the correlation between health insurance, health utilisation and out-of-pocket expenditure. See (2,3).

A significant number of enrolees of the scheme have benefited in the areas of treatment, quality care, financial protection, healthcare utilisation and others are satisfied with the services of NHIS. However, there are some enrolees felt that the scheme has not met their expectation due to operational difficulties (9).

One main issue that emanated from this review findings is low coverage. The scheme covered only formal workers, especially workers from government departments. The informal sector covered a lot of poor people and most of them hardly have access to quality healthcare when they are sick. They use the little income from their earning to care for themselves and their family members when they are sick, and this pushes them further below the poverty line (5).

While the scheme has been applauded for making it easy for a few numbers of Nigerians to have access to quality and affordable healthcare, the evidence of quality care and treatment is minimal (6,9-10,13,16). Among the studies reviewed, there was no comprehensive evidence to show that NHIS improve quality care of enrolees. Furthermore, the commonest types of ailments being treated by NHIS registered hospitals are malaria and typhoid fever. There is no report from among the reviewed studies of any critical illness that was handled by NHIS. This might not be unconnected with the fact that low premium attracts limited health benefits.

Most studies included in the review employed a qualitative approach to assessing the impact of NHIS. No study used experimental or quasi-experimental design and most relied on questionnaires and in-depth interview. There is the need to carry out a more comprehensive evaluation design for NHIS impact evaluations.

This review encountered some limitations, for instance, most of the indicators used to assess the impact of NHIS were positively acknowledged by the enrolees, other enrolees disagreed with the positive impacts of these indicators. This is because most of the studies reviewed used questionnaires for data collection to assess the impact of NHIS. This makes it difficult for this review to support the notion that NHIS significantly impacted its enrolees. Further to this, there is limited high-quality literature on the impact of NHIS, this made it possible for this review to include only low and medium quality literature.

CONCLUSION

Most of the reviewed studies concentrate on health utilisation, financial protection and quality healthcare. Health insurance has a role in making healthcare accessible and reducing financial hardship among the enrolled population. Evidence from the review indicates that health utilisation and financial protection are the two core benefits being enjoyed by enrolees and this is limited to formal sector workers leaving millions of poor Nigerians in the informal sector without access to quality and affordable healthcare. The Nigerian government has the potential of reforming the NHIS to cover poor Nigerians, and this is the only way for the government to promote universal healthcare coverage.

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Conflict of interest: The author declares no conflicts of interest.

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Table 1: Summary of studies characteristics

Study	Location	Data sample	Methods	Method of data collection	Impact issue(s) considered[a]
Adewole et al. 2016[18]	Kwara State	370 formal sector workers	Mixed	Self-administered questionnaire	C QC, FP
Adewole et al. 2016[4]	Kwara State	507 formal sector workers	Mixed	Semi-structured interview, questionnaire	C, FP
Adewole & Osungbade, 2016[11]	South West geo-political zone	NHIS enrolees	Mixed	Administrative document	C,
Akande et al. 20111[17]	Kwara State	29,244 patients	Quantitative	Hospital record	UHC, T
Apeloko, 2017[10]	Osun State	NHIS clients, health workers, doctors, NHIS officers	Nixed	Questionnaire	QC, UHC, T, FP, SWS, SWC
Chibuke, 2013[2]	Enugu and Ebonyi States	Civil servants	Mixed	Questionnaire	C
Ele et al. 2016[12]	South east	NHIS enrolees	Mixed	Self-administered questionnaire	QC, FP, UHC, SWS
Ele et al 2017[14]	South east	Managers and healthcare providers	Mixed	Focus group discussion, structured interview	SWS, QC
Eyong, 2016[9]	Cross River State	561 civil servants	Mixed	Questionnaire	FP, SWC, QC
Mgbe & Kevin 2014[15]	Eastern Nigeria	200 respondents	Mixed	Questionnaire	SWS, QC
Onyedibe et al. 2012[5]	Plateau State	200 adults	Mixed	Questionnaire	C, UHC, SWS, FP
Osuchukwu et al. 2013[6]	Cross River State	200 respondents	Mixed	43 itemed questionnaires	FP, UHC, SWC, SWS, T
Owumi et al. 2013[16]	Oyo State	435 enrolees	Mixed	In-depth interview, questionnaire	FP, UHC, SWS, SWC, QC
Owumi et al. 2013[13]	Oyo State	383 respondents	Mixed	In-depth interview, questionnaire	T, UHC, QC

Note: [a] Coverage (C), Financial Protection (FP), Quality Care (QC), Satisfaction with Care (SWC), Satisfaction with the Scheme (SWS), Treatment (T)

Table 2: Summary outcomes on utilisation of healthcare

Study	Utilisation of healthcare
Akande et al. 2011[17]	Usage of healthcare increase from 8,550 before NHIS to 29,422 when NHIS was implemented. Before NHIS, the mean attendance of patients per month was 357 and it rose 870 after the introduction of NHIS.
Apeloko, 2017[10]	In Obafemi Awolowo University environment, NHIS has led to an increase in the utilisation of health benefits at university health centres.
Ele et al. 2016[12]	NHIS had a positive impact on health-seeking behaviour and usage of health services of pregnant women and children.
Onyedibe et al. 2012[5]	Most of the government employees that are enrolled on the scheme have benefited from healthcare services.
Osuchukwu et al. 2013[6]	In twelve-month, significant numbers of enrolees have received various treatment from health facilities.
Owumi et al. 2013[13]	A large proportion of enrolees indicated that their health condition was normal. It indicates that many of those who joined the scheme are utilising the health insurance programme and experience stronger health.
Owumi et al. 2013[16]	On enrolees opinions of the actions that promote their usage of NHIS services, data disclosed that the broad number of enrolees selected the benefits because it reduced their out-of-pocket spending on healthcare.

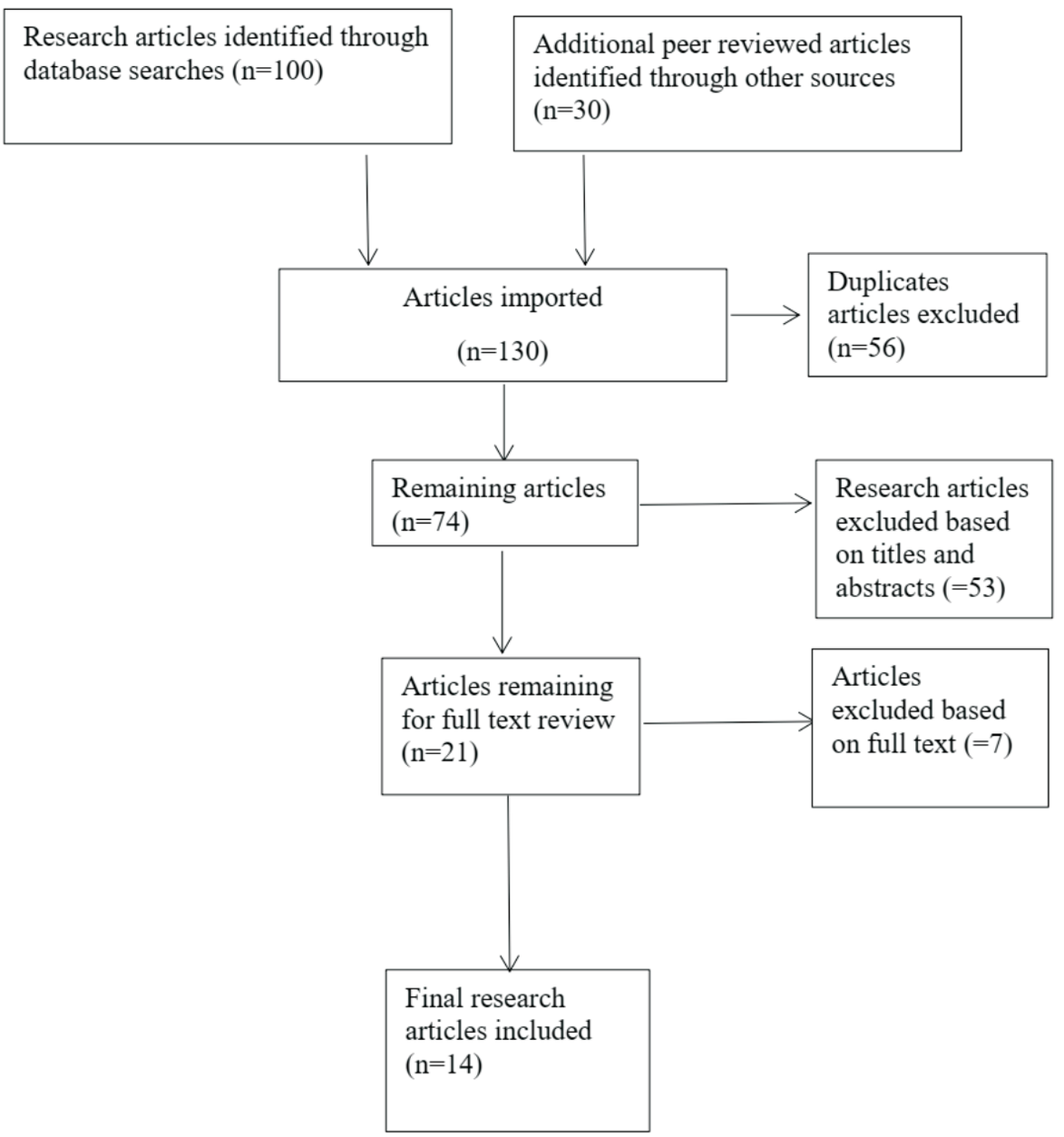

Figure 1: Study selection flow diagram