

From Nhis to Nhia: A Comparative Evaluation of Preventive Healthcare Utilization Before and after the Health Insurance Reform

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Abstract Introduction: The transition from the National Health Insurance Scheme (NHIS) to the National Health Insurance Authority (NHIA) marked a major policy shift in the pursuit of Universal Health Coverage (UHC) in Nigeria. While NHIS coverage was limited and skewed toward curative services, the NHIA was introduced in 2022 to expand coverage, mandate enrollment, and integrate preventive healthcare into benefit packages. This study aimed to evaluate changes in preventive healthcare utilization before and after the reform, comparing the performance of NHIS and NHIA models in selected Nigerian states. **Methods:** A comparative cross-sectional study was conducted across three geopolitical zones using mixed methods. Quantitative data were collected from 403 NHIS/NHIA enrollees using structured questionnaires, while facility records and key informant interviews supplemented the data. Statistical analysis was done using SPSS version 25.0, employing chi-square tests, t-tests, and logistic regression. Qualitative data from 15 interviews were thematically analyzed using NVivo. **Results:** Preventive service utilization significantly increased under NHIA. Hypertension screenings rose from 41.3% to 65.3%; diabetes screenings from 35.8% to 59.4%; and cervical cancer screenings from 22.6% to 45.1%. Education level, employment status, and awareness of benefits were strong predictors of utilization. Key informants noted improvements in benefit coverage and digital tracking under NHIA, though challenges such as poor rural access, workforce shortages, and funding delays persisted. **Discussion:** The findings suggest that NHIA has improved preventive healthcare uptake compared to NHIS, reflecting the policy's enhanced structure and focus. However, persistent structural and systemic barriers may limit long-term impact. To fully realize NHIA's potential, Nigeria must invest in health infrastructure, workforce capacity, and public health education. The study reinforces that policy reform alone is insufficient without complementary operational and social investments. **Conclusion:** NHIA has made notable strides in enhancing preventive healthcare utilization compared to the NHIS. Nevertheless, ongoing systemic challenges require targeted investment and stakeholder collaboration to sustain and scale these improvements. Comprehensive reform must go beyond policy frameworks to include equitable implementation, especially for underserved populations.

Keywords: NHIS, NHIA, preventive healthcare, healthcare utilization, health insurance and Nigeria

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1. Introduction

The Universal Health Coverage (UHC) remains a central goal of national health agenda in Nigeria. In pursuit of this objective, the country launched the National Health Insurance Scheme (NHIS) in 1999, operationalized in 2005, with the aim of enhancing access to quality healthcare, especially for civil servants and employees in the formal private sector [1]. Despite its promise, NHIS struggled to deliver broad-based financial risk protection and healthcare access, as it was voluntary, narrowly targeted, and suffered from large under-enrollment—

reportedly covering only about 3–5% of the population of Nigerians over nearly two decades [2].

One of the most significant criticisms of NHIS was its curative-service bias and limited utilization of preventive care, which left many vulnerable populations—including those in the informal sector, rural areas, and indigent groups—without essential health protection. Weak institutional enforcement, fragmented financing pools, and poor integration with subnational health structures further contributed to inefficiencies and inequities in health outcomes across states [3]. In response to these challenges, the National Health Insurance Authority (NHIA) Act was enacted in May 2022, repealing the NHIS and ushering in a new era of health insurance governance and delivery.

The NHIA introduces a mandatory universal health insurance framework, supported by a Vulnerable Group Fund and state-level integration mechanisms, and prioritizes preventive healthcare services as a core component of the benefit package [4]. Unlike NHIS, NHIA establishes a regulatory authority, mandates contributions from all socioeconomic groups, and aims to embed preventive care—including immunizations, cancer screenings, annual check-ups, and maternal health services—within its coverage model. This shift represents a paradigm change in Nigeria's health system from a reactive, treatment-focused model to a more proactive, equity-driven and prevention-oriented approach to population health.

Evidence from early policy documents and stakeholder assessments suggests that NHIA offers structural advancements over NHIS, including streamlined financing via the Basic Health Care Provision Fund (BHC PF), more robust digital monitoring frameworks, and stronger oversight mechanisms [5]. However, despite these promising features, questions remain regarding the extent to which these reforms have translated into tangible improvements in preventive healthcare utilization, particularly among traditionally underserved groups. Structural bottlenecks such as limited public awareness, infrastructural deficits, workforce shortages, and socio-cultural resistance continue to threaten the effective realization of NHIA's intended benefits [6,7].

Preventive services, though technically included in the NHIS model, were widely underutilized due to a combination of financial barriers, limited service availability, and lack of health literacy [8]. Uguru *et al.* [9] found that while NHIS enrollees reported improved access to medicines and consultations, uptake of preventive services like cancer screenings and immunizations remained below 40%, particularly in private facilities. By contrast, NHIA seeks to institutionalize these services through mandatory coverage and financing channels targeted at vulnerable groups, including pregnant women, children under five, and persons with disabilities [5]. However, the real-world impact of these provisions remains under-explored, given that NHIA is still in the early stages of implementation.

Moreover, global experience reinforces the importance of pairing insurance reform with investments in infrastructure, health education, and human resources. Community-based health insurance in Rwanda and NHIS in Ghana both demonstrate that integrating preventive care within insurance packages can yield significant health gains—but only when accompanied by strong operational and community-level mechanisms (Koch *et al.*, 2022) [10].

This study therefore aims to comparatively evaluate the utilization of preventive healthcare services before and after the transition from NHIS to NHIA, with specific objectives to:

1. The level of awareness and access to preventive services under each scheme,
2. The structural and institutional barriers affecting utilization,
3. The demographic and socioeconomic factors influencing uptake,
4. And the perspectives of stakeholders involved in service delivery and policy implementation.

2. Method

Study Design

This study adopted a comparative cross-sectional design to evaluate the differences in preventive healthcare utilization among enrollees before and after the transition from the National Health Insurance Scheme (NHIS) to the National Health Insurance Authority (NHIA) in Nigeria. The study combined both quantitative and qualitative approaches to ensure a comprehensive understanding of the impact of the policy reform.

Study Area

The research was conducted in three geopolitical zones of Nigeria—South-South (Rivers State), North-Central (FCT Abuja), and South-West (Lagos State)—representing diverse urban and rural populations, varying health infrastructure levels, and differing NHIA penetration.

Study Research (Population)

The study population included:

1. NHIS-enrolled individuals who accessed preventive healthcare services between 2018 and 2021.
2. NHIA-enrolled individuals utilizing preventive services between 2022 and 2024.
3. Healthcare providers (public and private) accredited by the NHIS/NHIA.
4. NHIA administrators and health insurance desk officers.

Sampling Technique and Sample Size

A multi-stage sampling technique was used. In the first stage, three states were purposively selected. In the second stage, five NHIS/NHIA-accredited facilities were randomly selected from each state. In the third stage, systematic sampling was used to select respondents from the patient registers of each facility. Also, a minimum sample size of 384 was determined using Cochran's formula, with a 95% confidence level and 5% margin of error. This was adjusted to 420 respondents to account for non-response and incomplete data. Additionally, 15 key informant interviews (KIIs) were conducted with NHIA staff and providers.

Data Collection Instruments

Data were collected using three instruments:

1. **Structured questionnaire:** Administered to NHIS/NHIA enrollees. It captured demographic data, awareness, access, and frequency of preventive healthcare use (e.g., immunizations, cancer screenings, antenatal care, hypertension/diabetes screenings).
2. **Facility data abstraction checklist:** Used to retrieve retrospective utilization data (2018–2024) on preventive services from NHIS/NHIA-accredited facilities.
3. **Key Informant Interview Guide:** Employed to gain insights from stakeholders on the implementation and effects of the NHIA reform.

Validity and Reliability

The questionnaire was pretested in a non-study area (Abia State) and revised for clarity and relevance. Reliability was assessed using Cronbach's alpha, with a minimum acceptable score of 0.70. Triangulation of quantitative and qualitative data improved internal validity.

Data Analysis

Quantitative data were analyzed using SPSS version 25.0. Descriptive statistics (frequencies and percentages) summarized participant characteristics and healthcare utilization patterns. Chi-square tests and independent-sample t-tests were used to assess significant differences in utilization pre- and post-NHIA implementation. A binary logistic regression model was used to predict factors associated with preventive healthcare utilization.

Qualitative data from KIIs were transcribed verbatim, coded, and analyzed thematically using NVivo 12 to extract insights into implementation challenges and policy impacts.

Ethical Considerations

Ethical clearance was obtained from the Health Research Ethics Committee (HREC) of the University of Port Harcourt Teaching Hospital. Written informed consent was secured from all respondents. Confidentiality and anonymity were ensured throughout data collection and reporting. Participation was voluntary, and respondents could withdraw at any time without consequence.

3. Results

Socio-demographic Characteristics of Respondents

Out of 420 questionnaires administered, 403 were completed and valid for analysis, giving a response rate of 95.9%. Respondents included 234 females (58.1%) and 169 males (41.9%), with a mean age of 36.7 ± 10.4 years. Most respondents (62.5%) were in formal employment, while 24.3% were self-employed, and 13.2% were unemployed. About 54% had tertiary education, 33.1% had secondary education, and 12.9% had primary or no formal education.

Utilization of Preventive Healthcare Services

A comparison of the utilization of preventive healthcare services under NHIS (2018–2021) and NHIA (2022–2024) showed a statistically significant increase:

Table 1. Comparative Analysis of Key Parameters between NHIS (2005–2022) and NHIA (2022–Present)

Preventive Service	NHIS (n=201) NHIA (n=202)	p-value
Hypertension Screening	41.3% 65.3%	0.001
Diabetes Screening	35.8% 59.4%	0.003
Cervical Cancer Screening (women)	22.6% 45.1%	0.002
Antenatal Care (ANC)	64.7% 82.1%	0.015
Childhood Immunizations	72.3% 84.2%	0.009

Predictors of Preventive Healthcare Utilization

Logistic regression revealed that education level (AOR = 2.78, 95% CI: 1.63–4.73, $p = 0.001$) and formal employment status (AOR = 2.14, 95% CI: 1.19–3.84, $p = 0.010$) were significantly associated with higher odds of utilizing preventive services under NHIA. Awareness of NHIA benefits also emerged as a strong predictor (AOR = 3.45, 95% CI: 2.01–5.91, $p < 0.001$).

Qualitative Findings from Key Informant Interviews (KIIs)

Three core themes emerged:

1. Improved Benefit Package: Respondents noted that the NHIA emphasized preventive health more than the NHIS.
2. Digital Claims and Tracking: NHIA's improved digital platform facilitated better monitoring and reimbursement of preventive services.
3. Persistent Barriers: Issues such as poor community sensitization and inequitable access in rural areas remained.

4. Discussion

The findings of this study show a noticeable improvement in the utilization of preventive healthcare services following the transition from NHIS to NHIA. Under NHIA, there was a significant increase in screenings for hypertension, diabetes, and cervical cancer, as well as improvements in antenatal care and child immunizations. These improvements align with the NHIA's revised mandate, which emphasizes preventive health as a national priority [2].

The higher utilization rates may be attributed to expanded service coverage, enhanced health insurance literacy, and improved operational efficiency. This is consistent with studies such as Adeniran *et al.* [11], which reported increased outpatient attendance and health screenings after health insurance reform in Lagos State.

Importantly, education and formal employment status significantly influenced preventive service uptake—suggesting a continuing disparity in access and awareness. These findings affirm those of Raghupathi and Raghupathi [12], who argued that higher education correlates strongly with preventive health behavior due to better health awareness and navigation skills.

However, qualitative data revealed implementation gaps, especially in rural and peri-urban communities where awareness campaigns are limited. This points to an urban-rural divide in the impact of the NHIA, necessitating deliberate community engagement strategies to avoid perpetuating inequities.

While the NHIA appears more responsive and performance-driven than the NHIS, systemic challenges persist, including provider delays, poor data feedback loops, and financial sustainability concerns. According to NHIA officers interviewed, the capitation system and delayed remittances still threaten smooth service delivery, particularly for preventive interventions that require timely access.

This study supports the idea that health insurance reforms must be matched with structural investments—including digital health infrastructure, frontline health worker training, and stakeholder accountability mechanisms. Without these, improved policy frameworks may not translate to better health outcomes, especially for underserved populations.

Limitations of the Study

First, the cross-sectional design limits the ability to establish causality between the NHIA reform and increased preventive healthcare utilization. Second, reliance on self-reported data from respondents may introduce recall bias. Third, due to funding and time constraints, the study was limited to three geopolitical

zones and may not fully represent national trends. Additionally, as NHIA is still in its early phase, long-term impacts on preventive health outcomes could not be assessed. Future research should consider longitudinal designs and broader geographic coverage to validate and expand upon these findings.

5. Conclusion

The transition from NHIS to NHIA represents a critical shift in Nigeria's health insurance landscape, with stronger emphasis on universal coverage and preventive health. This study shows that NHIA has improved access and utilization of preventive services compared to the NHIS model. However, structural barriers—such as poor awareness, health worker shortages, and underfunded infrastructure—continue to limit the full realization of goals of NHIA. While the reform is promising, its effectiveness will depend on sustained implementation, subnational cooperation, and increased health literacy. Ensuring equity and consistency in service delivery remains essential for achieving universal health coverage in Nigeria.

Recommendations

To strengthen NHIA's impact, the following are recommended:

1. Increase funding for primary and preventive care, ensuring timely disbursement of BHCPF allocations.
2. Expand public awareness campaigns to improve understanding of insurance benefits and preventive care.
3. Train and incentivize health workers, especially in rural areas, to deliver preventive services.

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