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Health Insurance and Health Service Delivery: A Focus on Nsukka Local Government Area of Enugu State, Nigeria

Nwagbowo Jennifer Chinasakwu, Ph.D¹ Ogbuyeme Jennifer²

¹. Department of Healthcare Administration and Hospital Management, School of Health Science, Charisma University, Montana, USA

². Associate Professor, Department of Healthcare Administration and Hospital Management, School of Health Science, Charisma University, Montana, USA

* Correspondence: jennyjoe500@gmail.com¹ dr.ogbuyemejennefer@gmail.com²

Abstract: More than 70% of health spending in Nigeria comes from out of Pocket, causing financial difficulties and undermining health service use. The National Health Insurance Authority NHIA Act 2022 was passed to push for widening coverage towards achieving Universal Health Coverage UHC, however, limited sub-national evidence exists on implementation outcomes. The study discusses the implications of health insurance on health service delivery in Nsukka Local Government Area LGA, Enugu State, Nigeria. Between January and March 2026, a descriptive cross-sectional survey was carried out involving 415 residents aged ≥ 18 years and health care providers in NHIA-accredited facilities. A multistage sampling technique was employed to get the 8 communities and 28 facilities. Nsukka LGA: Access and financial protection is enhanced; however, limited awareness and operational constraints limit impact. Accredited PHCs expansion, mandatory enrollment of informal sector groups, targeted community sensitization, and timely provider reimbursement are recommended to accelerate UHC. The study identifies poor service delivery, affordability and sustainability problems. It was therefore recommended effective sensitization and provision of affordable and sustainable policy for health insurance scheme in Nigeria.

Keywords: Health Insurance, National Health Insurance Authority, Healthcare Access, Affordability, Universal Health Coverage.

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Introduction

Health is one of the basic components of human and economic development. A healthy population is the foundation for improved productivity and reduced poverty and sustainable development [1]. In spite of this, Nigeria has an under-resourced health system, with OOP payments representing 71.5% of the current level of health expenditure, one of the highest in the world [2]. OOP payments cause financial barriers, delay care seeking, and are estimated to push an estimated 3.8 million Nigerians into poverty each year [3]. One of the most widely accepted ways to mobilize resources, risk pooling, and to shield households against catastrophic health expenditure [4] is through health insurance. Transition to out of Pocket and risk-pooling is key to the realization of UHC [5]. The Federal Government of Nigeria came up with the National Health Insurance Scheme NHIS in 2005, which was later repealed and replaced by the National Health Insurance Authority

NHIA Act in 2022 [6]. The Act requires everybody in Nigeria to have basic health coverage and extends the scope of coverage to informal sector and vulnerable groups.

As of 2023, the nationwide NHIA coverage rate is still below 15%, and majority of rural populations and informal workers are not covered by NHIA [7]. There have been reports of low awareness, limited provider networks, delayed reimbursement and weak ICT systems as challenges to implementing SDGs at national and state levels [8], [9]. The case of Nsukka LGA in Enugu State is unique. This comprises urban, semi-urban and rural communities with 28 NHIA-accredited private and public facilities, but residents still report financial problems and low enrolment [10]. The performance of NHIA at LGA level in the South-East region of Nigeria is not readily available. While most studies are conducted in urban areas or at a national level, there is a lack of information about local-level dynamics of awareness, access, affordability, and implementation challenges.

Hence, this study looks at the consequences of health insurance on health service delivery in Nsukka LGA. It is guided by two theoretical frameworks: Grossman's Demand for Health Model which states that a lower cost of medical care with insurance leads to higher demand, and Andersen's Behavioral Model of Health Services Use which states that predisposing, enabling and need factors are determinants of healthcare utilization.

Research Questions

1. What is the level of awareness of health insurance among Nsukka residents?
2. How does health insurance affect access to healthcare services?
3. Does health insurance reduce the financial burden of medical treatment?
4. What factors influence participation in health insurance schemes?
5. What challenges hinder effective implementation of health insurance?

Research Objectives

1. To ascertain the level of awareness of health insurance among Nsukka residents
2. To ascertain how health insurance affect access to healthcare services
3. To identify means by which health insurance reduce the financial burden of medical treatment.
4. To ascertain factor influencing participation in health insurance schemes
5. To identify what hindered effective implementation of health insurance

Hypotheses

HO1: Health insurance has no significant effect on access to healthcare services.

HO2: There is no significant relationship between health insurance and affordability of healthcare.

Methods

Study Design and Setting

The study used descriptive, cross-sectional research design. The study took place in Nsukka LGA, Enugu State and South-East Nigeria from January to March 2026. As of 2023, Nsukka LGA is expected to have 28 NHIA-accredited health facilities and 317,900 populations. The LGA is a mixed urban and rural setting and is representative of mixed socioeconomic settings in Nigeria.

Population and Sampling

The target population consisted of residents of the age 18 and older and Healthcare Providers in NHIA accredited facilities. The sample size of the residents was calculated with Yamane's formula, which is $n = N / (1 + N(e^2))$, with 5% margin of error, resulting in a sample of 400 residents. A total sample of 442 was chosen by purposive sampling of 42 healthcare providers.

For residents, it took the form of multistage sampling where Nsukka LGA was stratified into 4 development areas, 2 communities were randomly selected from each area (total 8 communities) systematic sampling of households, and simple random selection of 1 adult from each household. All cadres including doctors, nurses and NHIA desk officers were included for providers.

The instrument for data collection is in form of a questionnaire. A questionnaire was used that was structured and called "Health Insurance and Health Services Questionnaire HIHSQ". It was divided into 5 sections: A: demographics, B: awareness 8 items, C: access & affordability 10 items, D: factors of participation 9 items, E: implementation challenges 10 items. The items were adapted from Onwujekwe et al. and Akande & Salami and rated along the 4-point Likert scale: Strongly Agree = 4 and Strongly Disagree = 1.

Validity and Reliability

Three (3) experts in Health Policy and Research Methods at University of Nigeria, Nsukka determined the face and content validities. The pilot test was carried out in Uzo-Uwani LGA with 40 respondents. The internal consistency of the items was acceptable with Cronbach's alpha coefficient equaled 0.84.

Data Collection and Ethical Considerations

The administration of questionnaires and ethics were trained for 2 days by five research assistants. Information was gathered using face-to-face interviews. Informed consent was given verbally. University of Charisma Health Research Ethics Committee approved the research for ethical purposes. All information was kept confidential and participation was voluntary.

Data Analysis

SPSS, version 26, was used to code and analyze the data. Descriptive statistics such as frequencies, percentages, means, and standard deviations were computed for answers to the research questions. Chi-square test was used to test H_{01} on access. H_{02} on the affordability was tested by Pearson correlation. Mean cutoff of 2.50 was used for Likert items. A significance of $p < 0.05$ was used.

Results

Socio-Demographic Characteristics

A total of 415 questionnaires were retrieved and analyzed, giving a response rate of 93.9%. Table 1 shows respondent characteristics. Majority were female 52.3%, aged 31–45 years 41.4%, had secondary

Table 1. Socio-demographic characteristics of respondents, N = 415

Variable	Category	Frequency f	Percentage %
Age	18–30 years	148	35.7
	31–45 years	172	41.4
	46–60 years	68	16.4
	61 years and above	27	6.5
Gender	Male	198	47.7
	Female	217	52.3
Marital Status	Single	112	27.0

	Married	264	63.6
	Widowed/Divorced	39	9.4
Educational Level	No formal education	32	7.7
	Primary	78	18.8
	Secondary	165	39.8
	Tertiary	140	33.7
Occupation	Civil servant	110	26.5
	Trading	138	33.3
	Farming	67	16.1
	Artisan	54	13.0
	Student/Unemployed	46	11.1
Monthly Income ₦	Less than 30,000	165	39.8
	30,000–50,000	141	34.0
	51,000–100,000	78	18.8
	Above 100,000	31	7.5
Health Insurance Status	Insured under NHIA	125	30.1
	Not insured	290	69.9
Place of Residence	Urban	186	44.8
	Rural	229	55.2

Note. ₦ = Nigerian Naira. Percentages may not sum to 100 due to rounding. Mean age = 38.2 ± 11.4 years.

Level of Awareness of Health Insurance

Overall mean awareness score was 2.31 ± 0.89 , below the 2.50 cutoff, indicating low awareness. While 68.2% agreed that “NHIA covers formal sector workers”, only 31.1% agreed that “I know how to register for NHIA”. Awareness was significantly higher among civil servants than informal workers, $p < 0.001$. This finding is consistent with studies in South-West Nigeria and Enugu State reporting low public knowledge of NHIS [11].

Effect of Health Insurance on Access to Healthcare Services

Table 2. Access to healthcare services by health insurance status of respondents in Nsukka LGA, n = 415

	Access indicator	Insured n = 125	Uninsured n = 290	Total n = 415	χ^2	p-value
Sought care within 24 hours of illness	Yes	80 (64.0%)	107 (36.9%)	187 (45.1%)	28.45	<0.001
	No	45 (36.0%)	183 (63.1%)	228 (54.9%)		
Waiting time <30 minutes	Yes	72 (57.6%)	98 (33.8%)	170 (41.0%)	20.13	<0.001
	No	53 (42.4%)	192 (66.2%)	245 (59.0%)		
Received all prescribed drugs at facility	Yes	61 (48.8%)	89 (30.7%)	150 (36.1%)	12.67	<0.001*
	No	64 (51.2%)	201 (69.3%)	265 (63.9%)		
Satisfied with quality of care	Yes	75 (60.0%)	122 (42.1%)	197 (47.5%)	11.84	0.001
	No	50 (40.0%)	168 (57.9%)	218 (52.5%)		

Note. $p < 0.05$ is statistically significant. Percentages are row percentages within each insurance group. χ^2 = Chi-square test of association

The mean access score was 2.78 ± 0.82 (above the cut-off). Table 2 reveals that 64.2% of insured respondents visited a health facility within 24 hours of when they fell sick while 36.8% of uninsured respondents did not. Chi square test showed that there was a significant relationship between timely access ($p < 0.001$) and insurance status ($\chi^2 = 28.45$, $df = 1$). Another similar finding was the insured respondents' shorter waiting time and less delay in consultation. This is in line with the study of Uzochukwu et al. [12] conducted in South-East Nigeria.

Health insurance and Its Impact on Access to Health Care Services.

The mean affordability score was 2.91 ± 0.76 . Insured were 58.4% to reduce their OOP expenditure compared to 22.1% of uninsured. There was a significant positive correlation between enrollment in insurance and a decrease in OOP, $r = 0.512$, $p < 0.001$, using Pearson correlation. Yet, 41.3% of respondents who were insured still incurred OOP expenses for drugs and services not covered by the NHIA benefit package. The partial financial protection is comparable to the findings from the NHIS in Ghana [13].

How do certain factors influence participation in health insurance schemes? Which factors impact on the participation in health insurance schemes?

Low income (78.3%), low awareness (72.5%), distrust in scheme (65.1%), distance to the accredited facility (54.2%) and complex registration process (48.7%) were the top five factors that limit enrollment. The enabling and predisposing factors are consistent with the Andersen's model (1995) [14] and with the study of informal workers in Imo State [15].

Challenges of Implementing Health Insurance

The main challenges from the providers' point of view were: NHIA capitation/reimbursement was delayed 82.4%, the drug list was limited 76.8%, some providers' staff had poor attitude towards insured patients 61.3%, frequent failure of the ICT system 59.0%, and the capitation rate was not adequate 54.1%. Delays placed a strain on provider trust as they were forced to impose informal fees or ration medications, reported providers. The operational challenges are similar to what NHIA reported in its annual report for 2023 as well as findings of some studies conducted in Enugu metropolis [16].

Discussion

This study is empirical evidence of the implications of NHIA on health services delivery at LGA level in Nigeria. The level of awareness, mean=2.31, is important as awareness is a requirement for enrolment. There is a gap between the awareness of the existence of NHIA and the awareness of the registration process, indicating that the sensitization efforts carried out are not yet sufficient, particularly among the rural and informal sector population. This is in tandem with Adewole et al. [17], Onwujekwe et al. [18] who reported the same gaps in knowledge.

The marked increase in the access of insured individuals validates the financial protection role of health insurance. In eliminating the payment point, insurance lowers price barriers and boosts the demand for care as Grossman [19] has predicted. Timely care seeking achieved by those who are insured compared to those who are not is clinically significant and further promotes NHIA's goal of equitable access, at 27.4 percentage points.

On affordability, the significant correlation between insurance and reduced out of pocket (OOP) confirms that risk-pooling works at local level. A significant 41% of the insured, however, paid OOP, which reflects some gaps in the extent of benefits coverage and provider compliance. This is consistent with Ghana and Rwanda where OOP occurs when benefit packages are narrowly tailored or providers are delayed in getting reimbursed [19], [20], [21].

The issues that were found in this study in relation to implementation are systemic. Delayed capitation impacts providers' ability to keep stocking drugs and staffing providers for their insured patients, which results in poor quality of care for their insured patients. This forms a vicious circle which is patient dissatisfaction due to poor service-low enrollment-low risk pool. It is therefore not only an administrative problem, but a clinical and financial sustainability problem, that provider payment delays be addressed.

Low income and distance being barriers are indicative of Andersen's "enabling" factors. Premium affordability and proximity to recognized PHCs are the deciding factors for participation for Nsukka's predominantly farming population, rather than health beliefs. This means that UHC strategies cannot only focus on insurance design but also need to have income support and the expansion of primary care [22].

Strengths and Limitations

Strengths include multiple user and provider sampling and validated instruments. The limitations are the cross-sectional design that cannot establish causality and the use of self-reported OOP which could have recall bias. There is a need to conduct future longitudinal studies to determine the impact of NHIA Act 2022 in the long-term.

Conclusion and Recommendations

The study has confirmed that health insurance in Nsukka LGA has positive impact on access to health care and affordability with its potential being undermined by low

awareness and operational challenges. To speed up progress towards reaching UHC by 2030, we recommend the following: Intensify community-based sensitization to be carried out by the NHIA, Enugu State Ministry of Health and LGA via local radio, town criers, religious leaders and market associations. The emphasis of messaging should be on enrollment processes and benefits to informal workers. Supply-side: NHIA should be able to make sure that providers receive adequate and timely payment in the form of capitation. The primary care drugs should be added to the essential medicines list. The number of PHCs in rural areas should increase for accreditation. Policy: The theory of adverse selection by Akerlof suggests piloting mandatory enrollment of informal sector workers in cooperatives, trade unions and community associations as a way of reducing adverse selection and increasing risk pool. Monitoring: Create monitoring units at the LGA level to monitor provider compliance, patient satisfaction, and reimbursements. These will improve the relationship between insurance policy and enhanced health service delivery at the grassroots level in Nigeria.

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