



Effectiveness of the National Health Insurance Scheme (NHIS) in Improving Access to Maternal Healthcare among Federal Civil Servants in Selected Institutions in Kogi State, Nigeria

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Abstract

Original Research Article

This study examines the effectiveness of the National Health Insurance Scheme (NHIS) in improving maternal healthcare access among federal civil servants in three selected federal institutions in Kogi State, Nigeria. Anchored in the Health Belief Model and Andersen's Behavioural Model of Health Services Utilisation, the study adopted a concurrent mixed-method design combining a structured questionnaire administered to 351 respondents with in-depth interviews conducted with 20 female civil servants and three healthcare providers in NHIS-accredited facilities. Quantitative data were analysed using descriptive statistics, Pearson Product Moment Correlation (PPMC), and regression analysis, while qualitative data were subjected to thematic analysis. Findings revealed a high level of NHIS awareness among respondents and a moderate-to-high improvement in access to maternal healthcare services. However, significant challenges persisted, including incomplete coverage of certain maternal health services, administrative and bureaucratic delays at the point of care, and an inadequate number of NHIS-accredited health facilities in the state. All three null hypotheses were rejected at $p < 0.05$, confirming statistically significant relationships between NHIS enrolment, awareness, and utilisation of maternal healthcare services. The study recommends expanded benefit packages, streamlined administrative processes, accelerated accreditation of health facilities, and sustained targeted awareness campaigns as priority interventions for improving maternal health outcomes under the NHIS.

Keywords: National Health Insurance Scheme, Maternal Healthcare, Civil Servants, Utilisation.

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Introduction

Maternal health is a fundamental dimension of public health and a key indicator of a nation's healthcare system (Adedokun et al., 2023). Sustained global efforts have targeted reducing

maternal mortality through health policies, financing mechanisms, and programmatic interventions (Tijani et al., 2025). Despite this, many developing countries, including Nigeria, continue to face persistently high maternal mortality, largely due to structural barriers such



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as limited financial resources, inadequate infrastructure, geographical remoteness, and the persistent reliance on out-of-pocket payments as the dominant mode of healthcare financing (Bashir & Ishaku, 2026).

In Nigeria, maternal mortality remains excessively high, considering the country's development status. Esan et al. (2023) highlighted that much of this burden is concentrated in states with weak healthcare systems and limited access to skilled birth attendants, antenatal services, and emergency obstetric care. Central to this problem are financial barriers in particular, as many households are exposed to devastating health expenditures that discourages women from seeking professional medical care during pregnancy, childbirth, and the postnatal period. The effects of financial exclusion from maternal healthcare are profound, contributing directly to preventable maternal and neonatal deaths.

To address these systemic challenges, the Federal Government established the NHIS in 1999 to improve access to healthcare and reduce the financial burden on citizens through risk-pooling (Eze et al., 2024). The NHIS targets civil servants as its primary beneficiary group; their health outcomes carry direct implications for public sector productivity and governance capacity (Adebiyi & Adeniji, 2021).

Maternal healthcare services such as antenatal care, skilled birth attendance, emergency obstetric care, and postnatal care are among the most critical determinants of maternal and neonatal successes. Health insurance schemes such as the NHIS are theoretically positioned to improve the utilisation of these services by removing or easing financial barriers while encouraging women to seek professional care at accredited health facilities. However, the translation of financial protection into actual improvements in maternal healthcare utilisation is not automatic and is mediated by a range of individual, institutional, and structural factors.

In Kogi State, a predominantly agrarian North-Central state, civil servants in federal and state institutions form a substantial portion of the workforce. Despite this, limited empirical

attention has been directed at whether NHIS enrolment has improved their access to maternal healthcare. The workforce is substantially composed of civil servants employed in federal and state institutions. Understanding the extent to which NHIS enrolment has translated into improved access to maternal healthcare services among this group is essential for evaluating the scheme's effectiveness and for informing targeted policy interventions. Despite several studies examining health insurance and healthcare utilisation at the national level, limited empirical attention has been directed specifically at the effectiveness of the NHIS in improving maternal healthcare access among civil servants in rural areas such as Kogi State.

State-level data underscore the urgency: the Kogi State Health Insurance Agency had enrolled only about 76,000 residents against a 2026 target of 500,000 (AllAfrica, 2025; Leadership Newspaper, 2025), confirming that health insurance coverage remains far from universal and providing an empirical anchor for the present inquiry.

It is against this background that this study examines the effectiveness of the National Health Insurance Scheme in improving access to maternal healthcare among federal civil servants in three selected federal institutions in Kogi State, Nigeria. Specifically, the study assesses the level of awareness of the NHIS among civil servants, the extent to which the scheme has improved access to maternal healthcare services, and the key challenges that continue to constrain effective utilisation. The study contributes theoretically by extending the Health Belief Model to an insurance-mediated context, empirically by providing evidence from an underrepresented North-Central Nigerian state, and practically by offering a basis for targeted policy reforms in benefit coverage, facility accreditation, and health communication.

Statement of the Problem

Maternal healthcare access remains an important public health challenge in Nigeria, despite sustained policy efforts to reform the health sector (Kofoworola et al., 2025). High maternal

mortality across many Nigerian states reflects inadequate utilisation of antenatal care, skilled birth attendance, emergency obstetric care, and postnatal follow-up. A principal driver is the persistent reliance on out-of-pocket payments, which causes severe financial hardship on households and also discourages women from seeking timely and adequate care, especially among low- and middle-income groups (Adedokun et al., 2023; Kofoworola et al., 2025; Esan et al., 2023).

To address these concerns, the government introduced the NHIS to provide financial protection and guarantee quality healthcare for enrolled citizens, particularly formal sector workers (Adebiyi & Adeniji, 2021; Eze et al., 2024), with civil servants forming the predominant enrolment base and the primary beneficiaries of maternal healthcare coverage (Tijani et al., 2025).

Despite the NHIS's existence, evidence from across Nigeria including Tijani et al. (2025) and Kofoworola et al. (2025) shows that enrollees continue to experience limited awareness of covered services, incomplete maternal health coverage, administrative bottlenecks, and a shortage of NHIS-accredited facilities, limiting the scheme's capacity to fulfil its stated objectives.

In Kogi State, accredited facilities for specialised maternal care remain scarce, NHIS awareness is variable, and insurance coverage reaches only a fraction of the population (AllAfrica, 2025; Leadership Newspaper, 2025). Limited empirical evidence exists on NHIS effectiveness for the state's federal civil servants, a gap that constrains evidence-based policy reform.

Research Questions

The study was guided by the following research questions:

- i. What is the level of awareness of the National Health Insurance Scheme among civil servants in Kogi State?
- ii. To what extent has the NHIS improved access to maternal healthcare services among civil servants in Kogi State?

- iii. What challenges affect the utilisation of maternal healthcare services under the NHIS among civil servants in Kogi State?

Research Hypotheses

The following null hypotheses were tested in the study:

- i. H01: There is no significant relationship between enrolment in the National Health Insurance Scheme and access to maternal healthcare services among civil servants in Kogi State.
- ii. H02: The National Health Insurance Scheme has no significant effect on the utilisation of maternal healthcare services among civil servants in Kogi State.
- iii. H03: There is no significant relationship between awareness of the National Health Insurance Scheme and the utilisation of maternal healthcare services among civil servants in Kogi State.

Theoretical Framework

Maternal healthcare is a key indicator of a nation's health system effectiveness (Adedokun et al., 2023). Global efforts have targeted maternal mortality through sustained financing and programmatic interventions (Tijani et al., 2025), yet developing countries like Nigeria continue to face structural challenges in ensuring equitable access to quality maternal healthcare. These challenges emanate from factors such as financial constraints, inadequate infrastructure, and persistent out-of-pocket payments that discourage utilisation of essential maternal health services (Bashir & Ishaku, 2026).

In Nigeria, maternal mortality remains high due to barriers restricting timely access to skilled care during pregnancy, childbirth, and the postnatal period (Esan et al., 2023). Many households rely on out-of-pocket payments that delay or prevent utilisation of maternal

healthcare services (Bashir & Ishaku, 2026; Kofoworola et al., 2025). This shapes health-seeking behaviour, as individuals weigh the perceived benefits of professional care against often-prohibitive costs.

The NHIS was introduced to address these financial burdens through risk-pooling, targeting civil servants as its primary enrollees (Eze et al., 2024; Adebisi & Adeniji, 2021). By reducing direct costs, it is expected to improve access to antenatal care, skilled delivery, emergency obstetric care, and postnatal services, all essential for reducing maternal and infant mortality (Adedokun et al., 2023).

Empirical evidence on the effectiveness of the NHIS in improving healthcare access presents a mixed picture. Some studies such as Adebisi and Adeniji (2021) demonstrate that enrolment in health insurance significantly enhances utilisation of maternal healthcare services. They found that insured civil servants are more likely to access healthcare services compared to uninsured counterparts. Similarly, Tijani et al. (2025) reported that women covered by health insurance demonstrate higher rates of antenatal attendance and are more likely to deliver under skilled supervision in health facilities. These findings suggest that when financial barriers are reduced, individuals are more likely to perceive maternal healthcare services as accessible and to utilise them accordingly.

Evidence from across Nigeria and sub-Saharan Africa reinforces this picture. Gomez et al. (2015) found the Kwara State Health Insurance programme cost-effective for improving rural maternal care; Singh et al. (2024) and Ugbor et al. (2022) linked insurance to higher facility delivery and antenatal attendance nationally. Gyuse et al. (2018) caution that inadequate infrastructure remains a persistent barrier. In Ghana, Bonfrer et al. (2016) and Azaare et al. (2024) found insurance-mediated removal of financial barriers sustainably increased maternal care utilisation, consistent with the pattern observed here.

Nonetheless, the effectiveness of the NHIS is not

solely determined by financial accessibility. Esan et al. (2023) observed that even among enrollees, utilisation of maternal healthcare services may remain suboptimal due to limited awareness of the scheme's benefits, bureaucratic challenges, and perceived inadequacies in service quality. Bashir and Ishaku (2026) further observed that partial coverage of certain maternal health services leads to continued out-of-pocket payments, which may discourage consistent utilisation. These findings underscore that healthcare utilisation is shaped not only by financial protection but also by beneficiaries' perceptions of service quality, reliability, and accessibility.

Structural factors further mediate access. In states such as Kogi, facility shortages and poor infrastructure can limit the scheme's impact even when financial barriers are removed (Kofoworola et al., 2025).

Awareness also shapes effectiveness. Esan et al. (2023) found that civil servants lack comprehensive understanding of covered services, diminishing perceived benefits and leading to underutilisation. Sustained health education is therefore vital.

The study is anchored in the Health Belief Model (HBM), which holds that health decisions are shaped by perceived susceptibility, severity, benefits, and barriers (Rosenstock, 1974). Applied to the NHIS, civil servants who perceive high susceptibility to maternal complications, believe covered services offer effective protection, and perceive low barriers are more likely to utilise maternal healthcare; external cues such as health education further reinforce this behaviour. A recognised limitation of the HBM, however, is its underspecification of structural determinants: in the NHIS context, supply-side constraints such as facility shortages and administrative bottlenecks may suppress utilisation regardless of positive individual health beliefs, an explanatory gap the model cannot fully address on its own.

The HBM's predictive power is nonetheless modest (Orji et al., 2012), and in an insurance

context structural barriers matter as much as individual beliefs, motivating its pairing with Andersen's model. Imo et al. (2022) found that NHIS coverage and adequate utilisation were associated with significantly lower under-five mortality in Nigeria.

Andersen's Behavioural Model of Health Services Utilisation provides a complementary lens, distinguishing between predisposing factors (socio-demographic characteristics), enabling factors (health insurance coverage, income, proximity to facilities), and need factors (perceived and evaluated health needs) as determinants of healthcare utilisation (Andersen, 1995). The NHIS functions primarily as an enabling factor within this model, but its effectiveness is hinged on the presence of enabling structural conditions and the activation of predisposing factors. Critics note, however, that the model does not adequately account for systemic quality deficits and provider-side inefficiencies that may deter utilisation even among insured populations with favourable predisposing and enabling profiles (Babitsch et al., 2012). Together, the HBM and Andersen's model provide a comprehensive yet complementary framework for understanding why enrolment in the NHIS does not automatically translate into improved maternal healthcare utilisation in Kogi State.

Overall, the NHIS has meaningfully reduced financial barriers to maternal healthcare, but its effectiveness remains constrained by systemic, informational, and structural factors requiring enhanced awareness, service quality, and infrastructure investment, particularly in states such as Kogi.

Research Method

Research Design

A concurrent mixed-method triangulation design was adopted: quantitative and qualitative strands were collected simultaneously, analysed separately, and merged at interpretation. The quantitative component used structured

questionnaires to measure awareness, access, and utilisation; the qualitative component used in-depth interviews with civil servants and healthcare providers in NHIS-accredited facilities, enabling triangulation of statistical evidence with experiential accounts.

Area of Study

The study was conducted in Kogi State, in Nigeria's North-Central geopolitical zone, focusing on three federal institutions: Federal College of Education, Okene; Federal University Lokoja; and the College of Agriculture, Kabba. These federal institutions have a significant proportion of NHIS-enrolled civil servants, and were purposively selected for their sizeable workforce and geographic spread across the state.

Population and Sample

The study population consisted of civil servants employed in the three selected federal institutions in Kogi State who were enrolled in the NHIS, totalling approximately 2,886 staff. The sample size was determined using the Taro Yamane (1967) formula at a 95% confidence level and a 0.05 margin of error, yielding a minimum sample size of 351 respondents. A proportionate stratified sampling technique distributed questionnaires by workforce size, followed by simple random sampling within each institution.

Applying the Taro Yamane (1967) formula at 95% confidence and $e = 0.05$ to $N = 2,886$ yields $n = 351$, the adopted sample size.²⁾, where n is the required sample size, N is the total population, and e is the acceptable margin of error (0.05). Applying this formula to the study population of $N = 2,886$ yields: $n = 2,886 \div [1 + 2,886(0.05^2)] = 2,886 \div [1 + 2,886(0.0025)] = 2,886 \div [1 + 7.215] = 2,886 \div 8.215 = 351.28$, which was rounded up to a minimum sample size of 351 respondents.

For the qualitative component, purposive sampling was deployed in selecting 20 female

civil servants who had utilised NHIS for maternal healthcare services and three healthcare workers employed in NHIS-accredited facilities. Selection was based on direct experience with NHIS-covered maternal services and willingness to participate in in-depth interviews.

Instrument for Data Collection

Two instruments were used: a structured questionnaire using a four-point Likert scale (SA = 4 to SD = 1) to measure awareness, access, and utilisation; and an in-depth interview guide. Content validity was confirmed by expert review; Cronbach’s Alpha exceeded 0.70 on all subscales.

Method of Data Analysis

Quantitative data were analysed using descriptive statistics and inferential statistics (PPMC; regression analysis) at $\alpha = 0.05$; a mean ≥ 2.50 indicated agreement. Qualitative data were analysed through thematic analysis involving transcription, open coding, and

interpretive synthesis.

Ethical Considerations

Ethical clearance was obtained from the appropriate research ethics committee and institutional permission secured from the three participating organisations. Participation was voluntary; informed consent was obtained after participants were briefed on the study’s purpose. Anonymity and confidentiality were maintained: questionnaires excluded personal identifiers, transcripts were coded, and data stored securely. Participants could withdraw at any stage without penalty.

Data Analysis and Results

Awareness of NHIS among Civil Servants (Research Question 1)

Table 1 presents the frequency and mean distributions of respondents' awareness of the NHIS and its maternal healthcare provisions.

Table 1: Level of Awareness of NHIS among Civil Servants (n = 351)

Item	SA	A	D	SD	Mean
I am aware of the existence of the NHIS and its benefits	180	110	40	21	3.27
I am aware that the NHIS covers maternal healthcare services	163	127	42	19	3.24
I know how to access maternal healthcare services under the NHIS	155	118	53	25	3.15
I am aware that NHIS reduces the cost of antenatal and delivery services	160	130	45	16	3.23

Item	SA	A	D	SD	Mean
NHIS information campaigns have reached me at my workplace	140	115	65	31	3.04

Grand Mean = 3.19 Source: Field Survey, 2026

The grand mean score of 3.19 (above the benchmark of 2.50) shows a high overall level of awareness of the NHIS and its maternal healthcare provisions among civil servants in the sampled institutions. Most respondents confirmed familiarity with the scheme and its coverage of maternal health services, though awareness of facility-level access procedures and the reach of NHIS information campaigns was comparatively lower. These findings suggest that while broad awareness exists, functional health

literacy, which is the ability to translate awareness into informed utilization may require further strengthening.

Extent NHIS Has Improved Access to Maternal Healthcare (Research Question 2)

Table 2 reports respondents' assessments of the extent to which NHIS enrolment has improved their access to maternal healthcare services.

Table 2: Extent to which NHIS Has Improved Access to Maternal Healthcare (n = 351)

Item	SA	A	D	SD	Mean
NHIS has made antenatal care more accessible and affordable for me	170	120	40	21	3.25
My NHIS enrolment facilitated access to skilled birth attendants during delivery	165	115	50	21	3.20
Postnatal care services have improved since I enrolled in the NHIS	150	130	51	20	3.17
The NHIS has reduced my out-of-pocket spending on maternal healthcare	158	122	48	23	3.18

Item	SA	A	D	SD	Mean
NHIS has encouraged me to seek professional care during pregnancy	162	118	50	21	3.20

Grand Mean = 3.20 Source: Field Survey, 2026

The grand mean score of 3.20 reveals a moderate-to-high level of improvement in access to maternal healthcare services attributable to NHIS enrolment. Respondents affirmed enhanced access to antenatal care, skilled birth attendance, and postnatal services, as well as a reduction in out-of-pocket expenditure. The finding that enrolment encourages professional care-seeking behaviour is particularly significant, as it suggests that the NHIS is effectively shifting health-seeking patterns

towards formal healthcare facilities.

Challenges Affecting Utilisation of Maternal Healthcare under NHIS (Research Question 3)

Table 3 presents respondents' assessments of the challenges that limit effective utilisation of maternal healthcare services under the NHIS.

Table 3: Challenges Affecting Utilisation of Maternal Healthcare under NHIS (n = 351)

Item	SA	A	D	SD	Mean
There are too few NHIS-accredited facilities in my area	160	120	50	21	3.19
Administrative processes at NHIS facilities are slow and cumbersome	150	110	60	31	3.08
Some essential maternal health services are not covered by NHIS	170	100	50	31	3.16
I sometimes incur additional costs for drugs and tests not covered by NHIS	165	110	48	28	3.17
Long waiting times at accredited	155	115	55	26	3.14

Item	SA	A	D	SD	Mean
facilities discourage me from using NHIS services					

Grand Mean = 3.15 Source: Field Survey, 2026

The grand mean score of 3.15 confirms that significant challenges persist in the utilisation of maternal healthcare services under the NHIS. The most obvious challenges are the limited number of accredited facilities, incomplete benefit coverage, and administrative bottlenecks.

The finding that many beneficiaries still incur additional out-of-pocket payments for uncovered drugs and diagnostic tests is particularly concerning, as it suggests that the NHIS's financial protection function is only partially fulfilled in the area of maternal healthcare.

Hypothesis Testing

Table 4: Summary of Hypothesis Testing Results

Hypothesis	Statistical Test	Result	p-value	Decision
H01: No significant relationship between NHIS enrolment and access to maternal healthcare	Pearson PPMC	$r = 0.62$, $df = 349$	$p < 0.05$	Reject H01
H02: NHIS has no significant effect on utilisation of maternal healthcare services	Simple Linear Regression	$R^2 = 0.54$, $\beta = 0.73$ (standardised); $F(1, 349) = 409.66$; $B = 0.68$, $SE = 0.034$, 95% CI [0.61, 0.75]	$p < 0.05$	Reject H02
H03: No significant relationship between	Pearson	$r = 0.58$, df	$p < 0.05$	Reject H03

Hypothesis	Statistical Test	Result	p-value	Decision
awareness of NHIS and utilisation of maternal healthcare	PPMC	= 349		

Source: Field Survey, March 2026

For H01, the Pearson correlation coefficient ($r = 0.62$, $df = 349$, $p < 0.05$) indicates a moderate-to-strong positive relationship between NHIS enrolment and access to maternal healthcare services. This result confirms that civil servants enrolled in the NHIS experience significantly better access to maternal healthcare services than they would without such enrolment, and that the null hypothesis is rejected.

For H02, regression analysis yielded $R^2 = 0.54$, $\beta = 0.73$, $F(1, 349) = 409.66$, $p < .001$, $B = 0.68$ ($SE = 0.034$), 95% CI [0.61, 0.75], indicating that NHIS enrolment accounts for 54% of variance in maternal healthcare utilisation. The null hypothesis is rejected.

For H03, the Pearson correlation coefficient ($r = 0.58$, $df = 349$, $p < 0.05$) indicates a moderate positive and statistically significant relationship between awareness of the NHIS and utilisation of maternal healthcare services. The null hypothesis is rejected, underscoring the pivotal role of health literacy and scheme awareness as antecedents of utilisation behaviour.

Thematic Analysis of In-Depth Interviews

Qualitative data collected from 20 female civil servants and three NHIS healthcare workers were analysed thematically. Five core themes emerged from the data, as presented in Table 5.

Table 5: Thematic Analysis of In-Depth Interview Responses

Theme	Frequency	Illustrative Quote	Interpretation
Financial burden reduction	18/20	"NHIS helped reduce the cost of antenatal visits and delivery significantly."	NHIS substantially reduces out-of-pocket expenditure for maternity services.
Improved professional care-seeking	16/20	"Without NHIS, I would have considered using a traditional birth attendant."	NHIS encourages facility delivery and professional maternal care.

Theme	Frequency	Illustrative Quote	Interpretation
Incomplete service coverage	12/20	"Some laboratory tests and prescribed drugs still require extra payment."	Partial benefit coverage leads to residual out-of-pocket costs.
Administrative delays	10/20	"Paperwork and verification sometimes delay receiving treatment."	Bureaucratic processes limit timely access to maternal healthcare.
Inadequate accredited facilities	15/20	"The few accredited hospitals are overcrowded and overstretched."	Limited accreditation restricts beneficiary access and quality of care.

Source: Field Survey, March 2026

Qualitative findings corroborate the quantitative results. Most participants reported that NHIS enrolment removed immediate financial barriers to maternal care. One noted she would have opted for a traditional birth attendant before enrolment, highlighting the scheme's role in promoting professional, facility-based care.

The theme of inadequate accredited facilities (15/20) and the related themes of incomplete coverage (12/20) and administrative delays (10/20) merit closer attention. Participants linked facility scarcity directly to perceived care quality: one respondent described travelling to a neighbouring local government area because her nearest accredited facility was, in her words, always fully booked, while another noted that overcrowded facilities left her questioning whether she was really getting proper attention. Delays in verification and authorisation were described as so protracted that, in one participant's words, by the time everything is approved, the situation has either resolved itself or gotten worse. Read alongside the quantitative finding of persistent out-of-pocket costs, this

evidence suggests that facility scarcity, partial coverage, and procedural delay function together, rather than as isolated problems, to undermine the scheme's promise of timely, affordable maternal care.

Discussion of Findings

The findings present a nuanced picture of the NHIS's role in maternal healthcare access among civil servants in Kogi State. The discussion draws on the Health Belief Model and Andersen's Behavioural Model to interpret patterns of NHIS awareness, access, utilisation, and challenges, situating findings within the broader empirical literature.. The high level of awareness recorded among respondents (grand mean = 3.19) is consistent with Adedokun et al. (2023), who identify knowledge of insurance benefits as a precondition for utilisation. However, lower scores on facility-access procedures and campaign reach suggest that awareness, while widespread, is not matched by functional health literacy: civil servants know

the NHIS exists but are less clear on how to access specific maternal services such as emergency obstetric care. Generic awareness campaigns alone therefore appear insufficient without complementary procedural and empowerment interventions.

The moderate-to-high improvement in access (grand mean = 3.20) reaffirms the NHIS's effectiveness as a financial protection mechanism, aligning with Tijani et al. (2025), who found higher antenatal attendance and facility-based delivery among insured women. The regression result ($R^2 = 0.54$) confirms NHIS enrolment as a substantial predictor of utilisation, particularly for skilled birth attendance and postnatal care, the dimensions most closely linked to reductions in maternal and neonatal mortality.

The qualitative finding that NHIS encourages professional care-seeking, illustrated by a participant who noted she would otherwise have considered a traditional birth attendant, speaks to the scheme's potential to reshape health-seeking norms. This resonates with the HBM's concept of perceived benefits, whereby NHIS enrolment functions as a structural enabler of health belief activation.

Nevertheless, alongside these positive outcomes, the study documents a significant cluster of challenges that constrain the NHIS's effectiveness in the domain of maternal healthcare. Continued out-of-pocket payments for uncovered drugs, diagnostic tests, and specialist consultations, consistent with Bashir and Ishaku (2026) and Esan et al. (2023), raise equity concerns, as this residual burden falls disproportionately on lower-income civil servants, partly negating the financial-protection benefit of enrolment.

Administrative delays and bureaucratic bottlenecks, reported by many respondents and corroborated by interviewees, are a related but distinct problem. Because timeliness is critical to obstetric outcomes, delays in verification, authorisation, and documentation at accredited facilities can directly elevate complication risk,

underscoring the need to streamline administrative processes as a patient-safety priority.

The limited number of NHIS-accredited facilities in Kogi State is perhaps the most structurally entrenched challenge identified. Frequent overcrowding at accredited facilities indicates a supply-demand imbalance that lowers care quality and may deter utilisation, as beneficiaries facing long waits opt for non-accredited providers, defeating the purpose of enrolment, a pattern Kofoworola et al. (2025) similarly link to facility availability.

The significant positive relationship between NHIS awareness and utilisation ($r = 0.58$, $p < 0.05$) reaffirms health communication as a lever for scheme effectiveness, consistent with Andersen's Behavioural Model, which identifies insurance coverage and information as key enabling factors. Investing in awareness and health literacy around maternal entitlements could therefore meaningfully improve utilisation without requiring changes to the benefit package or accreditation landscape.

Overall, the NHIS functions as a meaningful but imperfect mechanism for improving maternal healthcare access in Kogi State: its effect is real and statistically demonstrable, yet moderated by incomplete coverage, administrative inefficiency, and facility shortages requiring coordinated policy attention. The mixed-method design, contextualising quantitative findings with qualitative accounts, grounds the recommendations that follow.

Implications of Findings

The findings of this study carry significant implications across the following domains:

Policy implications: The improvement in maternal healthcare access linked to NHIS enrolment supports continued investment in and expansion of the scheme within Nigeria's maternal health strategy. Persistent structural and administrative challenges, however, call for continued reform: policymakers should expand

the maternal-health benefit package to cover emergency obstetric care, specialist consultations, and essential medicines, and digitise enrolment verification and claims processing to reduce bureaucratic delays.

Practice implications: Healthcare providers and NHIS facility owners should invest in capacity strengthening, including expanded accreditation of qualified providers in underserved areas and patient-centred maternal care protocols with streamlined emergency admission. Providers can also help close the functional health literacy gap identified in this study by proactively informing patients of their NHIS entitlements.

Scholarly implications: This study adds context-specific evidence on health insurance and maternal healthcare in a North-Central Nigerian state, applying the HBM and Andersen's model as a theoretically grounded framework for NHIS utilisation in low-resource settings. Future research should extend this to comparative multi-state analyses and examine differential NHIS effects across grade-level, gender, and years of enrolment.

Recommendations

- i. On the basis of the empirical findings and their implications, this study advances the following recommendations:
- ii. Expansion of the NHIS benefit package: The NHIA should expand maternal-health coverage to include emergency obstetric care, specialist consultations, and essential medicines and diagnostics, closing the gap between enrolment and comprehensive financial protection that currently undermines the scheme's core mandate.
- iii. Streamlining of administrative processes: Procedures at NHIS-accredited facilities should be simplified and digitised, with electronic health records, digital enrolment verification, and online pre-

authorisation reducing delays that are critical in obstetric emergencies.

- iv. Expansion of NHIS-accredited facilities: The NHIA, with state ministries of health, should accredit more primary and secondary care facilities in Kogi State, prioritising underserved areas.
- v. Sustained and targeted awareness campaigns: Government agencies, employers, and health authorities should run evidence-based communication campaigns that go beyond general awareness to explain which maternal services are covered and how to navigate the referral system.
- vi. Strengthening of healthcare infrastructure: Sustained investment in facility upgrades, equipment, and workforce expansion, guided by geographic and demographic need, is essential to ensure that reduced financial barriers translate into genuine improvements in maternal care quality.
- vii. Periodic independent evaluation of NHIS effectiveness: The NHIA should institutionalise periodic, independent evaluations of NHIS impact on maternal health outcomes to generate evidence for adaptive reform and strengthen accountability.

Limitations of the Study

Findings carry several limitations. The sample covers only three federal institutions, excluding state civil servants, and should not be generalised beyond this population. The qualitative component was small and purposive (20 civil servants, three healthcare workers). The cross-sectional design precludes causal inference; self-reported data introduce social desirability bias; and single-state focus limits generalisability. Future research should use probability sampling, longitudinal designs, and multi-state

comparisons.

Conclusion

This study examined the effectiveness of the National Health Insurance Scheme in improving access to maternal healthcare among federal civil servants in three selected federal institutions in Kogi State, Nigeria. It used a concurrent mixed-method design: structured questionnaires with 351 civil servant respondents and in-depth interviews with 20 civil servants and three healthcare workers.

The findings confirm the NHIS as a statistically significant enabler of maternal healthcare access in Kogi State, supported by high NHIS awareness, documented improvements in antenatal care, skilled birth attendance, and postnatal utilisation, and the rejection of all three null hypotheses.

However, incomplete coverage, administrative delays, inadequate accredited facilities, and residual out-of-pocket costs collectively undermine the scheme's capacity to deliver equitable maternal care, reflecting systemic gaps in design, implementation, and resourcing requiring sustained policy attention.

Addressing these challenges is both a health financing imperative and a developmental necessity. A properly designed and adequately resourced NHIS is one of the most powerful tools for reducing maternal mortality; the path to improved outcomes runs through a reformed scheme delivering on its promise of financial protection and accessible, high-quality maternal care.

The evidence generated by this study suggests that strengthening the NHIS warrants sustained attention from policymakers, health administrators, institutional employers, and civil society organisations. Addressing the structural and administrative gaps identified in this study would represent a meaningful step towards the broader objective of ensuring that women across Nigeria, regardless of location, income, or circumstance, are able to access the maternal healthcare services they require.

References

- Adebiyi, O., & Adeniji, F. (2021). Factors affecting utilisation of the National Health Insurance Scheme by federal civil servants in Rivers State, Nigeria. *The Journal of Health Care Organization, Provision, and Financing*, 58, 1–10. <https://doi.org/10.1177/00469580211021876>
- Adedokun, S. T., Uthman, O. A., & Bisiriyu, L. A. (2023). Determinants of partial and adequate maternal health services utilisation in Nigeria: Analysis of cross-sectional survey data. *BMC Pregnancy and Childbirth*, 23(1), 1–15. <https://doi.org/10.1186/s12884-023-05410-3>
- AllAfrica. (2025, October 1). Nigeria: Kogi offers access to 76,000 enrollees in health insurance scheme. <https://allafrica.com/stories/202510020084.html>
- Andersen, R. M. (1995). Revisiting the behavioural model and access to medical care: Does it matter? *Journal of Health and Social Behavior*, 36(1), 1–10. <https://doi.org/10.2307/2137284>
- Azaare, J., Aninanya, G. A., Abdulai, K., Adane, F., Bio, R. B., & Hushie, M. (2024). Maternal health care utilization following the implementation of the free maternal health care policy in Ghana: Analysis of Ghana demographic and health surveys 2008–2014. *BMC Health Services Research*, 24, 197. <https://doi.org/10.1186/s12913-024-10661-5>
- Babitsch, B., Gohl, D., & von Lengerke, T. (2012). Re-revisiting Andersen's behavioural model of health services use: A systematic review of studies from 1998–2011. *GMS Psycho-Social Medicine*, 9, Doc11. <https://doi.org/10.3205/psm000089>
- Bashir, S. A., & Ishaku, S. G. (2026). Health worker familiarity with maternal mortality cause definitions in Kaduna State,

- Nigeria: A cross-sectional study. *Texila International Journal of Medicine*, 14(1), 22–31.
- Bonfrer, I., Breebaart, L., & Van de Poel, E. (2016). The effects of Ghana's National Health Insurance Scheme on maternal and infant health care utilization. *PLOS ONE*, 11(11), e0165623. <https://doi.org/10.1371/journal.pone.0165623>
- Businessday NG. (2025, December 5). Kogi checks maternal mortality, unveils maternal, child health week. <https://businessday.ng/news/article/kogi-checks-maternal-mortality-unveils-maternal-child-health-week/>
- Esan, O. T., Adeomi, A. A., & Afolabi, O. T. (2023). Health insurance coverage and access to maternal healthcare services by women of reproductive age in Nigeria: A cross-sectional study. *BMJ Public Health*, 1(1), e000012. <https://doi.org/10.1136/bmjph-2023-000012>
- Eze, O. I., Iseolorunkanmi, A., & Adeloye, D. (2024). The National Health Insurance Scheme (NHIS) in Nigeria: Current issues and implementation challenges. *Journal of Global Health Economics and Policy*, 4, e2024009. <https://doi.org/10.52872/001c.92387>
- Gomez, G. B., Foster, N., Brals, D., Nelissen, H. E., Bolarinwa, O. A., Hendriks, M. E., Boers, A. C., van Eck, D., Rosendaal, N., Adenusi, P., Agbede, K., Akande, T. M., Boele van Hensbroek, M., Wit, F. W., Hankins, C. A., & Schultsz, C. (2015). Improving maternal care through a state-wide health insurance program: A cost and cost-effectiveness study in rural Nigeria. *PLOS ONE*, 10(9), e0139048. <https://doi.org/10.1371/journal.pone.0139048>
- Gyuse, A. N., Ayuk, A. E., & Okeke, M. C. (2018). Facilitators and barriers to effective primary health care in Nigeria. *African Journal of Primary Health Care & Family Medicine*, 10(1), a1641. <https://doi.org/10.4102/phcfm.v10i1.1641>
- Imo, C. K., De Wet-Billings, N., & Isiugo-Abanihe, U. C. (2022). The impact of maternal health insurance coverage and adequate healthcare services utilisation on the risk of under-five mortality in Nigeria: A cross-sectional study. *Archives of Public Health*, 80, 197. <https://doi.org/10.1186/s13690-022-00968-2>
- Kofoworola, A., Olabisi, O., Salako, J., Sanaka, J., Samuel, R., & Bakare, O. (2025). "I went to the primary health centre close to my workplace, but their capacity cannot deliver the baby": Exploring why women choose different providers for maternal health services in Nigeria. *BMC Pregnancy and Childbirth*, 25(1), 1–13. <https://doi.org/10.1186/s12884-025-06743-1>
- Leadership Newspaper. (2025, December 16). Kogi health insurance targets 500,000 enrollees by 2026. <https://leadership.ng/kogi-health-insurance-targets-500000-enrollees-by-2026/>
- Orji, R., Vassileva, J., & Mandryk, R. L. (2012). Towards an effective health interventions design: An extension of the health belief model. *Online Journal of Public Health Informatics*, 4(3), e9. <https://doi.org/10.5210/ojphi.v4i3.4321>
- Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, 2(4), 328–335. <https://doi.org/10.1177/109019817400200403>
- Singh, S., Kaul, M., Bala, M. M., Krishnan, C., & Rawandale, C. J. (2024). A quasi-experimental study on health insurance coverage and health services in Nigeria. *African Journal of Primary Health Care & Family Medicine*, 16(1), e1–e6. <https://doi.org/10.4102/phcfm.v16i1.4056>
- Tijani, B., Igbokwe, U., Filani, T., Adewemimo,

A., & Ameyan, L. (2025). Improving access to and delivery of maternal healthcare services to prevent postpartum haemorrhage in selected states in Nigeria: A human-centred design study. *JMIR Human Factors*, 12, e52741. <https://doi.org/10.2196/52741>

Ugbor, K. I., Agbutun, A. S., & Ugbor-Kalu, U.

J. (2022). Investigating the influence of community health insurance on health seeking behaviors and demand for maternal healthcare services in Nigeria. *Journal of Public Affairs*, 22(4), e2708. <https://doi.org/10.1002/pa.2708>

Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row.