



Assessment of National Health Insurance Scheme's (NHIS) Effectiveness in a Tertiary Teaching Hospital in Southeast Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Authors NEG, MOU and UOV designed the study. Authors NEG and OOB performed the statistical analysis, wrote the protocol and wrote the draft of the manuscript. Authors NEG and OOB managed the analyses and interpretation of the study. Authors NEG and OOB managed the literature searches while authors MOU and UOV supervised the work. All authors read and approved the final manuscript.

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ABSTRACT

Background: The fundamental concept of health insurance is risk sharing and burden bearing. The scheme is undermined by limitations ranging from very frequent use of the services more than necessary by enrollees, to cost escalation, poor management, and skimming. Assessment of services is a quality control measure in patients' care and service delivery. It helps to identify gaps for improvement of care and services.

Objective: This study assessed the effectiveness of NHIS from the perspective of healthcare providers and managers involved in its implementation to understand the nature of services, and gaps with the view to exploring ways of improving its service delivery.

Methods: The study was a descriptive cross-sectional survey using focused group discussion

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guide to extract information from managers and healthcare providers. Structured interview guides were used to conduct key informant interview (KII). Data were summarized using descriptive statistics.

Results: The greatest challenge was limited availability of essential drugs (60.0%), followed by inadequate space (40.0%), inadequate number of staff (40.0%) to meet up with the demand of NHIS patients and delay on reimbursement (40.0%). Most of the key informants 6.0 (60%) attested to poor availability of essential drugs.

Conclusion: There is the need for an improvement in accessibility and availability of essential drugs in the scheme. Improvement on the quality of services can promote increased enrolment. Findings suggests the need for improved funding, staff training and development, and more investigative studies into the activities and operations of the scheme to positively impact health insurance operations and improve enrolment by clients. Improved funding, provision of adequate space, infrastructure, good monitoring and evaluation system will boost service delivery and promote sustainability.

Keywords: Healthcare financing; healthcare coverage; access to healthcare; population health; health insurance; Nigeria.

1. INTRODUCTION

The NHIS was established under the National Health Insurance Scheme Act, Cap N42, Laws of the Federation of Nigeria, 2004. The scheme was aimed at providing easy access to healthcare for all Nigerians at an affordable cost through many prepayment systems. It is committed to securing universal coverage and access to adequate and affordable healthcare in order to improve the health status of Nigerians for enrollees. The main stakeholders include the government, the private sector, and agencies appointed by government and international donors. The government provides the regulatory framework for implementation and monitoring of their activities to ensure compliance to standards. The employees in addition to government, donors, and partner organizations provide 5.0% of their basic salaries and 10.0% of counterpart contribution to NHIS. The stakeholders include all the levels of government, public and private employers, Rural Community Health Insurance Program agency, the self employed, the media, health maintenance organizations, commercial banks, health providers, board of trustees, and community leaders [1-3,4-8].

Financial sustainability for health care is a growing concern in developing countries with teeming population, scarce resources, and high disease burden. Leveraging on health financing mechanisms is essential to improving health indices, and reduction of morbidity and mortality associated with poor healthcare services. The issue of cost is a major determinant of access to health care. Health expenditures differ markedly

among countries and predominantly poor in developing countries who allocate lower share of government spending to health. Insurance coverage varies from 5.0% in most developing countries of Africa to above 75.0% in developed economies. Funding mechanisms for health care services in developing countries include donor financing, user fees, public financing through government budget, development loans, local financing, and health insurance [1-3,9,10]. Majority of Nigerians live below poverty level and cannot afford healthcare services dependent on catastrophic spending. Health seeking behavior is largely dependent on cost of accessing healthcare services. Where health insurance exists, quality of care and a service becomes a challenge. The dynamics of health insurance involves pooling of resources among the rich and the poor for risk sharing and burden bearing via periodic payment of premium to avoid huge payment of treatment cost which usually come unannounced [11-13].

Service delivery assessment studies are investigative tools into different aspects of population health and services. Key informants provide information from expert point of view on sociocultural, economic, political or health issues. They have special skills and knowledge in designated areas, which could be of interest to researchers. Focal group discussion is an essential tool in opinions and beliefs in population studies and can serve as template for more detailed investigations. They are useful in developing preliminary quantitative studies, investigating ideas about new programs and determination of limitations associated with programs and services [13-16]. Evaluation of

health care services is essential in tracking and improving health providers' services. In view of the high need for healthcare in a resource-limited setting characterized by catastrophic spending with majority of the people living below poverty level, it becomes essential that necessary information be generated on the operations of NHIS to promote its effectiveness and improve efficiency for better enrollment and coverage. This study evaluated the effectiveness of NHIS from the perspective of healthcare providers and managers involved in its implementation to understand the nature of service, and gaps with the view to exploring ways of improving service delivery. Evaluation of healthcare services is essential in tracking and improving health provider's services.

2. METHODS

2.1 Study Setting

The study was carried out among healthcare managers and healthcare providers who were particularly involved in the implementation of NHIS in Nnamdi Azikiwe University Teaching Hospital (NAUTH).

2.2 Study Design

The study was a descriptive cross-sectional study using in-depth interview with managers and healthcare providers. Structured focus group discussion guides were used to conduct key informant interview (KII) and focus group discussion (FGD). The questions were pilot tested with participants in the hospital who did not participate in the final study. The structured interview guide developed contained questions to determine the respondents' demographics, impressions, challenges, and/or limitations of NHIS, and possible ways to improve its implementation. Only participants who gave their informed consent participated in the study.

2.3 Sample Size Determination

All the qualified people who gave their informed consent were used to increase reliability.

2.4 Ethical Considerations

In line with global best practice, ethical clearance was obtained from the research and ethics committee of the teaching hospital before the study commenced with an ethical clearance code of: NAUTH/CS/66/vol./106.

2.5 Data Collection

Convenient sampling was employed for selection of healthcare providers included in the FGD. Only providers who gave their informed consent participated. The FGD consisted of eight representatives of five departments of the hospital: Medical, Pharmacy, Nursing, Radiography, and Laboratory. The FGD was scheduled for the time convenient for participants by using the time reserved for departmental meetings. Data were collected from interview with the hospital's key informants namely: Chief Medical Director (CMD), Chairman Medical Advisory Committee (CMAC), Director of Administration (DA), Head of Departments of NHIS clinic, Pharmacy, Medical Records, Laboratory, Radiography, and Nursing, NHIS focal person, and Health Management Organizations (HMO) representative. In all, 10 in-depth interviews with healthcare providers and health insurance managers, and 5 focus group discussions with healthcare professionals were conducted.

2.6 Data Analysis

The data extracted from the key informant interview (KII) and that of focus group discussion (FGD) were sorted, and summarized with descriptive statistics.

3. RESULTS

Majority of the healthcare professionals viewed NHIS as a very good venture 30.0 (75.0%) but about half of the respondents were aware of the hospital policy on NHIS treatment guideline 21.0 (52.5%). They assessed NHIS implementation in NAUTH as quite good 25.0 (62.5%) but the extent of drug availability was rated very poor 30.0 (75%).

4. DISCUSSION

Healthcare providers form an important segment of healthcare delivery. Table 1 showed the demographic characteristics of health managers of NHIS in the hospital. It indicated that the health managers of NHIS in the hospital have worked an average of 16.4 years in the service and an average of 5.3 years as managers. Their behavior plays a significant role in determining whether the goals of a health system can be achieved. To this effect, an in-depth interview guide developed for providers and managers of the scheme in NAUTH contained issues on views

and challenges of NHIS and possible ways to improve perspectives and insights into knowledge that participants possess. An in-depth interview is a dialogue between skilled interviewer and an interviewee. Its goal is to elicit rich, detailed material that can be used in analysis. The quality of the information obtained is largely dependent on the interviewer's skills and personality [16,17]. All participants in the discussion saw NHIS as beneficial and a very useful venture that enabled them to have access to cheap healthcare services. A health insurance scheme should provide quality, accessible, affordable, equitable, and efficient services,

which leads to a significant reduction in out of pocket expenditure [18].

Table 2 summarized the demographics of healthcare professionals in the hospital. It indicated an equal number of the five categories of healthcare providers but with varying distribution between males and females. Limited number of the healthcare providers and managers were aware of the hospital policy on treatment guideline. This is similar to the study carried out by Onwukwisi to access NHIS among Nigerian Healthcare Professional workers in Nigeria. Findings showed that Nigerian healthcare

Table 1. Demographic characteristics of health managers of NHIS in the hospital

Serial number	Variables (Interviewees department)	Sex	Years of service	No of years of work as a manager
1	Medicine	M	20.0	3.0
2	Medicine	M	15.0	3.0
3	Administration	F	22.0	1.0
4	Medicine	M	20.0	5.0
5	Pharmacy	M	27.0	11.0
6	Medical record	M	15.0	5.0
7	Laboratory	F	10.0	5.0
8	Radiography	F	15.0	6.0
9	Admin officer	F	10.0	4.0
10	Admin officer	M	10.0	10.0

M: Male, F: Female

Table 2. Demographics of healthcare professionals in the hospital

Variables	Doctors	Pharmacists	Nurses	Laboratory scientists	Radiographers	Total
Sex	n (%)	n (%)	n (%)	n (%)	n (%)	N (%)
Male	6.0 (75.0)	4.0 (50.0)	1.0 (12.5)	5.0 (62.5)	4.0 (50.0)	20.0 (50.0)
Female	2.0 (25.0)	4.0 (50.0)	7.0 (89.5)	3.0 (37.5)	4.0 (50.0)	20.0 (50.0)
Total	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	40.0 (100.0)
Years of service n (%)						
1-10	2.0 (25.0)	1.0 (12.5)	2.0 (25.0)	2.0 (25.0)	1.0 (12.5)	8.0 (20.0)
11-20	3.0 (37.5)	2.0 (25.0)	2.0 (25.0)	1.0 (12.5)	3.0 (37.5)	11.0 (27.5)
21-30	2.0 (25.0)	3.0 (37.0)	2.0 (25.0)	3.0 (37.5)	3.0 (37.5)	13.0 (32.5)
31-above	1.0 (12.5)	2.0 (25.0)	2.0 (25.0)	2.0 (25.0)	1.0 (12.5)	8.0 (20.0)
Total	8.0 (100)	8.0 (100)	8.0 (100)	8.0 (100)	8.0 (100)	40.0 (100.0)

Table 3. Responses of interviewees of key informants on the NHIS and its implementation in the hospital

Variables	Number of respondents n (%)			
	Very good n (%)	Good n (%)	Poor n (%)	Do not know n (%)
Awareness of hospital policy on NHIS treatment guidelines (n = 10)	1.0 (10.0)	4.0 (40.0)	3.0 (30.0)	2.0 (20.0)
Views on NHIS (n = 10)	2.0 (20.0)	4.0 (40.0)	3.0 (30.0)	1.0 (10.0)
Assessment of NHIS implementation (n = 10)	2.0 (20.0)	5.0 (50.0)	2.0 (20.0)	1.0 (10.0)
Extent of drugs availability (n = 10)	0.0 (0.0)	3.0 (30.0)	6.0 (60.0)	1.0 (10.0)

Table 4. Responses of healthcare professionals on NHIS and its implementation

Variables	Number of respondents' n (%)					Total N (%)
	Doctors n (%)	Pharmacists n (%)	Nurses n (%)	Laboratory Scientists n (%)	Radiographers n (%)	
1. Awareness of Hospital policy on treatment guidelines (n=40)						
Very good /Excellent	2.0 (25.0)	2.0 (25.0)	1.0 (12.5)	2.0 (25.0)	1.0 (12.5)	8.0 (20.0)
Good	4.0 (50.0)	3.0 (37.5)	2.0 (25.0)	2.0 (25.0)	2.0 (25.0)	13.0 (32.5)
Poor	2.0 (25.0)	3.0 (37.5)	5.0 (62.5)	3.0 (37.5)	3.0 (37.5)	16.0 (40.0)
Don not know	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	1.0 (12.5)	2.0 (25.0)	3.0 (7.5)
Total	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	40.0 (100.0)
2. View on NHIS (n=40)						
Very good /Excellent	4.0 (50.0)	4.0 (50.0)	4.0 (50.0)	5.0 (62.5)	3.0 (37.5)	20.0 (50.0)
Good	3.0 (37.5)	2.0 (25.0)	1.0 (12.5)	2.0 (25.0)	2.0 (25.0)	10.0 (25.0)
Poor	1.0 (12.5)	2.0 (25.0)	2.0 (25.0)	1.0 (12.5)	1.0 (12.5)	8.0 (20.0)
Don't know	0.0 (0.0)	0.0 (0.0)	1.0 (25.5)	0.0 (0.0)	0.0 (0.0)	2.0 (5.0)
Total	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	40.0 (100.0)
3. Assessment of NHIS Implementation (n=40)						
Very good /Excellent	2.0 (25.0)	2.0 (25.0)	2.0 (25.0)	2.0 (25.0)	2.0 (25.0)	10.0 (25.0)
Good	3.0 (37.5)	4.0 (50.0)	3.0 (37.5)	2.0 (25.0)	3.0 (37.5)	15.0 (37.5)
Poor	3.0 (37.5)	2.0 (25.0)	3.0 (37.5)	4.0 (50.0)	2.0 (25.0)	14.0 (35.0)
Don't know	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	1.0 (12.5)	1.0 (2.5)
Total	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	40.0 (100.0)
4. Extent of drug availability (n=40)						
Very good /Excellent	0.0 (0.0)	1.0 (12.5)	0.0(0.0)	0.0 (0.0)	0.0 (0.0)	1.0 (2.5)
Good	1.0 (12.5)	2.0 (25.0)	1.0 (12.5)	1.0 (25.5)	2.0 (25.0)	7.0 (17.5)
Poor	6.0 (75)	5.0 (62.5)	7.0 (87.5)	6.0 (75)	6.0 (75.0)	30.0 (75.0)
Don't know	1.0 (12.5)	0.0 (0.0)	0.0 (0.0)	1.0 (12.5)	0.0 (0.0)	2.0 (5.0)
Total	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	8.0 (100.0)	40.0 (100.0)

professionals who were the main stakeholders had grossly inadequate knowledge of the rudimentary principles of operation of the social health insurance scheme [19]. Table 3 showed the responses of interviewees of key informants on the NHIS and its implementation in the hospital. Of all the challenges mentioned by the participants in this study, non-availability of quality drugs was perceived by the respondents as the highest challenge and limitation in the implementation of NHIS in NAUTH. This result tallied with the biggest challenge to NHIS operations. Drugs at health facilities were generally regarded as an essential aspect of quality service delivery. Access to drugs motivates people to seek healthcare and to enroll and remain in the NHIS. Lack of drug makes health insurance less attractive. These

assertions were supported by the pre-intervention household survey conducted in Ghana where an overwhelming majority (87%) of currently insured respondents, previously insured (90.2%) and never insured (84.7%) indicated that drug availability in health facilities needs to be improved [20].

Although NHIS helps to improve health providers' revenue, the health providers complained that delays in claiming reimbursement negatively affected their cash flow and supplies and this led to low stock levels of drugs in the hospital. Table 4 summarized the responses of healthcare professionals on NHIS and its implementation. This frequent shortage of drugs in the hospital was of great concern to health providers and led to patients' dissatisfaction with the quality of

service and health providers saw this as undermining their work. This is similar to the studies in Ghana where delays in reimbursement made providers refuse to offer services to some insured clients unless they were ready to make instant payments. This underscores the need for policy makers to address the issue in order to promote the sustainability of the NHIS and to make the attainment of universal coverage possible [21-24]. Improvement on health insurance services will encourage better and wider coverage while reducing catastrophic spending which affects families adversely [25-27]. It will help to minimize inequities associated with the scheme, which makes it look like a pro-rich venture [28].

The scheme needs good stakeholders' involvement and proper funding for improved services. Only when these inputs have been made will quality services, wider coverage, and value-based care be obtainable in the scheme. Improvement of the services can lead to wider coverage. Study suggests improved funding, staff training and manpower development and more investigative studies into the activities and operations of the scheme to impact health insurance operations and enrolment by clients in Nigeria [4-8]. Nigeria should learn from countries like Thailand where success in health insurance lies predominantly on strong commitment to primary healthcare, which serves as the point of entry for every citizen. This was in addition to good providers' reimbursement plan and improved healthcare system across the primary, secondary, and tertiary healthcare systems. This should be without neglecting the quality of care and improved coverage since only 3% coverage was achieved in 2012 [29,30].

There is dire need to worry about shortage of drug supply in health facilities because of the associated limitations and clinical implications. Non-availability of essential drugs in health facilities is one of the leading causes of irrational drug use characterized by use of wrong or ineffective drugs, under use or incorrect use of effective drugs. It predisposes patients to sourcing medications outside the health facilities in catastrophic spending, have negative impact on the quality of drugs, cost of drugs, adherence to medications, and can predispose to adverse drug reactions [31,32]. Patients have better chances of receiving credible information concerning their medications, appropriateness of dispensing information, dosage, duration, route of administration and adherence that contributes to better treatment outcomes when they access

drugs within the health facilities. These are causes of resistance development and treatment failure, which further predispose patients to development of complications and death especially in resource-limited settings. These limitations complicate patients' conditions and lead to lack of confidence in the health system [32-34].

Studies have shown that availability of drugs in health facilities attract patients. It affects the effectiveness of health programmes and the health-seeking behavior of patients. Shortage of drug supplies has been reported to cause low patronage of patients and low productivity of healthcare providers. This is common in low-income countries where extreme poverty and scarcity of resources compounded by high incidence of diseases abound. Effective management saves money and improves performance [35-37]. Availability of essential drugs promotes job satisfaction and confidence among healthcare providers, stimulates confidence in health facilities [38-40]. This suggests the need to promote pharmacoeconomic principles in drug supply management and health insurance services to promote availability of essential drugs through efficiency and effectiveness given the rising cost of healthcare associated with increasing cost of pharmaceuticals.

5. LIMITATIONS

Focused groups have limited value in individuals' complex belief exploration. It was difficult to ascertain individuals' sincerity in their response to the questions. There was the possibility of aligning with things socially acceptable in the responses rather than the true state of things. However, this has been minimized through good moderation and careful selection of respondents.

6. CONCLUSION

The study examined the behavior of providers and insurance managers under NHIS. This was achieved by assessing the views, challenges, and recommendations of providers and managers towards NHIS in NAUTH. The participants in the study saw the NHIS as beneficial. The biggest challenge was non-availability of essential drugs and as such, the enrollees were left with no option but to purchase their drugs out-of-pocket. There is the need for an improvement in accessibility and availability of quality and affordable drugs for a better health to

NHIS clients as well as improved coverage of services within the scheme. There should be modification in the existing especial policy by improving NHIS through creating special Hospital for the scheme's patients. This will reduce the protocol encountered by the enrollees of the scheme. Delay in reimbursement makes providers unable to purchase drugs and non-drug supplies. There is urgent need to address these issues in order to promote confidence in the NHIS. Provision and upgrade of infrastructure and good monitoring and evaluation system will boost service delivery and enrolment in the scheme to consolidate on her asset base.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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