BMC Public Health

RESEARCH Open Access

Administrative perspectives on the implementation and sustainability of state-supported health insurance schemes in Nigeria: a descriptive qualitative study

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Abstract

Background Since the state-supported health insurance schemes (SSHIS) began in Nigeria, the perspectives of implementers and other administrative actors have been under-documented in the program evaluations. Bridging this information gap is crucial to addressing the challenges impeding the scheme's impact. This study, therefore, investigated the administrative stakeholders' perspective on the implementation and sustainability of the SSHIS in Nigeria.

Methods This study adopted a descriptive qualitative case study design and was conducted in six Nigerian states with functional SSHIS, each representing one of the country's six geo-political zones: Cross River (South-South), Enugu (South-East), Oyo (Southwest), Kwara (North-Central), Sokoto (Northwest) and Taraba (Northeast). Participants were SSHIS state officials, public and private healthcare providers, and ward committee members purposely selected for their knowledge and experience with the schemes. Thirty key informant interviews (KII) were conducted among these stakeholders, exploring the design, successes, challenges, and personal recommendations relating to the SSHIS operation in their states. Thematic data analysis was conducted using NVIVO version 11.

Results Across the six states, the SSHIS had an adaptive design, covering formal, informal, and low-income vulnerable populations. Emerging themes describing the scheme's impacts included improved state health indices, health infrastructure, care access equity, and health financing systems. Challenges to the SSHIS's coverage and sustainability included low public awareness, inefficient governmental processes, insufficient funding/inflation, manpower shortages, and environmental insecurity. Participants suggested intensifying community engagement and revising funding and reimbursement policies to overcome these challenges.

Conclusion Administrators highlighted crucial policy actions to enhance the SSHIS's impact in Nigeria toward universal health coverage. Future studies may investigate the identified challenges and test the effectiveness of the proposed solutions.

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Keywords Health insurance, Implementers, Stakeholders, SSHIS, States, Nigeria

Background

Universal Health Coverage (UHC) aims to guarantee that individuals and families can access necessary healthcare services without encountering financial difficulties. It includes the entire spectrum of essential, high-quality health services, from prevention to treatment, rehabilitation, and palliative care for people of all ages [1]. The functioning of health systems and the achievement of UHC largely depend on health financing. Healthcare systems should establish an effective mechanism to gather and pool resources and to strategically procure essential health services for those in need [2]. Enrollment in public health insurance has been shown to improve the physical and mental health status of beneficiaries, reduce the prevalence of acute or chronic diseases, and increase the likelihood of good health and satisfaction [3]. As a result, there is a need to reduce out-of-pocket (OOP) spending as the primary method of paying for healthcare. This will promote good health and satisfaction, as well as consistent progress toward UHC.

Nigeria's heavy reliance on OOP expenditure prevents millions of people from accessing needed healthcare and has pushed millions into poverty [4]. Health financing in Nigeria is characterized by low government investments, poorly designed and implemented health insurance schemes, high OOP spending, and significant dependence on external sources [4]. In Nigeria, the National Health Insurance Scheme (NHIS) has been the major health insurance scheme for years. The NHIS, officially launched in 2005, currently covers only about 5% of Nigeria's population, primarily consisting of federal government employees [5]. Thus, a huge percentage of the Nigerian populace still bears the brunt of directly paying for their healthcare. This has resulted in tardive progress towards UHC in the country, as Nigeria was ranked 142 out of 195 countries in health system performance in 2022 [6].

To improve health insurance coverage, the Federal Government of Nigeria incorporated a regulated community-based health insurance (CBHI) model and the state-supported health insurance schemes (SSHIS) into its NHIS [5, 7]. These initiatives are mechanisms through which both the informal and formal sector population groups in rural and urban areas can better obtain affordable healthcare services [8]. Additionally, a new National Health Insurance Act was ratified in 2022, which proposed mandatory insurance coverage for all Nigerian citizens and legal residents [9]. For the SSHIS, the 36 states (together with the Federal Capital Territory (FCT)) were given the authority to design, implement, and operate a type of social health insurance program for citizens in their states [10]. Since the bill was passed in 2015, about 20 states in the country have launched their SSHIS towards better stakeholder engagements and UHC progress for their people.

A few studies have attempted to evaluate the performance of the SSHIS since its inception, mostly reporting coverage challenges across states. For instance, in a 3-year post-implementation study of Oyo State's SSHIS (OYSHIA), Adewole et al. [10] reported a 1% coverage relative to the state's population, 18,373 person/year growth rate, and 35% enrollee dropout rate. In another study in Lagos state, out of the 2490 study participants, only 15.9% of the 270 people who had any form of health insurance were enrolled in the state-owned scheme, tagged "ILERA EKO" [11]. Similarly, in our multi-site survey of the SSHIS coverage in six zonally representative states, four states (Cross-River, Enugu, Taraba, and Sokoto States) recorded SSHIS enrollment rates below 5%, while 1 in 8 and 1 in 3 respondents from Oyo State and Kwara State, respectively, were enrolled in an SSHIS [46]. Furthermore, Ikechukwu et al. [12]. reported higher enrollment in the Abia SSHIS (ABSHIA) in the rural areas compared to the urban areas (27% vs. 18%), though with similar satisfaction and re-enrollment intention rates among beneficiaries in the two settings.

However, these evaluation studies were mostly based on the analysis of program documents or the perception and experience of service users, while the perspectives of the program implementers were seldom considered. Meanwhile, administrators and service providers within a public health program have unique perspectives on program performance and issues of which users may not be aware [5]. Such issues include resource availability and allocation, staff management, policy adherence, regulatory challenges, internal and external engagements, and sustainability considerations, among other factors affecting program performance [5, 13–15]. Also, while program report data may indicate where the program targets were not achieved, program implementers remain an important source for understanding why such gaps exist and the setting-specific solutions that may work [14, 15]. Thus, evaluating the SSHIS through an administrative lens is essential for a complete and accurate understanding of this newer scheme's contributions and challenges relative to its objective. However, to our knowledge, no such evaluation has been conducted for this novel scheme.

Bridging this gap, this study investigated the administrative actors' perspectives on the implementation and sustainability of the SSHIS in Nigeria. From these internal stakeholders' viewpoints, the study evaluated the

SSHIS design, performance, and challenges in six states of the country. The research aimed to uncover relevant internal and external implementation contexts that are critical to the scheme's operations and identify possible ways to strengthen the impact and sustainability of the program. Findings from the study will assist in identifying gaps and areas of success, which can inform appropriate policies or actions to ensure the SSHIS achieves its objectives.

Theoretical framework

The study drew on the functionalist perspective to ground its objectives. The functionalist perspective conceptualizes human societies as systems composed of interdependent parts working collaboratively to ensure the society's stability and functionality [16]. Within this framework, the health system and health interventions are viewed as critical components that support societal functioning and sustainability. Specifically, in the context of this study, healthcare financing is fundamental to ensuring that individuals and families can access necessary healthcare services when needed. Such access is essential for maintaining the health of individuals, thereby enabling them to contribute meaningfully to the growth, development, and continued sustainability of society [16].

The Social Cognitive Theory (SCT), developed by Albert Bandura, guided the design of the study [17]. According to the SCT, an individual's self-efficacy, outcome expectations, and environment, among other factors, dynamically shape their decision-making attitude and behavior change within a social and political context [17]. The SCT is a well-applied behavioral theory and has been validated in health system research [18]. Studies have shown that SCT-based health promotion interventions have a positive impact on health outcomes and intervention effectiveness [18]. In the context of this study, it is reasonable to assume that competent administrators and service providers within a state's SSHIS would have their perspectives on the design, success, and challenges of the scheme influenced by their expectations, on-the-job realities, and factors within their local environment [5, 19, 20]. By linking personal and environmental factors to individual perspectives, the SCT provides an avenue to understand the implementation contexts of the SSHIS from these administrative stakeholders.

Methods

Study design

This study used a descriptive qualitative approach, drawing on case studies from multiple sites. To adequately capture administrative stakeholders' perspectives vis-à-vis the focus of this study, a detailed representation of thoughts across multiple local contexts is important. Thus, we adopted qualitative methods to operationalize the study design, using key informant interviews (KIIs) with SSHIS administrative actors across multiple representative states in Nigeria. KIIs are optimal for collecting qualitative data on the perspectives and experiences of individuals who possess specialized knowledge or expertise in a subject of interest [21].

This study was designed as a multi-site descriptive qualitative case study research, utilizing key informant interviews (KIIs) for data collection. The design enabled thorough exploration of the study objectives, involving the evaluation of the status and prospects of the SSHIS (the case) from the perspective of a well-informed but underrepresented stakeholder population (data sources). As derived from the SCT [17], a detailed representation of thoughts across multiple local contexts is important to adequately capture diverse and context-specific perspectives from our data sources. Thus, we operationalized the study design, using KIIs with SSHIS administrative actors across multiple representative states in Nigeria. KIIs are optimal for collecting qualitative data on the perspectives and experiences of individuals who possess specialized knowledge or expertise in a subject of interest [21].

Study setting and participants

To enhance the geographic representation of our data sources, a state was randomly selected from each of Nigeria's six geopolitical zones where the SSHIS was operational, resulting in six study sites. The selected states were Cross River, Enugu, Oyo, Kwara, Sokoto, and Taraba states corresponding to the South-South, South-East, South-West, North-Central, North-West, and North-East zones respectively (Table 1; Fig. 1). This was done to enhance representativeness and obtain nationally relevant insights, given the significant political and socioeconomic diversity among states and zones in the country and its potential impact on state health financing programs. According to the National Bureau of Statistics, gross domestic product (GDP) per capita among the study states ranged from $609 for Enugu State to $2255 for Cross River State, and population size ranged from 3.2 million people in Kwara State to 7.4 million people in Oyo State in 2022 [22].

Next, we identified, as potential participants, administrative stakeholders within each state's SSHIS who have been actively involved in the scheme implementation or service delivery for a minimum of six months. Specifically, they included the SSHIS agency officers, senior healthcare providers from participating primary, secondary, or private facilities, and community leaders of ward committees in each state.

Table 1 Overview of the operating SSHIS in our six study states

State	Operating SSHIS	Year of Launch	Overview
Oyo	Oyo State Health Insurance Agency (OYSHIA) Scheme [24]	2017	• The OYSHIA scheme has over 300,000 enrollees in 6 years and works to expand its vision of universal health coverage to all Oyo state residents [23, 24] • Managed by OYSHIA [24], who is the major purchaser • Operates plans for individuals, families, businesses, and corporations, and special subpopulations like pregnant women (similar plans for formal and informal worker subpopulations) • Website: www.oyshia.oy.gov.ng (active and responsive)
Taraba	Taraba State Contributory Health Insurance Agency (TSCHIA) Scheme [25]	2021	• The TSCHIA scheme has enrolled over 40,000 beneficiaries in 3 years with the vision to expand coverage to all people in Taraba [23, 25] • Managed by TSCHIA, who also oversees the scheme funding and co-payment system, and attracts funds for enrollment aids for low-income households and vulnerable groups. • Operates disparate plans for the formal and informal sector and a free or subsidized plan for vulnerable groups • Website: https://tschiaportal.net.ng (active and fairly responsive)
Cross River	Cross River Health Insurance Agency (CRSHIA) Scheme [26]	2021	• The CRSHIA scheme has over 40,000 enrollees as of early 2023 [23, 26]. The program morphed from the 2016 "AyadeCare" proposed mandatory health insurance initiative for all Cross River State residents • Managed by CRSHIA [26] and kicked off, primarily targeting civil servants and vulnerable groups via provisions for an equity fund to support low-income individuals and families. A memorandum of understanding between CRSHIA and local hospitals ensures service availability for enrollees • Website: https://www.crossriverstate.gov.ng/ (active but unresponsive)
Enugu	Enugu State Universal Health Coverage Scheme (ESUHCS) [27]	2020	• The ESUHCS has had over 200,000 enrollees in its 5 years of operation [23, 27]. The program is envisioned to help achieve UHC in the state, i.e., access to quality healthcare services without suffering financial hardship. The scheme also emphasizes preventive care • Managed by the Enugu State Agency for Universal Health Coverage (ESAUHC) [23, 27], which is responsible for policy implementation and monitoring. • ESAUHC operates plans for formal sector workers, informal sector workers, low-income earners, and tertiary students • Website: https://www.esauhc.org/index.html (active and responsive)
Kwara	Kwara Health Insurance Agency (KWHIA) scheme [Kwara Care] [28]	2018	• KwaraCare has over 70,000 enrollees as of the 2024 third quarter [23, 28]. The state-owned program evolved from the previous community-based health insurance model halted in 2017. The program envisioned equity of healthcare access for all demographics in the state • Managed by KWHIA [28], overseeing both upstream (implementation and partnership) and downstream (promotion) activities • Operates 3 plans: formal sector (pays the highest premium), informal sector, and equity plan (free/subsidized for vulnerable groups). Individual and family sub-plans exist. A revised premium structure (158% increase for informal sector plan; 100% for formal sector plan) took effect on December 1, 2024, due to rising medical costs [28] • Website: https://kwaracare.com.ng/ (active and responsive)
Sokoto	Sokoto State Contributory Health Management Agency (SOCHEMA) Scheme [29]	2018	• The SOCHEMA scheme recorded over 6000 beneficiaries in 2020 post-launch [23, 29]. The program pushes for mandatory health insurance for all residents • Managed by SOCHEMA, which oversees the policy implementation and promotion • Operates plans primarily designed for vulnerable groups, including pregnant women and children. The Agency planned to integrate the formal sector in 2024 [29] • Website: https://sochema.sk.gov.ng (inactive but has an active social media page with limited information)

Source: Authors' review of official websites, social media pages, and reliable press media articles on each state's scheme [23–29]

Data collection and analysis

Based on scheduled appointments, the principal investigator and a research assistant conducted face-to-face key informant interviews (KIIs) with each participant between August 2023 and February 2024. A total of 30 KIIs were conducted across the six states. The KIIs investigated the personal and professional background of the participants, the design of the SSHIS in their states, its successes and performances, implementation challenges, and recommendations to mitigate identified challenges.

The KIIs guide employed in the study was adapted and modified from the framework used by Alawode & Adewole [5] in a study among subnational actors of the NHIS. To ensure rigor, the preliminary interview guide was reviewed by two experts in prepayment schemes and social health insurance, after which it was piloted for

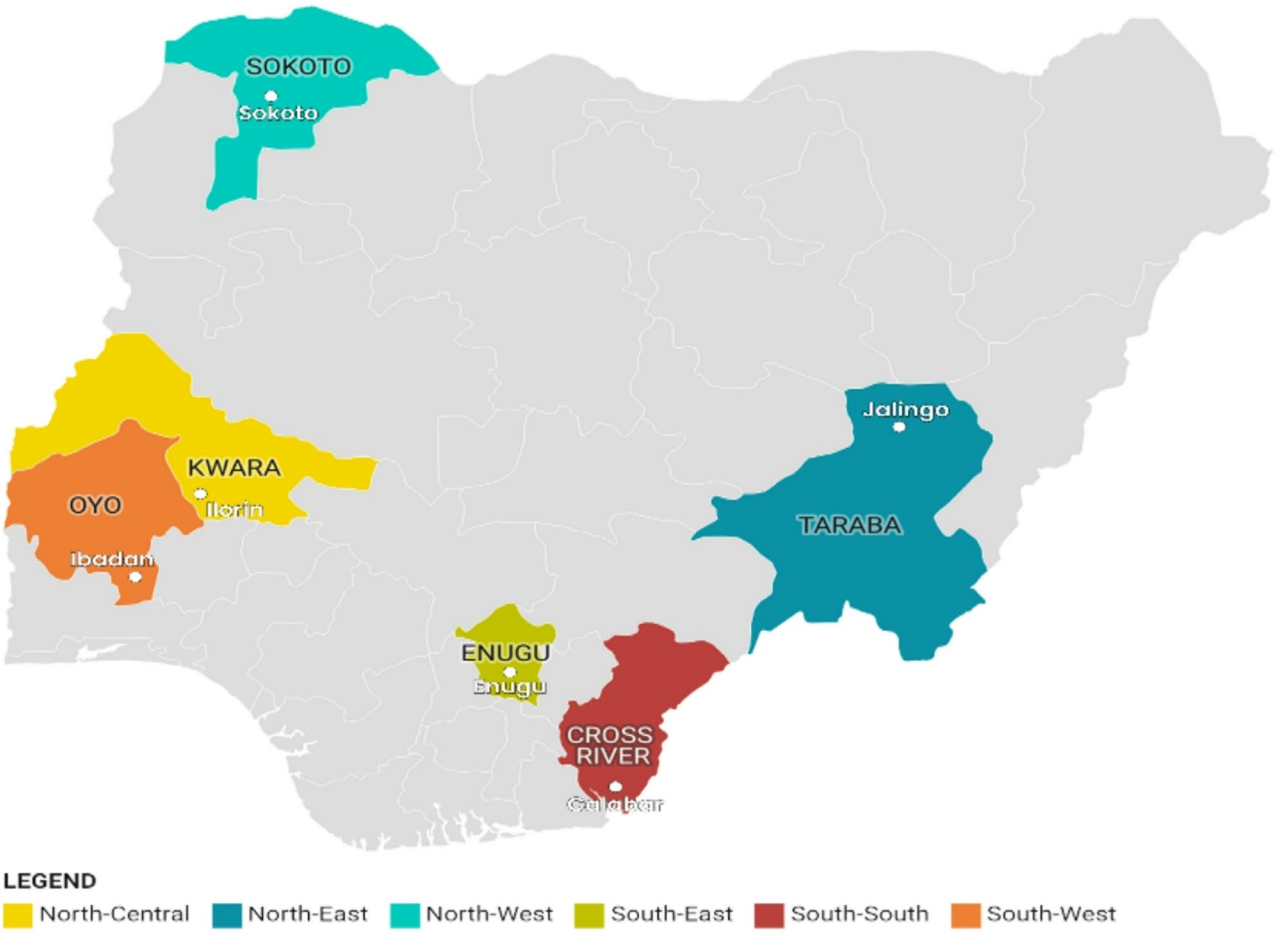

Fig. 1 Nigeria map showing study sites

clarity and flow among members of the research team. The field pretest of the interview guide was carried out with representatives from the stakeholders who were not included in the study sample. Questions and comments were entertained, and amendments were made to the guide as appropriate.

During data collection, we started by reminding participants that their responses would be kept confidential as much as possible and would not be directly linked to any data or report produced from the study. To further ensure this, we encouraged them to choose their pseudonyms names which were used throughout the interviews. Additionally, we ensured that all interviewers were trained on research processes, including how to conduct interviews in a manner that would not lead respondents to respond in a particular manner and thus introduce social desirability bias. In addition, using established interview guides, participants chose a location that was comfortable for them. This enabled them to feel free to contribute effectively in the study.

Upon completion of each interview, the audio recordings were transcribed verbatim, and a draft of the respective interview transcript was mailed back to each participant to approve their submission accuracy and validate our findings. Then, the transcriptions were anonymized to safeguard the identity of the informants and uploaded into the NVIVO software package version 11 for thematic analysis. An inductive approach was used, where initially created codes were enriched as the transcripts were being read and coded. Coded data were then categorized according to predetermined themes and key points, facilitating a comprehensive narrative of key concepts. Themes were defined, named, organized, and presented following the study's main domains: design of the scheme, successes, implementation challenges, and recommendations to address the identified issues (Table 2). Finally, a report was generated to summarize the findings.

Data validity and trustworthiness

To ensure credibility in our study, a code book was created for study analysis and was used by all coders. By using a codebook among all coders, there was consistency in how data was handled. After each coder had completed coding their allocated transcripts, they

Table 2 Thematic framework for study data analysis

Themes	Definition	Subthemes
Design of the scheme	We define scheme design as the operational structure of the SSHIS in that state, indicating the target population, funding mechanisms, and benefit packages	Beneficiary categories Funding/Premium structures Benefit packages
Success	We define scheme success as any positive health-related outcome of any dimension related to the scheme (the state's SSHIS) as perceived and reported by the informant(s)	Improved UHC-related indices Improved infrastructure Care access equity Funding acquisition
Implementation challenges	We define this as any perceived barrier by the informant (s) to the smooth running or outlook of the SSHIS in the state	Public awareness Governmental factors Economic factors Manpower factors Environmental factors Size of the pool
Recommendations	Recommendations here refer to the informant(s) view of the solution to the identified challenges	Coverage/uptake strategies Sustainability strategies

would share them with another colleague to check for completeness. Additionally, we employed daily debriefing with interviewers, which allowed room to discuss emerging key themes, discuss findings, and get a better understanding of the data, hence limiting bias in findings interpretation.

Ethical approval and informed consent

Invitations were sent to our interview prospects via calls, visits, and emails, and appointments and interview dates were scheduled with consenting participants. A letter of introduction was written to all the participants, and a written informed consent to participate was obtained in return. Ethical approval for the study was obtained from the National Health Research Ethics Committee of Nigeria (NHREC/01/01/2007-04/08/2023), Sokoto State Ministry of Health, Nigeria (SMH/1580/V.IV), Enugu State Ministry of Health (MH/MSD/REC21/460), Cross River State Ministry of Health (CRS/MH/HREC/023/Vol.V1/261), and the Taraba State Ministry of Health (TRSHREC/2023/APP/035) [Appendix 1]. This study was conducted per the Declaration of Helsinki.

Results

Results are presented according to the study objectives, which include information on the design, success, and implementation challenges of the SSHIS in Nigeria, drawn from administrators and service providers within the scheme across the study states. These stakeholders' suggestions for improving the coverage and sustainability of the scheme are also reported.

Table 3 Demographic characteristics of the stakeholders interviewed

Characteristics	Numbers (*n*) (*N* = 30)
Sex	
Male	23
Female	7
State/affiliations	
Cross-River/CRSHIA	3
Enugu/ESA UHC	4
Kwara/KWHIA	7
Oyo/OYSHIA	8
Taraba/TSCHIA	3
Sokoto/SOCHEMA	5
Job title	
SSHIS Agency officer	6
Health ministry officer	5
Healthcare provider	8
a. public- primary health center	5
b. public - secondary facility	3
c. private	
Community leader	3

Characteristics of the stakeholders/informants

Thirty (30) informants were interviewed across the six states for this study. Their demographic characteristics are shown in Table 3.

Design of the SSHIS across the states

Beneficiary categories and premium structures

The health insurance schemes across the six states cover vulnerable groups, the formal sector, and the informal sector populations. The Basic Health Care Provision Fund (BHCPF) ensures free healthcare for vulnerable individuals such as children, pregnant women, and the elderly. The informal sector pays a nominal annual premium, while the formal sector often has payroll deductions. Each state has unique enrollment processes and premium rates, aiming to provide broad access to healthcare through government support and community contributions. While some states have included both the formal and informal sectors in their schemes, others, like Enugu and Cross River states, were yet to fully capture the informal sector, and Sokoto state was yet to integrate its formal sector workers.

"For now, we have the BHCPF covering for the vulnerable. So, as we are saying, this category of service is being provided in all 168 facilities in the state, and as I'm talking to you, we have over 50,000 enrollees accessing the services in these 168 facilities. Apart from that, you

have what is called the formal sector, and we have what is called the informal sector. The informal sector; they pay a little token, whereby they can access the service." **TSCHIA Agency officer**, **Taraba.**

"SOCHEMA has a few different enrollment groups. There are formal sector workers, but they can't join yet. For informal sector workers, there's an annual premium of 12,000 Naira to enroll in SOCHEMA. Finally, there are vulnerable people like pregnant women and children who get covered for free through a government program or donations through the BHCPF." **SOCHEMA Agency officer**, **Sokoto.**

"This scheme is free for the poor or the poorest, and at least in Oyo State today, we have registered 45,000 people under it this year, and the people make use of it statewide. It is the same amount whether you are a civil servant or a shoemaker. The only difference is the mode of payment and the plan you purchase. The plan ranges from 4,000 Naira (pensioners plan) to 485,000 Naira (no longer available)." **OYSHIA Agency officer**, **Oyo.**

"We have the BHCPF - a government-sponsored program for the vulnerable. We are yet to start the state social insurance. The formal and informal sectors are not yet fully participating in the program due to a lack of government enforcement. However, the proposed premium fee is 12,000 Naira per year." **ESA UHC Agency officer**, **Enugu.**

The BHCPF covers five key categories: children, pregnant women, the elderly, displaced people, and the disabled. For the formal sector, a monthly deduction of N1,000 is made from their salary for enrollment into the health insurance scheme. In the informal sector, we have begun the process, although it is slow. A few people have registered from the informal sector. So right now, the process is on to accredit some private health facilities that will cater to their health needs. **CRSHIA Agency officer**, **Cross River.**

"Everybody and anybody resident in the state is classified into three sections. We have the indigents, the informal, and the formal. Indigents, of course, are people who don't demonstrate the capacity to pay. They are 100% subsidized through the equity fund of the government through the BHCPF, as well as community development associations. The premium is 6000 Naira per year for the informal, and 9000 Naira for the formal sector. We are in the process of doing another actuarial review, so it may change." **KWHIA Agency officer**, **Kwara.**

Benefits packages: services covered by the SSHIS

According to all agency officers, primary healthcare centers (PHCs) serve as the initial contact point, offering essential diagnostic and treatment services. When PHCs cannot provide necessary care, patients are referred to secondary or tertiary facilities. Health insurance generally covers essential services, with primary and secondary services often provided under a capitation model, where a fixed amount per person covers various tests and treatments throughout the year. However, some secondary and tertiary services, especially specialist care, may require additional fees based on specific tariffs. For instance: "Services like teeth polishing may be covered only once per year by Kwara Care, with costs settled separately outside the capitation arrangement." **PHC Provider**, **Kwara Care.**

Success of the SSHIS

Improved health indices

Across the states, the SSHIS was associated with improved health indices related to UHC goals. In Oyo and Kwara states, for example, this was reported in terms of improved service quality, better health behaviors and health services utilization, reduced number of sick days and economic loss, and financial risk protection for the ill. In Enugu and Cross River states, increased satisfaction with the health system and quality of life was reported among beneficiaries:

"Our health indices have improved. The overarching goal is to have a healthier state so that we can grow more economically. Having better health reduces disease burdens and gets more people back on their feet and ready to take care of their families. Those are the success stories that we have." **Kwara Care Stakeholder.**

"There is improvement in the health indices, and that is key. Also, there is a renovation of the primary health care center as the agency brought a standard that the government is following." **OYSHIA Stakeholder.**

"The community is happy with the health facility. This health center has helped us so much because the majority of the people living here are commoners. Our women are delivering for free. So many people. There are people who [would have] preferred to deliver to their house [s] but because of this universal health coverage thing, they now come to the facilities, they deliver, and they go, they have no problem, and they don't pay. So many people benefit when they get sick, including myself…they give me some medications. The community is happy with it." **Community Leader**, **Enugu.**

"When we initially called for enrollment, people saw it as fake. Some reluctantly came out and were captured. The [enrolled] people were so happy that they received free healthcare services without paying a dime. When they are happy, I am!" **Secondary facility provider**, **Cross River.**

Improved health infrastructure

Improved health infrastructures were also noted across the states due to extensive facility renovation exercises following the launch of the schemes. In particular, the

renovation of the primary healthcare centers enhanced access to quality services, resulting in increased healthcare service uptake. This was particularly emphasized by stakeholders from Enugu, Cross-River, and Oyo states:

"The scheme has undeniably improved healthcare facilities since its introduction. Access to quality healthcare services has increased, with more people opting for hospital services over traditional medicine due to the availability of free healthcare under the scheme." **CRSHIA Agency Officer.**

"The introduction of the State health insurance scheme has indeed helped improve healthcare services. Facilities that were previously underutilized have seen an increase in activity, with more clients and patients accessing services. The scheme has provided financial support to health centers for infrastructure upgrades and day-to-day operations, leading to improved service delivery." **ESA UHC Agency Officer.**

Enhanced care access equity

Access to free healthcare services for the vulnerable and poor represents a big impact of the SSHIS, especially in the states with an indigent or equity plan for the least financially capable residents. This has improved the equity of access to care in the states. In Taraba, for instance, the TSCHIA successfully provides free healthcare services to over fifty thousand people, improving access to primary healthcare, especially for children, women, and pregnant women in rural areas. Similarly, in Sokoto and Enugu states, the health insurance scheme has received positive feedback, increased antenatal care attendance, reduced maternal deaths, and provided support for people with disabilities:

"I'm happy that more than fifty thousand are accessing care free of charge. That makes me sleep well, and that is what the government wants to see, to ensure that lives have been impacted, especially in the areas of health." **TSCHIA Agency Officer.**

"The program has enabled individuals, especially in rural areas, to access primary healthcare services, particularly for children, women, and pregnant women, leading to better uptake." **MOH Taraba.**

"The feedback we are getting is mostly positive; that they've been to the hospital, and they have been attended to, and they have not paid any money. We have also witnessed an increase in ANC attendance, and a reduction in maternal deaths in some of the basic healthcare provision fund-supported facilities. Also, people living with disabilities who cannot take care of themselves in terms of healthcare now know that there is a scheme that works for them." **SOCHEMA Agency Officer.**

Strengthened health finance system

Furthermore, the SSHIS was noted to enrich the health financing system in some of the states, with increased funding acquisition from external bodies and partners who are interested in supporting care for specific subpopulations. In Taraba state, for instance, some organizations like UNICEF support maternal and child health services, and ProHealth, an NGO, supports care for children living with HIV/AIDS:

"The federal government covers about 75% of the cost, and we provide the remaining 25%. We pool resources from several sources: contributions from the formal sector, premiums from the informal sector, and payments from private companies. We tell them, "Your husband, you, and your four children will receive free health services." In addition, we have support from organizations and NGOs. For example, we are in talks with UNICEF to support services for about 10,000 children and pregnant women. Paying a ₦12,000 premium for each amount to roughly ₦120 million. We also have support from RICE in training, capacity building, and infrastructure, and from ProHealth, which is currently enrolling children in villages. Any child under five years living with or affected by HIV will receive free health services. Overall, we are working with many partners to bring quality healthcare services directly to Taraba residents." **MOH Officer, Taraba.**

Implementation challenges of the SSHIS

Despite notable achievements, SSHIS operations across the states face several implementation challenges that impact coverage, sustainability, and efficiency. These challenges broadly relate to public awareness and buy-in, government processes and payment delays, economic factors such as funding gaps and inflation, manpower shortages, and environmental issues like insecurity and facility inaccessibility — all of which affect the ability to effectively serve the growing number of enrollees. A rundown of the challenges across the states is given below, showing overlaps:

In Kwara State, challenges like funding issues, public apathy, affordability concerns, inflation, drug shortages, and insecurity were reported. Delayed business plan approvals and facility accessibility are also problems:

"There have been many external factors affecting the implementation of the scheme. Funding, apathy towards governmental initiatives, and perceptions about the affordability of the scheme have been significant challenges. Additionally, issues like inflation, reduced buying power, lack of drug sufficiency, and even security concerns pose obstacles to effective implementation." **Kwara Care Agency Officer.**

"Delayed approval of business plans by the State Primary Health Care Development agency affects the

smooth running of facilities and leads to stock shortages. Also, distance to facilities is a challenge for many patients, impacting accessibility and service utilization. **PHC Kwara.**

In Cross River State, SSHIS implementation faces challenges including manpower shortages, inadequate distribution of beneficiary cards—especially among civil servants—and limited involvement of Ward Development Committees. This is further expressed as some interviewees stated:

"The major challenge lies in the shortage of manpower, particularly health workers. Many facilities lack sufficient staff, impacting the delivery of comprehensive care to beneficiaries. This shortage has a ripple effect, affecting the overall implementation of the state health insurance scheme." **CRSHIA Agency Officer.**

One of the primary challenges facing CRSHIA is the inadequate distribution of cards to eligible beneficiaries, particularly among civil servants. This issue is attributed to a human resource capacity gap. As a result, many contributors are unable to access healthcare services despite their contributions. **MOH, Cross River.**

"Challenges include poor infrastructure maintenance and a lack of support for Ward Development Committees (WDCs). Many WDC members provide undervalued voluntary services, leading to feelings of being overlooked." **Community leader, Cross River.**

In Enugu State, stakeholders reported challenges related to government accountability, economic factors such as inflation and insecurity, manpower shortages, and public skepticism. In addition, reliance on NHIS price lists and reimbursement issues—including inadequate or delayed capitation and service charge payments—also hinder operations.

"Challenges in the implementation of the scheme include government accountability, economic factors such as inflation, and insecurity, which affect enrollment in certain areas due to restricted movement. Additionally, issues such as manpower shortages, poor facility location, and initial public skepticism have posed obstacles to effective implementation." **ESA UHC Stakeholder.**

"One significant challenge faced in the implementation of the scheme is the reliance on NHIS price lists, leading to restrictions on the use of certain medications. Inflation further compounds these challenges, making it difficult for providers to sustain operations solely through the scheme. Moreover, the scheme's popularity among providers has waned due to perceived profit limitations and reimbursement issues." **Secondary facility provider, Enugu.**

In Sokoto state, non-commencement of the formal sector plan, poor awareness and uptake, and lack of political will were the overarching challenges. Similar issues, including security challenges, were also pressing in Taraba state.

"Lack of commencement of the formal sector. It is the backbone of health insurance. Secondly, [There] is poor awareness and uptake of the scheme among the populace. Lastly, there is a lack of political will from the government. **SOCHEMA Agency Officer.**

"Community members report that there are many essential services that are not covered by SOCHEMA." **Community leader, Sokoto.**

Awareness creation and sensitization were significant challenges initially, as people were not aware of the program. Also, security challenges in some areas hindered access to certain communities." **TSCHIA Agency Officer.**

"Lack of awareness regarding the operation of the scheme leads community members to request free treatment without the necessary registration procedures." **PHC provider, Taraba.**

"Lack of enrollment of the formal sector, which is more enlightened and should take the lead in enrollment, is a significant challenge. **MOH Officer, Taraba.**

Lastly, in Oyo state, OYSHIA challenges include high staff turnover, especially among private sector partners, inadequate capitation rates, delays in approvals, and financial constraints:

"For private hospitals, it is staff turnover; we have to keep training. You train some people today, and in a month, they are no longer in the system. That affects us so much." **OYSHIA Agency Officer.**

"We don't have many problems. The only challenge is that we want the Agency to increase their capitation because it is very poor, and we don't blame them." **Private facility provider, Oyo.**

"At times, it takes time for follow-up to get to them. So, if OYSHIA could shorten the number of days between the time the letter is being submitted and the time it's being approved, it would be so much appreciated." **PHC provider, Oyo.**

"The only areas I can say we have challenges are finances. At times, you have to write, revise, and repeat your visit before you can get your approval from OYSHIA to buy drugs and operation packs, so it usually takes time at times. At times, our staff at OYSHIA don't get their salary on time. Most times, we will have to borrow and pay our staff because we do not like to lose them because of money." **Secondary facility provider, Oyo.**

Stakeholders' recommendations to the challenges of the SSHIS

We categorized the recommendations from our informants across the states into those promoting uptake or coverage of the scheme and those promoting the scheme's sustainability.

Recommendations to improve the coverage of the SSHIS

Creating better awareness of the SSHIS and the benefits of enrollment in each state was a common recommendation to promote the scheme coverage among the informants. Strategies suggested to improve awareness and subsequent enrollment include consistent advocacy and community engagement via the WDCs, door-to-door campaigns, SMS technologies, and word-of-mouth promotion by current beneficiaries, and also by addressing security challenges in conflict-affected zones to expand access. Expanding the portfolio of covered services, levying an affordable premium, and attracting more private investment and private providers into the scheme were also suggested:

"Advocacy and community engagement are key. Community mobilization through the community leaders and religious leaders should be explored in scaling up our advocacy efforts," **MOH, Kwara.**

"We can explore sending bulk SMS for people to come out and enroll in the scheme". **Secondary facility provider, Cross River.**

"Enhance WDC recognition and support, provide proper incentives, ensure inclusive health insurance coverage, and improve infrastructure maintenance. Also, strengthen community involvement and government support to sustain healthcare initiatives." **Community leader, Cross River.**

"The government should increase funding to improve awareness creation, provide commodities, treatments, renovate facilities, and enhance human resources for health. Also, stakeholders should address security challenges to ensure access to all communities." **TSCHIA Agency Officer.**

"Stakeholders should encourage beneficiaries to inform others about the program to enhance coverage." **PHC provider, Taraba.**

"There is a need for private investment in healthcare to expand coverage and facilities, especially in areas lacking adequate infrastructure." **MOH, Taraba.**

"I am calling on the government and key players involved to keep putting efforts to increase the [service] capacity of the scheme." **Community leader, Sokoto.**

"They should not rely solely on radio communication but should instead find more direct ways to engage with the communities, such as going door-to-door as they do for other health programs. Additionally, if they want to talk to us, they should invite us. They need to increase the staffing levels, make the program more accessible to the community, and allocate more resources to it. Also, reducing the price of enrollment could potentially increase participation." **Community leader, Oyo.**

Recommendations to promote the sustainability of the SSHIS

Sustainability-focused recommendations from the stakeholders addressed the policy, funding, remuneration, and manpower challenges facing the scheme. Employing more health providers and ad-hoc staff and offering better remuneration packages were suggested to address staffing issues. Revising the capitation policies and payment and pricing system was recommended, especially by private providers. Increasing funding for the scheme via regular disbursement and expansion of BHCPF support, timely release of equity funds, and leveraging political contributions towards healthcare funding were also emphasized. Other recommendations include publicizing research findings on the scheme's performance, improving basic and primary healthcare services, strengthening intra-state collaboration among SSHIS agencies and other health agencies, and streamlining communication processes among stakeholders:

" The government should enforce laws supporting the scheme and ensure timely payment of counterpart and equity funds. Also, the government should invest in staffing and infrastructure upgrades for healthcare facilities. Lastly, stakeholders should recruit and train healthcare professionals to improve service delivery."**ESA UHC Agency Officer.**

"Providing motivation and incentives to existing staff members is essential, considering the lack of ability to employ additional personnel." **PHC Provider, Enugu.**

"A revised NHIS fee-for-service model would incentivize more healthcare providers to participate, ultimately benefiting the state's healthcare landscape." **Secondary Provider, Enugu.**

"Provision for hiring ad-hoc staff to alleviate service delivery challenges is important. Also, the State Primary Health Care Development agency should expedite business plan approvals to address operational delays. One way they can do this is by redesigning their website to facilitate business plan submission and approval processes, ensuring timely execution of services." **PHC provider 2, Kwara.**

"Efforts should be made to impanel all contributors promptly to receive care, thereby aligning with the program's objectives. The government should provide 100% enabling environments and release the 25% counterpart funding to strengthen human resources for health, renovate and rehabilitate more health facilities, and expand BHCPF support." **MOH officer, Cross River.**

"OYSHIA should re-examine the national policy regarding capitation, and fee for service payment. They should review their policy." **Secondary Provider, Oyo.**

"All state governments should ensure a prompt release of equity funds to cover the vulnerable population. Political office holders should contribute a percentage of their salary towards funding healthcare for their

constituency. Researchers should make their findings public to shed light on the challenges and help find solutions." **SOCHEMA Agency Officer.**

Let the state government improve basic healthcare and primary healthcare services. PHC is key to universal health coverage. **Secondary facility provider**, **Sokoto**.

"We should strengthen synergy between SOCHEMA and its partners such as the ministry and PHCDA." **MOH**, **Sokoto.**

Discussion

This study explored the design, impact, and implementation challenges of the SSHIS in Nigeria, contributing the previously under-documented views of the state actors and supporting the monitoring and evaluation efforts to strengthen this subnational health insurance initiative. Overall, our results suggest that the SSHIS across the Nigerian states are at different stages of implementation and have recorded measurable successes. However, the schemes also face significant implementation or operational bottlenecks requiring corrective policy actions.

The SSHIS initiative is considered a reform to correct the design and implementation defects of the parent NHIS, such as over-centralization, the complexity of health maintenance organization (HMO) involvement, skewness to the formal sector, and voluntary participation [5]. Our data suggests SSHIS implementation across the states shows different fidelity levels in adhering to the prescribed design of the scheme. Fidelity in the implementation research context is a measure of adherence to the standard protocol of a strategy or program. It may indicate the pragmatism and accessibility of the instructions and/or competency and hesitancy of the implementer [30]. In our study, none of the six states operated a mandatory SSHIS in contrast to the 2022 NHIA Act statutes, and they had different informal sector penetration in the early phases. However, they all implemented the BHCPF and vulnerable group fund to capture their least financially capable and special-needs subpopulations. This may reflect the states' discretion to tailor their SSHIS design and implementation to their institutional capacity and socioeconomic realities. In agreement, Ipinnimo et al. [31] argued that Nigeria's large population size, high poverty level, low governmental priority of health funding, corruption, and health supply- and demand-related issues all pose an obstacle to implementing a mandatory insurance system in the country. The authors suggested that addressing these obstacles systematically is a prerequisite for a mandatory insurance scheme implementation [31]. However, in the meantime, stakeholders should organically build interest in the SSHIS to ensure the voluntary participation model does not impede the scheme coverage and impact, as seen with the NHIS [5].

Nevertheless, our findings revealed that SSHIS implementation has yielded significant positive outcomes in the operating states. Across our study states, there are reports of improved health indices such as improved healthcare utilization, antenatal care attendance, maternal mortality reduction, and free healthcare access for enrolled beneficiaries. We also found evidence of infrastructural development and health funding system strengthening due to the scheme's implementation. These findings are similar to that of a study that performed an in-depth assessment of different health financing mechanisms across the Federal Capital Territory, Niger State, and Kaduna State where beneficiaries reported a significant reduction in OOP payments for healthcare services [32]. Similarly, a study that assessed the influence of healthcare access through health insurance on the health behaviors of the enrollees of the SSHIS in Anambra state, in southeast Nigeria, reported a positive change in enrollees' health-seeking behavior post-enrollment [33]. Additionally, Ikechukwu et al. [12] also reported that about 95% of enrollees in the Abia State scheme were willing to continue their enrollment due to the benefits of the scheme. However, it is important that the scheme is continually strengthened to maintain its service quality, premium affordability, and positive impacts when the enrollee population grows. As pointed out by Adewole et al. [10]. in the OYSHIA study, a cumulative 35% enrollee dropout rate in the third year was recorded as the enrollee base expanded. The authors also noted that the skewed formal sector participation might imply a stronger capacity or better positioning to pay the premium compared to the informal sector enrollees [10].

Despite the successes, the implementation and operation of the SSHIS across the states faces notable challenges, threatening its sustainability and impact. We found a range of barriers relating to public awareness and uptake, governmental disposition, economic conditions and inflation, manpower shortage, and some insecurity and facility inaccessibility issues affecting the schemes as they expand. These challenges are familiar issues affecting the older social health insurance schemes in the country [34], as well as in many other sub-Saharan African countries [35–41]. Insufficient government funding remains a common challenge, further compounded by low beneficiary participation, which inadvertently reduces the funding pool and threatens the scheme's sustainability [40], [41]. This also affects the quality of service and enrollee satisfaction and retention [34, 37]. Furthermore, addressing the regulatory complexities and problems of personnel integration, motivation, and remuneration is critical. Equally, surmounting the front-end challenges such as public apathy, distrust, and poor awareness of the health insurance system is also important. Some studies have reported that regulatory failures,

complex operations with HMOs, and workforce insufficiency accounted for some lapses with the NHIS [42, 43].

The recommendations gathered in the study are relevant to the identified challenges [10, 33, 43]. Increasing government funding is important across all states to guarantee the financial sustainability of SSHIS, especially in the face of inflation and rising healthcare costs. However, some studies have emphasized that SSHISs need to be efficient in health spending, improve transparency and accountability, and consider affordability while setting insurance premiums for different categories of enrollees [44]. However, beyond the traditional recommendation of increasing government spending, one informant proposed that "political office holders should contribute a percentage of their salary towards funding healthcare for their constituency." This is an interesting suggestion for boosting government funding at both the national and subnational levels. It is particularly relevant when considering how eager aspiring and elected Nigerian politicians often are to implement free medical outreach programs for citizens in their constituencies. Implementing this proposal could significantly expand the funding pool for healthcare. Improved infrastructure, adequately equipped healthcare facilities, and consistent provision of drugs are necessary to improve service delivery.

In addition, addressing human resource issues by hiring, training, and retaining qualified healthcare workers will reduce manpower shortages and improve service quality. In support, Nandi et al.. also highlighted the need for state governments to improve the available health services and facilities, as increased coverage does not automatically translate to equitable healthcare accesswithout service improvement [45]. However, future studies may reassess and measure the identified key challenges in quantitative terms for adequate characterization and prioritization; for example, determining the extent and impact of insecurity on SSHIS service delivery in affected zones or conducting a revenue-based analysis for the SSHIS to identify the source of funding constraints. Furthermore, feasibility and cost-benefit analysis studies may look into the effectiveness and viability of proposed strategies and policy interventions, such as assessing the impact of healthcare providers' workforce development programs on SSHIS coverage or sustainability outlook, where adopted. Furthermore, future research should investigate what factors limit community mobilization and enrollment; how existing funding can be used efficiently to provide high-quality services to enrollees; the level of insurance coverage in conflict-affected states; and how conflict influences health insurance enrollment and utilization. Furthermore, studies should investigate what factors influence enrollment and re-enrollment, as well as how public-private partnerships impact coverage and service quality.

From the foregoing, some actionable policy recommendations supported by findings from this study and existing literature [10, 35–46] are summarized in supplementary material 1.

Limitations

Notwithstanding the strength of our findings, we acknowledge the limitations brought on by our use of purposive sampling and reliance on self-reported data from participants. The possibility of bias from these sources warrants caution in the interpretation of the findings, especially in generalizing the recommendations offered. However, we contend that the broad geographic representation among the participants and the systematic approach to our analysis may offset the bias and enhance the validity and robustness of our findings.

Conclusion

This study uncovered the views of the administrative stakeholders of the SSHIS in Nigeria towards a holistic evaluation of the scheme's performance, impact and challenges beyond user experience or report analyses. Findings from the study indicate that the SSHIS is relevant and adaptive toward achieving UHC in Nigeria, with evidence of positive impact on state health indices, health infrastructure development, access equity, and health funding systems. Challenges standing in the way of these impacts include low awareness and apathy among the populace, complex governmental procedures, inadequate or delayed service charges and capitation payments, insufficient funding in the face of rising costs, healthcare provider workforce shortage, facility inaccessibility, and insecurity in some contexts. Addressing these barriers is critical for the scheme's continual success and viability. To this end, stakeholders highlighted critical policy action points to enhance SSHIS coverage via concerted community engagement efforts. Additionally, raising the scheme funding and revenue base and improving the remuneration packages for participating service providers were most emphasized to promote quality service delivery and SSHIS sustainability in Nigeria.

Abbreviations

OOP	Out-of-pocket
SSHIS	State-Supported health insurance schemes
CRSHIA	Cross river state health insurance agency
ESA UHC	Enugu state agency for universal health coverage
KWHIA	Kwara state health insurance agency
OYSHIA	Oyo state health insurance agency
TSCHIA	Taraba state contributory health insurance agency
SOCHEMA	Sokoto state contributory healthcare management agency
HMO	Health maintenance organization (HMO)
WDC	Ward development committee
SCT	Social cognitive theory

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12889-025-23941-4.

Supplementary Material 1

Acknowledgements
We extend our sincere gratitude to the following individuals for their invaluable assistance in transcribing the audio data: Tolulope Joseph Ogunniyi, Amaka Muoneke, Victor Kolade, Gloria Kimondo, Mercy Etta, Victoria Aiyegbusi, and Musibika Faith Brenda.

Author contributions
FBE - Conceptualization, Data Collection, Analysis, Writing, and Approving the final version for submission; IHA – Writing and Approving the final version for submission; RDD – Writing, Methodology, Analysis, and Approving the final version for submission; DAO - Analysis and interpretation of data, Drafting of the article, Proofreading and copyediting, and Approving the final version for submission; DAA - Conceptualization, Review, Critical edits, and Approving the final version for submission.

Funding
Royal Society of Tropical Medicine and Hygiene (RSTMH) Small Grants Programme (2022).

Data availability
The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
Ethical approval was obtained from the National Health Research Ethics Committee (NHREC/01/01/2007-04/08/2023) and the ethical committees of various state ministries of health [Appendix 1]. Written informed consent was also obtained from every respondent in the study [Appendix 2]. A letter of introduction was written to all the KII stakeholders who participated in the study.

Consent for publication
Not Applicable.

Competing interests
The authors declare no competing interests.

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Received: 22 December 2024 / Accepted: 10 July 2025
Published online: 07 August 2025

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