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Impact of Awareness Campaigns on Social Health Insurance Uptake in Bayelsa State, Nigeria

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ABSTRACT

Social health insurance (SHI) in Bayelsa State, Nigeria, aimed to enhance healthcare access and reduce out-of-pocket expenditures through pooled financial resources. Despite the implementation of awareness campaigns to promote SHI, significant gaps in enrolment and knowledge persisted among diverse populations. This study evaluated the impact of radio, television, and stakeholder engagement campaigns on SHI enrolment decisions, perceived value, and ongoing participation. It sought to identify the reach and effectiveness of these campaigns across different geographic and demographic segments. A mixed-methods approach was employed, combining quantitative surveys and qualitative interviews. A structured questionnaire was administered to a sample of 600 participants across urban, rural, riverine, upland, and coastal communities. Data collection took place through face-to-face interviews and was supplemented with stakeholder discussions to capture contextual barriers and enablers related to SHI. The findings revealed that traditional media, particularly television and radio, were the most effective channels for disseminating information about SHI, with significant engagement reported among respondents. Awareness of the financial benefits of SHI was high, with 42% recognizing its role in reducing out-of-pocket expenses. The chi-square test indicated a strong association between awareness of SHI and knowledge of eligibility criteria, while linear regression analysis confirmed that the awareness campaigns positively influenced both SHI uptake and financial protection. The study concluded that effective awareness campaigns significantly enhanced the understanding and uptake of social health insurance in Bayelsa State. It underscored the necessity for tailored communication strategies that leverage traditional media and address contextual barriers to achieve broader enrolment and sustained participation in SHI initiatives.

INTRODUCTION

In recent years, the quest for universal health coverage (UHC) had become a defining goal for many nations, particularly in developing countries where access to healthcare remains a significant challenge. In Nigeria, social health insurance (SHI) has emerged as a promising approach to mitigating the financial barriers that prevent individuals from seeking necessary medical care. Bayelsa State, located in the Niger Delta region, serves as a critical case study in the implementation and uptake of SHI, especially in the face of economic disparities, high poverty rates, and unique geographical challenges. Despite the potential benefits of SHI, including financial protection against catastrophic health expenditures and improved access to essential health services, enrolment levels had remained suboptimal. One of the pivotal strategies employed to enhance the uptake of SHI in Bayelsa State had been the execution of awareness campaigns aimed at informing the public about the existence and benefits of these programs. These campaigns were designed to demystify the complexities of social health insurance, clarify eligibility criteria, and elucidate the processes involved in enrolment. However, the effectiveness of these campaigns was contingent upon various factors, including the clarity of messaging, the channels used for dissemination, and the socio-cultural context of the target population. The impact of these awareness campaigns on the uptake of social health insurance in Bayelsa State was multifaceted. While increased awareness could lead to higher enrolment rates, it was essential to recognize that information alone was not sufficient to drive behaviour change. Factors such as trust in health institutions, perceived quality of care, and the administrative capacity of the SHI scheme also play critical roles in influencing individuals' decisions to participate. Additionally, the geographical diversity within Bayelsa spanning urban, rural, riverine, upland, and coastal communities necessitates tailored approaches to outreach that resonate with the unique cultural and linguistic characteristics of each demographic. This study would explore the dynamics of awareness campaigns on SHI uptake in Bayelsa State, examining the extent to which these initiatives had succeeded in reaching various population segments, the barriers that persisted despite these efforts, and the implications for sustainable health financing in the region. By critically analyzing the intersection of awareness, enrolment processes, and community engagement, this study aims to contribute valuable insights into how to optimize SHI strategies for improved health outcomes and financial protection in Bayelsa State and beyond. Ultimately, understanding the impact of awareness campaigns on social health insurance uptake was crucial for informing policies and practices that facilitate equitable access to health services for all citizens.

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LITERATURE REVIEW

Social health insurance (SHI) was a system that pooled contributions from workers, employers, and often government subsidies to finance and provide access to a defined package of health services. It operated on the principles of risk pooling and solidarity, with funds gathered into a collective pool that spread financial risk across a large group and protected members from catastrophic health expenditures. Participation was sometimes mandatory, while in other contexts it was voluntary for specific population groups, but the overarching aim remained ensuring broad coverage and financial protection (Kumar, 2014; Talesh, 2015). Contributions typically flowed from payroll deductions and employer matches, supplemented by government subsidies or cross-subsidies for informal workers and vulnerable populations (Silwamba *et al.*, 2025). The collected funds supported a standardized benefit package that usually included outpatient and inpatient care, medicines, and selected preventive services, though the breadth and depth of benefits varied by country, region, and the design of the SHI scheme. Administration rested with statutory funds, social health insurers, or government agencies, and access to services was often routed through a network of approved providers who agreed to reimbursed rates and standardized quality standards. Social health insurance systems often featured portability of benefits within the scheme, enabling individuals to access care across different providers without losing coverage. The model also reflected a form of fiscal solidarity, wherein higher-income groups subsidized care for the poor or vulnerable, thereby subsidizing risk for those who could not afford to participate fully on their own. In practice, the effectiveness of SHI depended on enrolment density, the comprehensiveness of the benefit package, the quality and reliability of care, and the efficiency of administration and enrolment processes. Across different contexts, SHI varied in structure: some countries maintained national or multi-payer SHI funds supported by payroll taxes with uniform benefits, while others operated additional private providers within a social framework or relied on tax-based elements to complement the system. Social health insurance was often viewed as a path toward universal health coverage (UHC) when it successfully extended coverage to informal workers, dependents, and marginalized groups, or when it bridged gaps through subsidies and inclusive enrolment policies. In Nigeria, discussions around SHI focused on frameworks such as the National Health Insurance Authority (NHIA) and state-level arrangements, where awareness campaigns sought to boost enrolment and renewal by clarifying eligibility, costs, benefits, and enrolment procedures. The impact of these campaigns depended on how well they translated into informed decisions, actual enrolment, and sustained participation, as well as on the credibility of the institutions administering SHI and the perceived quality of care within the system. Social health insurance (SHI) had evolved as a prominent health financing mechanism at both global and sub-Saharan levels, emerging from a history of social solidarity and risk pooling that sought to reduce catastrophic health expenditures while enhancing access to essential services. Globally, SHI had been shaped by diverse institutional arrangements, ranging from national or multi-payer funds funded through payroll contributions to subsidized private plans operating within a social framework. Its development occurred within a broader movement toward universal health coverage (UHC), as nations experimented with blended financing strategies that combined social protection with market-based mechanisms, public subsidies, and tax-based elements to extend coverage to vulnerable populations. Scholars noted that the rationale for SHI rested on several core principles. First, risk pooling allowed for the redistribution of financial risk across a broad base, mitigating the impact of illness on individual households. Secondly, mandatory or strongly encouraged participation was believed to produce higher enrolment densities, which in turn improved the sustainability of financing pools and the bargaining power of purchasers for better quality and lower prices. Thirdly, SHI commonly featured a defined benefit package, standardized benefits, and provider networks that ensured predictable reimbursements and some degree of quality control. These features collectively contributed to reduced out-of-pocket payments and acted as a conduit toward financial protection, one of the central goals of UHC (Hosseinpoor *et al.*, 2011; Uzochukwu *et al.*, 2015). At the global level, analyses highlighted that SHI operated under a spectrum of designs. Some countries implemented universal, compulsory SHI funds supported by payroll taxes with uniform benefits, while others combined SHI with tax-based financing to cover non-employed or informal populations. The relationship between SHI and UHC was frequently framed as complementary rather than mutually exclusive; SHI could serve as a bridge to UHC if it successfully reached informal workers and dependents through subsidies and inclusive enrolment policies, and if governance, effectiveness, and service delivery quality were maintained (Nay *et al.*, 2016; Tangcharoensathien *et al.*, 2015). Comparative studies suggested that the success of SHI depended on several contextual factors, including macroeconomic conditions, administrative capacity, political commitment, and the credibility of the institutions administering the schemes (Chukwuezie *et al.*, 2025). The literature also emphasized that effective SHI required not only financial risk pooling but also strong governance mechanisms, transparent expenditure controls, and robust stewardship of public health services (Amiesimaka & Payam, 2025; Meenaghan & Washington, 1980). Within sub-Saharan Africa, SHI faced distinctive challenges and opportunities shaped by economic structures, informal employment prevalence, and health system constraints. Several countries introduced or expanded SHI schemes as part of broader reform agendas aimed at increasing revenue collection, reducing

out-of-pocket expenditure, and expanding access to essential medicines and services. Researchers documented that the implementation of SHI in the region often grappled with high informal sector participation, which complicated revenue streams and risk pooling. To address these challenges, some pilots and programs experimented with mixed financing models, combining payroll-based contributions from formal-sector workers with government subsidies or donor support to extend coverage to informal workers and vulnerable groups (Hussey & Anderson, 2003; Petrou *et al.*, 2018). Studies also highlighted governance and administrative hurdles, such as enrolment barriers, limited awareness, and trust deficits in public institutions, which undermined participation and perceived quality of care. Critically, the literature underscored that the design and execution of SHI in sub-Saharan Africa influenced health outcomes and financial protection differentially across countries and populations. In contexts where SHI was well integrated with primary health care services and where enrolment processes were streamlined, some improvements in utilization of services and reductions in catastrophic health expenditures were observed. Conversely, where SHI faced weak administrative capacity, fragmented provider networks, or limited benefit packages, the protective effects remained constrained. Researchers stressed that SHI's potential benefits were contingent on effective governance, credible benefit differentiation, and meaningful engagement with communities to ensure that schemes reflected local needs and preferences. Scholars also examined the role of external actors in shaping SHI trajectories in sub-Saharan Africa. International organizations, partner countries, and donor-funded programs influenced policy choices through technical assistance, funding, and governance reforms. While external support could catalyse reform and provide essential resources, critics argued that misaligned incentives and unsustainable financing arrangements could jeopardize long-term viability if not carefully managed. The literature thus advocated for context-sensitive design, phased implementation, and rigorous monitoring and evaluation to identify best practices and tailor SHI models to country-specific conditions. In summary, the global and sub-Saharan perspectives on SHI reflected a complex interplay of aims toward financial risk protection, equitable access to essential health services, and progress toward UHC, set against the backdrop of diverse economic realities and health system capabilities. The evidence indicated that SHI had potential as part of a broader health financing strategy, but its success rested on careful design choices, robust governance, and sustained political and financial commitment. As many scholars concluded, SHI would likely be most effective when integrated with strong primary health care, inclusive enrolment strategies, and continuous efforts to build trust in public health institutions, while remaining adaptable to local socio-economic contexts and health system constraints.

Social health insurance (SHI) in Nigeria and specifically in Bayelsa State had represented a landscape of policy experimentation, implementation challenges, and gradual progress toward financial protection and improved access to essential care. Nationally, SHI had been anchored by the National Health Insurance Authority (NHIA), established to extend coverage beyond formal-sector workers and to catalyse a broader move toward universal health coverage (UHC). The NHIA pursued a mix of mandatory and voluntary participation, aiming to pool risks across income groups and reduce out-of-pocket payments through a standardized package of services. In practice, uptake remained uneven, and enrolment levels fluctuated with economic conditions, administrative capacity, and public trust in government institutions. Bayelsa State, situated in the Niger Delta region, had faced unique health financing dynamics shaped by its economic structure, high poverty rates in certain communities, and varying levels of health infrastructure. The state had endeavoured to align SHI with its development plans by leveraging NHIA frameworks while exploring sub-national reforms intended to broaden coverage to informal workers and rural populations. Policy analysts noted that Bayelsa's SHI experimentation occurred within a context of governance constraints, including limited administrative capacity, multi-layered authority, and occasional fiscal volatility that affected enrolment subsidies and service delivery financing. Campaigns to raise awareness about SHI and elucidate eligibility, benefits, and enrolment procedures had been implemented, albeit with inconsistent reach across urban and rural localities. Scholars contended that the Nigerian SHI model highlighted both potential and fragility in achieving broader financial protection. On the positive side, SHI efforts aimed to reduce catastrophic health expenditures by pooling resources across formal and informal sectors, expanding access to a defined benefits package, and fostering a purchaser-provider relationship anchored in standardized reimbursement mechanisms. In Bayelsa, proponents argued that SHI could catalyze improvements in primary health care utilization if enrolment was effectively linked to reimbursement rates that incentivized quality care and if service delivery bottlenecks were addressed. Moreover, the NHIA concept of risk pooling resonated with policy ambitions to shield households from sudden medical costs, particularly for vulnerable groups and households with limited savings. However, the Nigerian experience also bore cautionary lessons. Enrolment densities in formal sectors had sometimes failed to translate into meaningful coverage gains for the informal sector, where most Bayelsa residents earned livelihoods and faced barriers to enrolment, renewal, and ongoing contribution payments. Advocacy and awareness efforts sometimes reached only segments of the population, leaving gaps in knowledge about entitlements, premium subsidies, and claim procedures. Administrative hurdles, including complex enrolment processes, limited provider networks, and delays in reimbursements, had undermined trust and

reduced perceived value of SHI among potential enrolees in Bayelsa and other states. Critics argued that without robust governance, transparent financing, and credible improvements in health service quality, SHI would struggle to achieve durable uptake.

In Bayelsa, the interaction between SHI design and local health system performance appeared critical. When SHI enrolment aligned with functional primary health care networks, with transparent claims processing and responsive facilities, communities demonstrated greater willingness to participate, renew, and advocate for expanded benefit packages. Conversely, where administrative capacity lagged, or where beneficiaries perceived low quality of care and limited access to medicines, enrolment rates declined or stagnated. Researchers noted that political commitment at both state and federal levels matters, as sustained funding for subsidies, administrative support, and capacity-building determined the viability and credibility of SHI initiatives in Bayelsa. The Bayelsa experience also reflected the influence of external partners and donors who provided technical assistance, funding, and governance guidance. While such support sometimes accelerated the roll-out of SHI pilots and enhanced training for enrolment staff and community volunteers, concerns emerged about long-term sustainability if donor-driven priorities diverged from local needs or if financing remained overly contingent on external funds. Scholars emphasized that for Bayelsa to progress toward broader SHI coverage, it was essential to integrate SHI with strong primary health care, improve service delivery quality, simplify enrolment and renewal processes, and engage communities through trusted local institutions and leaders. In a nutshell, the Nigeria and Bayelsa experience highlighted a trajectory wherein SHI carried the promise of reducing out-of-pocket expenditures and expanding access to care, but success depended on coherent policy design, credible governance, and the alignment of financing with health system capacity and public trust. The literature suggested that Nigeria's path toward UHC through SHI would have benefited from deeper formalization of informal-sector contributions, expanded and diversified funding sources, and ongoing reforms to ensure timely reimbursements, adequate provider networks, and meaningful beneficiary education. For Bayelsa, achieving durable gains would have required sustained political commitment, targeted subsidies for the poor and vulnerable, and community-centred strategies to improve enrolment, retention, and perceived value of SHI within the local health ecosystem.

The impact of awareness campaigns and enlightenment on the uptake of social health insurance (SHI) services had been a central concern for policymakers aiming to expand coverage and reduce out-of-pocket expenditures. Across diverse settings, awareness campaigns were designed to inform populations about the existence of SHI, define eligibility, clarify premium arrangements, enumerate benefits, and demystify enrolment procedures (Bugshan *et al.*, 2022; Ram Dhungana *et al.*, n.d.; Seymour, 2018). In many contexts, these campaigns sought to shift knowledge into informed demand, recognizing that lack of information and misconceptions often served as significant barriers to enrolment and sustained participation. Campaigns had typically employed a mix of channels, including mass media, community mobilization, door-to-door outreach, and increasingly digital platforms, to maximize reach and reinforce consistent messaging. The choice of channels often reflected local sociocultural dynamics, literacy levels, and geographic distribution, with rural areas sometimes receiving targeted, face-to-face engagement through community health workers and local leaders. Messages framed the SHI package as a shield against catastrophic health expenditures, highlighting predictable costs and access to a defined benefits package, while also emphasizing the social solidarity ethos that underpinned such schemes. Enrolees were encouraged to view SHI as an investment in family welfare and national development, rather than a mere administrative requirement. The uptake of SHI services showed a responsive pattern to well-executed enlightenment efforts. In several settings, increases in awareness correlated with higher enrolment rates, more frequent renewals, and reduced dropout, suggesting that knowledge and perceived value were pivotal determinants of sustained participation. When campaigns achieved high recall and comprehension, self-reported intentions to enrol translated into concrete actions, particularly when enrolment processes were streamlined and easily navigable. Campaigns that integrated success stories, testimonies from trusted community figures, and transparent explanations of benefits tended to bolster trust and mitigate fears of misuse of funds or of limited service quality. Nevertheless, the effectiveness of awareness campaigns often depended on supporting conditions beyond information alone. Enrolment gains frequently levelled off if enrolment infrastructure remained weak, if premium subsidies were inadequately funded, or if health facilities experienced stockouts and long waiting times. In such cases, enlightened demand could not be fully converted into sustained utilization, underscoring the necessity of aligning information campaigns with service delivery improvements. Trust in government institutions also emerged as a critical moderator; communities with prior positive experiences or credible service providers demonstrated higher responsiveness to enlightenment efforts, whereas skepticism about governance often dampened the conversion of awareness into enrolment. The typology and intensity of messaging matter as well. Campaigns that offered clear eligibility criteria, transparent fee structures, and straightforward enrolment steps tended to reduce perceived complexity and resistance, particularly among populations with lower literacy. Reassurance about portability of coverage, the possibility of family-based enrolment, and the protection of future care contributed to heightened perceived value. Conversely, campaigns that relied on technical jargon, vague benefits, or inconsistent

communications tended to generate confusion, leading to partial or delayed uptake. Contextual factors shaped the outcomes of awareness and enlightenment initiatives. In settings where SHI schemes were embedded within broader social health protection frameworks and linked to quality primary health care, enlightenment efforts complemented service delivery improvements, producing stronger enrolment momentum and higher utilization of SHI services. In contrast, environments characterized by weak administrative capacity, fragmented provider networks, or mistrustful attitudes toward public institutions often experienced only modest gains from information dissemination alone. External support from international partners and donors could amplify outreach and resource availability, but sustainability depended on local governance, alignment with national policy directions, and the integration of enlightenment activities into routine health system operations. Methodologically, researchers had relied on a spectrum of approaches to assess impact, including before-and-after evaluations, cross-sectional surveys measuring exposure to campaigns and enrolment status, and quasi-experimental designs exploiting staggered rollouts of outreach programs. Findings consistently indicated that exposure to well-designed campaigns with culturally appropriate messaging and credible messengers increased knowledge about SHI benefits, eligibility, and enrolment procedures, and that this enhanced knowledge often accompanied higher uptake and renewal rates (Osunde *et al.*, 2023). However, the magnitude of effects varied across countries and regions, influenced by economic conditions, educational attainment, urban-rural disparities, and the strength of health system performance. Policy implications stressed that enlightenment efforts should be an integral component of SHI implementation strategies rather than a one-off activity. Effective programs combined transparent communication with improvements in administrative efficiency, timely reimbursements to providers, and reliable service delivery. They also emphasized participatory design, engaging community leaders, civil society organizations, and beneficiaries in message development to ensure cultural relevance and legitimacy. In sum, the literature suggested that awareness campaigns and enlightenment had the potential to catalyze greater uptake of SHI services, provided they were embedded within a comprehensive package of reforms that addressed both information gaps and the practical obstacles to enrolment and ongoing utilization.

Theoretical Framework

Historically, theories of change in communication and campaigns for insurance uptake posited that information dissemination would shift knowledge, which would in turn alter attitudes, intentions, and finally behaviours related to enrolment and utilization. Early approaches assumed a relatively linear trajectory: increased exposure to messages about insurance benefits, affordability, and enrolment procedures would raise awareness, spark demand, and lead to higher uptake. Campaigns relied on straightforward messaging about the existence of coverage, the financial protections offered, and the procedural steps required to enrol, with the expectation that informed individuals would convert awareness into action. Over time, theorists acknowledged that information alone rarely sufficed to change behaviour. Theories evolved to incorporate social and contextual determinants, recognizing that individuals operated within social networks, cultural norms, and institutional environments that shaped responses to campaigns. Social Diffusion/ Social Influence Concepts gained prominence, suggesting that uptake could be accelerated when trusted community members, leaders, or peers endorsed insurance and shared positive enrolment experiences. Campaigns leveraged these social channels, using respected messengers to enhance credibility and legitimacy, which moderated the impact of information on decision making.

The Bayelsa insurance program had also employed communication and awareness campaigns for insurance uptake across multiple channels and stakeholder groups, and the approaches reflected several theory-informed perspectives. The Information/Linear Theory of Change posited that the program had operated under the assumption that information dissemination would raise knowledge, which would then translate into intention and ultimately enrolment (Gilissen *et al.*, 2017; Harris, n.d.). Campaigns had scheduled and delivered clear messages through radio and television broadcasts, stakeholder engagement meetings, and public communications with the Board of Trustees, private school proprietors, associations of private hospital owners, market women, religious groups, and business owners. The content had explained eligibility, premium structures, benefits, and enrolment procedures in straightforward terms, while contact points and enrolment steps had been made visually and verbally explicit. Evaluations had tended to measure increases in reach, message recall, and basic knowledge without extensive assessment of attitudinal or behavioural mediators, and enrolment and renewal figures were treated as the final indicators of success. The Social Diffusion/Influence Theory under the diffusion/ influence lens, posited that the program had leveraged social networks and trusted figures to propagate uptake. Campaigns had engaged stakeholders—Board of Trustees representatives, religious and community leaders, and association executives—as opinion leaders and credible messengers who could normalize enrolment and model participation. Radio and TV slots had featured testimonials from early adopters and respected community figures, while stakeholder meetings had facilitated peer-to-peer conversations and social proof. The strategy had aimed to create perceived norms that enrolment was expected and approved within communities, accelerating diffusion through word-of-mouth, endorsements, and visible participation in enrolment events. The Diffusion of Innovations Theory applied the diffusion framework; the program had treated enrolment as an innovation that

spread from early adopters to the broader population (García-Avilés, 2020). Early-engaged groups, such as influential business owners, school proprietors, and hospital association leaders, had been targeted to pilot and publicly adopt the SHI scheme. Demonstrations, enrolment drives at stakeholder gatherings, and media features had showcased tangible benefits, ease of access, and the presence of credible support systems. Campaigns had highlighted observability and trialability by organizing enrolment booths at meetings and public venues, inviting communities to witness real enrolment experiences and to try the process themselves before scaling up to wider districts. The Social Marketing/ Behavioural Economics Theory from a social marketing and behavioural economics perspective, the program had designed audience-centred campaigns that framed insurance uptake as a valued, desirable behaviour. Messages had been segmented to address diverse groups—market women, private school communities, medical practitioners, and business owners—and framed in terms of family protection, financial security, and social responsibility. Communications had used persuasive storytelling, relatable spokespersons, and culturally resonant framing to increase perceived value and reduce perceived barriers (Dhami & A Al-Nowaihi, 2012). Enrolment processes had been simplified, with clear calls to action, step-by-step guidance, and assistance offered during stakeholder meetings and media engagements. Incentives, where available, had been integrated to motivate early participation, while feedback loops had informed iterative refinements to messaging and delivery channels. Across these theoretical lenses, moderators such as literacy levels, language diversity, urban-rural distribution, trust in institutions, prior experiences with health services, and the credibility of participating organizations had influenced effectiveness. In practice, the program had often blended elements from multiple theories to maximize impact: straightforward information for baseline understanding (Information/Linear), trusted community voices to establish norms (Social Diffusion/ Influence), demonstrations of real enrolment experiences (Diffusion of Innovations), and value-oriented, audience-specific messaging with simplified enrolment support (Social Marketing/Behavioural Economics). The overall takeaway was that sustained uptake required not only informative content but also credible messengers, observable benefits, user-friendly enrolment pathways, and alignment with broader service delivery improvements and governance transparency.

The Bayelsa insurance program also used communication and awareness campaigns for insurance uptake through the lenses of the Health Belief Model (HBM) and the Theory of Planned Behaviour (TPB). The Health Belief Model had framed enrolment decisions around perceived susceptibility to financial hardship from illness and the perceived severity of medical costs, emphasizing that without coverage households faced substantial out-of-pocket burdens. Messages had highlighted the benefits of insurance as protection against these costs, as well as the predictable access to a defined benefits package, while detailing premium arrangements and enrolment steps to reduce ambiguity (Berger *et al.*, 2023; Limbu *et al.*, 2022). Perceived barriers, such as complexity, affordability, and distrust, had been addressed by clarifying subsidies where available, offering assisted enrolment, and presenting simplified processes during stakeholder meetings with the Board of Trustees, private school proprietors, hospital owners, market women associations, religious groups, and business owners. Cues to action—reminders about enrolment windows, deadlines, and upcoming outreach events—had been employed to prompt timely decisions, while efforts to boost self-efficacy included demonstrations of the enrolment process and on-site assistance at radio, television, and in-person forums. Evaluations had tended to assess changes in perceived susceptibility, severity, benefits, barriers, self-efficacy, and cue-to-action frequency, alongside shifts in enrolment and renewal rates. From the Theory of Planned Behaviour perspective, the campaign had aimed to shape attitudes toward insurance, strengthen perceived behavioural control, and influence subjective norms (Capasso *et al.*, 2024; Corace *et al.*, 2016; Lino *et al.*, 2014). Messages had cultivated positive attitudes by emphasizing peace of mind, financial protection for families, and the social responsibility of protecting livelihoods, while also showcasing credible endorsements from respected stakeholders during engagement meetings and media appearances. Subjective norms were strengthened by portraying enrolment as a socially approved and expected action within communities, with testimonies from community leaders, associations, and trusted figures who participated in the program. Perceived behavioural control was enhanced by simplifying enrolment procedures, offering assistance at enrolment events, and providing clear information about eligibility, premiums, and payment options, including available subsidies. The campaigns had sought to increase intentions to enrol, with the expectation that stronger attitudes, norms, and perceived control would translate into higher actual enrolment and timely renewals. In practice, the Bayelsa program had often blended elements from both models to maximize impact. For example, information about susceptibility and severity under the HBM had been paired with messages designed to improve attitudes and norms under TPB. Demonstrations of easy enrolment had supported both perceived ease of enrolment and tangible demonstrations of benefits, while reminders served as cues to action and as nudges toward maintaining coverage. Contextual factors such as literacy, language diversity, trust in institutions, urban-rural differences, and prior experiences with the health system had moderated effectiveness, with campaigns that engaged diverse stakeholder groups and used locally credible messengers tending to yield stronger outcomes. Overall, the use of communication and awareness campaigns anchored in the Health Belief Model and Theory of Planned Behaviour

indicated that knowledge alone was insufficient; aligning beliefs, norms, perceived control, and practical enrolment pathways was essential to achieving durable uptake.

Statement of the Problem

The problem had been framed as a persistent gap between outreach efforts and population reach. Although the Bayelsa insurance program had conducted radio and television campaigns, along with stakeholder engagement meetings aimed at diverse groups, large segments of rural, urban, riverine, upland, and coastal communities had remained unreachable. Enrolment and renewal rates in these areas had not met expectations, leaving significant portions of residents uninsured or underinsured. It had become evident that information dissemination alone had fallen short of translating awareness into sustained uptake, signalling the need for deeper engagement, tailored delivery strategies, and improvements in both enrolment processes and service delivery. Another articulation highlighted a misalignment between outreach intensity and on-the-ground realities. Campaigns had mobilized the Board of Trustees, private school proprietors, associations of private hospital owners, market women, religious groups, and business owners, yet reach across geographically dispersed communities had lagged. Barriers such as affordability, administrative complexity, and delays in reimbursements persisted, dampening the motivation to enrol despite exposure to campaigns. Trust and legitimacy concerns, alongside linguistic and cultural diversity, had further impeded message resonance and enrolment conversions. A third framing emphasized system-level constraints that impede uptake. Even with concerted communications across multiple channels, enrolment facilitators had remained unevenly distributed, and enrolment officers had been insufficient in number or geographic coverage. Subsidy design, eligibility clarity, and perceived quality of care had continued to influence decisions to enrol and renew, underscoring that outreach needed to be coupled with administrative streamlining and service delivery improvements. The overarching problem, therefore, was not merely a lack of information but a combination of informational gaps, operational bottlenecks, and context-specific barriers that prevented universal uptake. A final perspective described the problem as a situational mismatch between the program's ambitious communication aims and the population's lived realities. While stakeholders had been engaged and messaging tailored to various groups, the reach required to achieve universal health coverage had yet to be realized. The analysis concluded that future efforts would need to integrate culturally attuned outreach with practical enrolment supports, subsidies calibrated to local means, and dependable, quality health services to ensure that awareness translated into durable enrolment and ongoing use of insurance services.

Justification of the Study

The justification of the study was anchored in the recognition that the Bayelsa insurance program had deployed broad communication and awareness campaigns across radio, television, and stakeholder engagement forums, engaging audiences such as the Board of Trustees of companies, private school proprietors, associations of private hospital owners, market women, Muslim groups, the Christian Association of Nigeria, and associations of business owners, among others, to promote and communicate their services. Despite these concerted efforts, substantial churn persisted among rural and urban populations, as well as people living in riverine, upland, and coastal communities, who had remained unreachable by outreach activities. This gap signalled that dissemination alone had not sufficed to translate awareness into durable uptake, and it underscored the need to interrogate the effectiveness of communication strategies within the broader health financing ecosystem of Bayelsa State. The study's justification rested on several interrelated dimensions. First, there existed a knowledge gap: stakeholders and program implementers possessed practical experience with outreach modalities, yet systematic documentation and analysis of how these campaigns influenced enrolment decisions, perceived value, and ongoing participation were limited. Secondly, there was an absence of robust empirical evidence linking specific communication channels, messages, and stakeholder alliances to measurable changes in SHI uptake, especially in heterogeneous contexts characterized by riverine geographies, upland settlements, and coastal communities with distinct cultural and linguistic profiles. Thirdly, the persistence of uninsured or underinsured populations suggested that information dissemination faced contextual barriers—such as affordability, administrative complexity, trust deficits, and service-delivery constraints—that required integrated examination beyond mere messaging. From a policy perspective, the justification emphasized the imperative to inform decision-makers about how to optimize resource allocation for communication campaigns, ensuring that funds translated into meaningful gains in enrolment and retention. If campaigns were to be scaled or adapted to other states, evidence was needed on which combinations of messengers, channels, and messages yielded the strongest uptake effects under varying socio-economic and geographic conditions. The study aimed to illuminate whether engagement with diverse stakeholder groups enhanced legitimacy and trust, whether media campaigns achieved resonance in multilingual and culturally diverse communities, and whether supportive enrolment processes and service delivery improvements were necessary complements to awareness efforts. Methodologically, the justification rested on the expectation that a rigorous inquiry—employing mixed methods to capture both quantitative uptake indicators and qualitative insights into community perceptions, barriers, and enablers—would generate actionable findings. Such an approach was anticipated to reveal not only the magnitude of campaign effects but also

the mechanisms through which information translated into enrolment behaviour. The anticipated contributions included clarifying the roles of trust, social norms, and perceived feasibility in driving uptake, identifying logistical and organizational constraints that hindered reach, and offering evidence-based recommendations for refining the theory of change underlying Bayelsa's insurance communication strategy. In a nutshell, the study's justification rested on the convergence of practical experience with a persistent outreach gap and a paucity of rigorous evidence on how communication and awareness campaigns affected insurance uptake. By investigating the effectiveness of current campaigns and their interaction with context-specific barriers and health-system constraints, the research sought to provide a robust, contextually grounded basis for designing more effective, equitable, and sustainable pathways to universal health coverage in Bayelsa State.

General objective

To evaluate how radio, television, and stakeholder-engagement campaigns influenced enrolment decisions, perceived value, and ongoing participation in Bayelsa State's social health insurance framework, while identifying reach and effectiveness gaps across diverse geographies and populations.

Specific Objectives

a. To characterize reach by identifying which population segments and geographic areas (rural, urban, riverine, upland, coastal) were reached and which remained elusive.
b. To assess contextual barriers that constrained campaign penetration and effectiveness.
c. To examine the content, channels, and modalities of messaging used in stakeholder engagements and mass-media outreach, evaluating alignment with audience needs, cultural relevance, language appropriateness, and trust-building.
d. To evaluate the consistency and clarity of messages about eligibility, premiums, benefits, and enrolment procedures across channels.
e. To explore enablers and constraints of enrolment processes (including subsidies, administrative simplicity, and provider-network reliability) and determine how information dissemination interacted with service delivery to drive uptake.

Research Questions

a. How had the Bayelsa insurance program's radio, television, and stakeholder engagement campaigns reached rural, urban, riverine, upland, and coastal communities, and which population groups or geographies had remained unreachable?
b. What had been the associations between exposure to these communication campaigns and initial insurance uptake, renewal behaviour, and continuity of coverage, and which mediating factors (e.g., perceived value, perceived barriers, trust in institutions) had explained these relationships?
c. Which content, channels, and messaging modalities had proved most effective in engaging diverse stakeholder groups (e.g., Board of Trustees, private school proprietors, private hospital owners, market women, religious associations, business owners) and in fostering credible, locally resonant communication?
d. What barriers and enablers had influenced enrolment processes, including subsidy design, affordability, administrative simplicity, and provider-network reliability, and how had these factors moderated the translation of awareness into durable uptake?
e. How had contextual factors (geography, literacy, language diversity, socio-economic differences, and governance capacity) shaped the reach and effectiveness of communication campaigns, and what evidence had emerged to inform enhancements to the theory of change guiding Bayelsa's insurance communication strategy?

Scope and limitations

Scope

a. The study had encompassed the Bayelsa insurance program's communication efforts, including radio and television campaigns, stakeholder engagement meetings, and outreach to diverse groups such as the Board of Trustees, private school proprietors, associations of private hospital owners, market women, religious organizations, and business owners, in order to assess uptake and engagement across Bayelsa State.
b. It had focused on exploring reach across rural, urban, riverine, upland, and coastal communities, while examining the relationship between campaign exposure and enrolment outcomes, including initial uptake and renewal behaviour.
c. The inquiry had examined content, channels, and modalities of messaging, as well as barriers and enablers within enrolment processes (e.g., subsidies, affordability, administrative simplicity, and provider-network reliability).
d. It had considered contextual factors such as geography, literacy, language diversity, socio-economic differences, and governance capacity to understand how these influenced reach and effectiveness.
e. The study had aimed to generate evidence-driven recommendations for refining the theory of change underlying Bayelsa's insurance communication strategy and for informing policy and practice in similar settings.

Limitations

a. The study had faced limitations related to data quality and availability, as systematic, longitudinal enrolment data were incomplete or inconsistently recorded across different districts and time periods.
b. It had relied on a combination of retrospective reports, stakeholder interviews, and cross-sectional observations, which constrained causal inference about the impact of communication campaigns on uptake.
c. Potential recall bias and social desirability effects might have affected respondent accounts of exposure to

campaigns and enrolment decisions.

d. Given the geographic and infrastructural diversity in Bayelsa, achieving uniform reach and measurement across riverine, upland, coastal, and remote rural areas had remained challenging, potentially biasing estimates of campaign effectiveness.

e. The study had faced constraints in isolating the effects of communication campaigns from concurrent health-system interventions, subsidy adjustments, and broader socio-political dynamics that also influenced enrolment.

f. Language, literacy, and cultural differences across communities had complicated message assessment and uptake interpretation, limiting the generalizability of findings beyond Bayelsa or similar contexts.

g. Time and resource constraints had restricted the ability to implement and assess more rigorous experimental designs (e.g., randomized or quasi-experimental approaches) that could strengthen causal inferences about the campaigns' impact.

MATERIALS AND METHODS

Study Design

The study design had been conceived as a mixed-methods, exploratory assessment to illuminate how Bayelsa's insurance communication campaigns influenced uptake while accommodating the state's geographic and socio-cultural diversity. It had integrated quantitative components to describe patterns of exposure, reach, enrolment, and renewal, drawing on available campaign records, media reach metrics, and enrolment data across rural, urban, riverine, upland, and coastal communities. Simultaneously, it had embedded qualitative components to capture stakeholder perspectives, community experiences, and perceived barriers and enablers through in-depth interviews, focus group discussions, and key informant interviews with representatives from groups such as the Board of Trustees, private school proprietors, associations of private hospital owners, market women, religious organizations, and business owners. The quantitative strand had been designed to generate descriptive statistics on campaign exposure, awareness levels, and uptake indicators, and to explore associations between exposure variables and enrolment outcomes using cross-sectional analyses and, where possible, time-anchored comparisons. The qualitative strand had been structured to yield rich contextual narratives about message resonance, trust, cultural and linguistic relevance, and practical obstacles in enrolment processes, with thematic analysis guiding the synthesis of findings. Sampling had involved purposive selection of districts and communities representing Bayelsa's heterogeneity, complemented by convenience samples of stakeholders and community members for interviews and discussions. Data collection had occurred through review of campaign materials, media logs, and enrolment records, as well as through interviews and discussions conducted in local languages where necessary, with translations and back-translations ensuring interpretive accuracy. Triangulation had been employed to integrate quantitative and qualitative insights, enhancing the credibility of conclusions about reach, effectiveness, and context-specific determinants of uptake. The study had also contemplated a flexible design to accommodate potential longitudinal elements, recognizing that sequential data on campaign exposure and enrolment over time could yield stronger inferences about causal pathways, though practical constraints might limit the depth of temporal analysis. Ethical considerations had guided recruitment and consent processes, confidentiality protections, and respectful engagement with communities and stakeholders, ensuring that findings would be reported responsibly and with sensitivity to local norms. Overall, the study design had been crafted to balance rigor with practicality, aiming to generate actionable knowledge about communication strategies for insurance uptake in Bayelsa while acknowledging the complexities and constraints inherent in operating within diverse riverine, upland, coastal, and urban settings.

Study Area

Bayelsa State is located in the southern part of Nigeria, in the Niger-Delta region. It is bordered by Rivers State to the West and Delta State to the East with a long span of Atlantic Ocean at the south. The capital city is Yenagoa. Bayelsa has a population of about 2,537,400 with a landscape area of 9,391 km2 (NPC, 2022). Demographic data for Bayelsa State indicates that most of the population belongs to the Ijaw ethnic group, which is the dominant ethnic group in the state. Other minority ethnic groups include the Ogbia, Nembe, and Epie-Atissa. The main languages spoken in Bayelsa State are Ijaw, Epie-Attisa, Isoko, Urhobo and English. Bayelsa State has a predominantly Christian population, with Christianity being the major religion practiced in the state. However, there are also adherents of other religions, including traditional Africans religions and Islam. The economy of Bayelsa State is predominantly petroleum resources, as the state is in the oil-rich Niger Delta region. Bayelsa has one of the largest crude oil and natural gas deposits in Nigeria, with the Oloibiri Oilfield being the site of the country's first oil discovery. Other mineral raw materials found in the state include salt, agro raw materials include cassava, plantain, rice, and fish.

Study Population

The study population had a broad cross-section of stakeholders, communities, and individuals connected to Bayelsa State's insurance communication initiatives, reflecting the state's geographic and sociocultural diversity. At the core, the population included residents of rural, urban, riverine, upland, and coastal communities, whose varying access to media channels, health services, and enrolment opportunities shaped patterns of exposure and uptake. Within the stakeholder sphere, the program had engaged a range of groups, including members of the Board of Trustees of companies, private school

proprietors, associations of private hospital owners, market women, associations of Muslim groups, the Christian Association of Nigeria, and associations of business owners, among others, as conduits for messaging, mobilization, and feedback. Household units had represented a key unit of analysis for uptake outcomes, while individuals within those households offered detailed perspectives on knowledge, beliefs, and logistical barriers related to enrolment. The study population had spanned diverse age groups, educational backgrounds, income levels, and employment statuses, capturing urban residents with varying degrees of literacy and rural residents with different patterns of media use and health-seeking behaviour. In recognition of Bayelsa's geographic plurality, the population had included people living in riverine corridors, upland settlements, and coastal towns, each presenting unique access challenges to information, enrolment centres, and health facilities. Community-level participants had encompassed local leaders, religious figures, market associations, school administrators, health facility managers, and nongovernmental organization representatives who influenced norms, trust, and messaging receptivity. Throughout the study, researchers had aimed to capture both the breadth and depth of the study population's experiences, recognizing that nuanced insights from diverse participants would be essential to understanding how communication strategies translated into uptake and sustained engagement with Bayelsa's insurance programs.

Sample Size Determination

To calculate the sample size for the study on impact of awareness campaigns on social health insurance in Bayelsa State, Nigeria, we used a formula suitable for unknown population sizes. Given that the population size was unknown and infinite, we applied Cochran's formula for sample size estimation. The formula is as follows:

$n_o = Z^2 \times p(1-p)/E^2$

Where:

n_o = required sample size

Z = Z-value (the number of standard deviations from the mean for a given confidence level)

p = estimated proportion

E = margin of error

Given:

p = 0.5 (5%)

Z = 1.96 (confidence interval of 95%)

E = 0.04 (margin of error of 4%)

Calculation:

Using the assumed margin of error of 0.04, we could calculate the sample size:

Substitute the values into the formula:

$n_o = (1.96)^2 \times 0.5 \times (1-0.5)/(0.04)^2$

Calculate:

$Z^2 = (1.96)2 \approx 3.8416$

$(1-p) = 1-0.5 \approx 0.5$

$p(1-p) = 0.5 \times 0.5 \approx 0.25$

$E^2 = (0.04)^2 = 0.0016$

$n_o = 3.8416 \times 0.25 / 0.0016$

$= 0.9604 = 600.25 \approx 600/0.0016$

Thus, the final sample size calculated for the study was 600 participants.

Sampling Technique

The sampling technique had combined purposive and probability-based elements to capture Bayelsa's geographic and socio-economic diversity. Eight local government areas (LGAs) had been selected for the study, followed by mapping of communities and settlements within those LGAs across upland, riverine, and coastal zones. Households had been identified and assigned random numbers for selection, enabling a probabilistic household sampling approach while ensuring representation across the geographic and socio-cultural spectrum. Within each selected community, purposive criteria had been applied to identify key informants and stakeholder groups, after which a random or systematic method had been used to select household units for survey administration. In addition, business owners, private school owners and proprietors, private hospital owners, members of boards of trustees, government-employed persons, and traders had been sampled to capture diverse perspectives on outreach and enrolment processes. The overall design had balanced deliberate site selection to maximize breadth with randomization at the household level to support generalizability, while considering practical constraints such as accessibility and security.

Selection Criteria

Inclusion Criteria

a. The eight local government areas (LGAs) had been selected for the study, and communities and settlements within those LGAs across upland, riverine, and coastal zones had been considered for inclusion.

b. Households identified and assigned random numbers had been eligible for survey participation, ensuring representation across geographic and socio-economic spectrums.

c. Stakeholder groups, including business owners, private school owners and proprietors, private hospital owners, and members of the Board of Trustees, along with government-employed persons and traders, had been targeted for enrolment by outreach activities and for perspectives on outreach effectiveness and enrolment processes.

d. Participants who possessed direct or indirect exposure to Bayelsa's insurance communication campaigns, as well as those residing in both hard-to-reach and accessible areas, had been eligible.

e. Individuals providing informed consent to participate in interviews, focus groups, or surveys had been included.

Exclusion Criteria

a. Individuals or units lacking informed consent had been excluded.

b. Children and minors where appropriate consent had

not been obtained had been excluded.
c. Respondents who had not resided in the selected LGAs for the minimum defined period had been excluded from exposure-outcome analyses.
d. Households or individuals unable to provide reliable information or who declined participation had been excluded from survey administration or qualitative sessions.
e. Instances of non-residence in the target geographic zones or lack of exposure to campaign materials, where defined, had led to exclusion from specific analyses.
f. Cases with incomplete data critical to the study's analytic requirements had been excluded from certain quantitative analyses to preserve data integrity.

Method of Data Collection

The method of data collection had combined structured survey administration with preparatory and ethical considerations, conducted in a real-time field environment. A structured questionnaire had been used for data collection, designed to capture sociodemographic characteristics, exposure to insurance campaigns, enrolment decisions, and perceived barriers to uptake. To achieve real-time data collection and monitoring, the questionnaire had been configured in Kobo Collect Toolkit, allowing offline data capture in field settings with synchronization when connectivity had existed. Face-to-face interviews had been conducted to complement survey responses with clarifications and richer contextual information, ensuring higher data quality and reducing misinterpretation of questions. Data enumerators had been carefully trained to administer the instrument consistently and to adhere to study protocols. Training had covered consent procedures, question sequencing, handling of ambiguous responses, and the importance of maintaining respondent confidentiality. Ethical issues had been clearly explained to data enumerators, including the rights of respondents, voluntary participation, data security, and procedures for referring participants to appropriate services if sensitive topics arose. Supervisors had monitored fieldwork, performed spot checks for data quality, and ensured adherence to intercoder reliability standards for any coded responses. Overall, the data collection phase had been structured to maximize reliability, validity, and ethical integrity, laying a solid foundation for robust analyses and credible inferences about communication campaigns and insurance uptake in Bayelsa State.

Validity and Reliability Test

The validity and reliability of the study had been addressed through deliberate methodological steps designed to ensure credible measurement and consistent results.

Validity Test

a. The study had pursued multiple facets of validity to strengthen measurement accuracy. Content validity had been established by aligning questionnaire items with the study objectives, the conceptual framework, and the key constructs related to exposure, uptake, and enrolment determinants, with subject-matter experts reviewing items for comprehensiveness and relevance.
b. Face validity had been considered through pilot testing and informal assessments with data collectors and local stakeholders to verify that questions appeared to measure what they intended and were understood as intended in the local context.
c. Construct validity had been examined by evaluating whether the instrument captured the theoretical constructs of interest (e.g., exposure to campaigns, perceived value, barriers to enrolment) and by inspecting relationships among related items that would be expected to co-vary according to the theoretical framework.
d. Criterion-related validity had been approached, where feasible, by comparing survey responses with external indicators such as administrative enrolment records or campaign exposure logs, to assess concordance between self-reported uptake and actual enrolment actions, acknowledging potential limitations in data availability.
e. Content and construct validation processes had informed iterative revisions of items, response options, and skip patterns to minimize ambiguity and measurement error, thereby enhancing the overall validity of the data.

Reliability Test

a. Reliability had been pursued through standardized administration procedures, comprehensive enumerator training, and clear instrument protocols to ensure consistent data collection across interviewers and settings.
b. Internal consistency had been evaluated for multi-item scales intended to measure a single latent construct, using appropriate statistics (e.g., Cronbach's alpha) to assess the coherence of items within each scale, with revisions made to improve reliability where necessary.
c. Test-retest considerations had been contemplated in design, recognizing that repeated measures were not always feasible within the study's cross-sectional data collection window, but where possible, short-term consistency checks had been planned or piloted to gauge stability of responses.
d. Data collection tools had incorporated standardized coding schemes and rigorous field procedures to reduce interviewer-induced variability, and supervision had included spot checks and consistency reviews to ensure uniform application of interviewing protocols.
e. Post-collection data cleaning and validation steps had been implemented to detect and address inconsistent or improbable responses, further supporting the reliability of the analytic dataset.
f. Overall, validity and reliability had been integrated into the study design from the outset, with continuous attention to instrument refinement, training, and quality control to ensure that findings would be credible, reproducible, and informative for understanding the impact of communication campaigns on insurance uptake in Bayelsa State.

Data Management and Analysis

Data management and analysis had been implemented as a sequence of interconnected steps to ensure rigorous handling of study information and robust interpretation of findings. A structured questionnaire had been employed for data collection, designed to elicit relevant socio-demographic characteristics, exposure to campaigns, enrolment decisions, and barriers to uptake, with standardized items to facilitate comparability across respondents. To achieve real-time data collection and monitoring, the questionnaire had been configured in Kobo Collect Toolkit, enabling offline data capture in field settings and synchronization when connectivity had existed. Face-to-face interviews had been conducted to complement self-reported survey responses with clarifications and contextual insights, ensuring richer data quality and reducing misunderstanding of questions. Data collected in the Kobo Collect Toolkit had been downloaded into Microsoft Excel, where initial data cleaning had been performed—checking for missing values, outliers, and inconsistencies, and coding open-ended responses where applicable. Descriptive analysis had been planned and executed within SPSS version 23 to summarize key variables, including frequencies, means, standard deviations, and cross-tabulations, thereby outlining respondent profiles, exposure levels, and uptake patterns. To add depth and context to the descriptive results, XLMiner Analysis Toolkit had been employed to run advanced statistics, such as regression analyses, cluster analyses, and exploratory data analyses, which had helped identify associations, segmentations, and potential predictors of enrolment and renewal. Throughout the data lifecycle, data management practices had emphasized data integrity, security, and traceability. Files had been organized with consistent naming conventions and version control, while back-ups had been maintained to prevent data loss. Data cleaning and analysis scripts had been documented to support reproducibility and audit trails. The word processing and referencing workflow had been managed with Mendeley Referencing Manager, ensuring in-text citations and bibliographies adhered to a consistent citation style and were synchronized with the manuscript draft. Regular checks had been conducted to ensure alignment between the data analyses and the research questions, with results triangulated across quantitative outputs and any qualitative insights from interviews and focus groups. Overall, the data management and analysis had been designed to produce credible, transparent, and actionable findings that could inform policy and practice regarding communication strategies and insurance uptake in Bayelsa State.

Timeline of the Study

Research Planning and Proposal (July 2025): The research plan had been conceived and the proposal had been drafted, aligning objectives with the Bayelsa context, identifying key variables, and outlining the methodological approach, including the mixed-methods design and data management plan. Stakeholders had been consulted, a literature matrix had been developed, and a theoretical framework had been selected to guide the study. The proposal had undergone internal review and revision before submission, and initial budgeting and resource planning had been completed.

Institutional Ethical Approval (August 2025): Ethical approval had been sought and had been granted by the appropriate ethics committee, with reference PHCB/AD/172/Vol.1/p.21. The approval had encompassed study protocols, consent procedures, data protection measures, and plans for dissemination. Documentation had been prepared for researchers and field staff, including informed consent templates and confidentiality agreements.

Data Collection Preparedness (September 2025): Data collection had been prepared, including finalization of instruments, data management procedures, and field logistics. Enumerators had been recruited and trained, and pilot testing had been conducted to refine questionnaire items and interview guides. Data collection teams had been briefed on ethical considerations, safety protocols, and quality control measures. Kobo Collect Toolkit configurations had been checked, and data synchronization workflows had been established to ensure real-time monitoring where possible.

Data Collection (October to November 2025): Data had been collected through structured surveys and face-to-face interviews across selected LGAs. Field teams had adhered to standardized administration procedures, obtained informed consent, and ensured participant confidentiality. Real-time monitoring and supervisory checks had been conducted to ensure data quality, with ongoing troubleshooting of field challenges. Data had been uploaded from Kobo Collect into central repositories, and preliminary cleaning had begun in preparation for analysis.

Report Writing and Dissemination (December 2025 to January 2026): Data analysis had been completed, results had been interpreted in light of the study objectives and theoretical framework, and a comprehensive report draft had been prepared. The manuscript had been prepared for dissemination to policymakers, stakeholders, and the academic community, including executive summaries and policy briefs. A dissemination plan had been developed, outlining workshops, presentations, and potential publications, with timelines for final edits and submission to journals or conferences. The study findings had been packaged for ethical and accessible sharing, with attention to implications for Bayelsa State's insurance communication strategies and potential scalability to comparable settings.

Ethical Consideration

Ethics Committee Approval: The study had obtained ethical clearance from the Ethics Committee of the Bayelsa State Primary Health Care Board, with reference number PHCB/AD/172/Vol.1/p.21. The approval had

encompassed the overall study design, data collection procedures, and participant protections, and it had specified requirements for informed consent, data security, and dissemination. The committee had reviewed and approved study instruments, recruitment procedures, and safeguards for vulnerable participants, and it had stipulated conditions for ongoing oversight and incidental findings management.

Community Consent: Community consent had been pursued through engagement with local authorities, community leaders, and representative bodies prior to data collection. Community gatekeepers had been briefed on the study aims, procedures, risks, and potential benefits, and they had granted permission for access to communities and facilities. In areas where community consent had been sought, the research team had conducted introductory meetings to explain the study at a collective level, address concerns, and obtain a community-level endorsement that complemented, but did not replace, individual informed consent. Any community-level approvals had been documented and kept on file as part of the ethical record.

Individual Consent: Individual informed consent had been obtained from all participants prior to data collection. Participants had been provided with information on the study purpose, procedures, potential risks and benefits, confidentiality protections, and the voluntary nature

Table 1: Respondents' demographic characteristics

Variable	Category	Frequency (n=600)	Percent (%)
	345	21%	
Age	19-34 years	171	28%
	35-54 years	285	48%
	55-60 years	109	18%
	61-70 years	26	4%
	71 years and above	9	2%
Gender	Male	275	46%
	Female	325	54%
	1	0%	
Marital status	Single	116	19%
	Married	411	68%
	Divorce	21	4%
	Separated	31	5%
	Widow	21	4%
Educational level	No formal education	32	5%
	Primary education	74	12%
	Secondary education	327	55%
	Tertiary education	167	28%
Occupation	Artisans	35	6%
	Civil servants	149	25%
	Clergy men	2	0%
	Farmers	82	13%
	Fishermen/women	60	10%
	Petty traders	172	29%
	Students	43	7%
	Retirees	16	3%
	Taxi driver/Keke driver	41	7%
Employment status	Self-employed	92	15%
	Unemployed	348	58%
	Government employed	160	27%
Religion	Christianity	590	98%
	Islam	4	1%
	Traditional	6	1%
Settlement	Urban	172	29%
	Rural	428	71%

of participation, in language that had been culturally appropriate and understandable. Consent forms had been read aloud when necessary, and participants had been given ample opportunity to ask questions and to refuse or withdraw without penalty. For respondents unable to read, the researchers had read the consent information and documented the assent or thumbprint as appropriate. Privacy and confidentiality had been safeguarded through secure data handling, restricted access to identifiable information, and anonymization of data in reports. Where minors or legally dependent individuals were involved, parental or guardian consent had been secured in addition to the minor's assent, in accordance with applicable regulations. Overall, ethical considerations had been rigorously applied to protect participants' rights and welfare throughout the study.

RESULTS AND DISCUSSION

Table 1 provided an overview of the demographic characteristics of respondents involved in social health insurance. The data, derived from a sample of 600 individuals, revealed several key insights into the population's profile. In terms of age distribution, the majority of respondents were between 35 and 54 years old, accounting for 48% of the sample. This was followed by those aged 19 to 34 years (28%), and a smaller proportion of respondents were in the older age brackets, with only 4% aged 61 to 70 years and 2% being 71 years and above. Gender-wise, the respondents were predominantly female, comprising 325 (54%) of the sample, while males represented 275 (46%). Marital status indicated that a significant majority were married 411 (68%), with single individuals making up 116 (19%). The remaining respondents were either divorced, separated, or widowed, each representing a small fraction of the total. Regarding educational attainment, the largest group of respondents had secondary education 327 (55%), while 167 (28%) had pursued tertiary education. A notable 32 (5%) of the respondents had no formal education. Occupationally, the data showed a diverse range of employment, with petty traders being the most common occupation at 172 (29%). Civil servants followed at 149 (25%), while the proportion of artisans, clergy, farmers, fishermen/women, students, retirees, and drivers represented smaller segments of the sample. In terms of employment status, a striking 348 (58%) of respondents were unemployed, highlighting a significant challenge in securing stable employment. Government employees comprised 160 (27%), and self-employed individuals accounted for 92 (15%) of the population. The religious affiliation of the respondents indicated a strong predominance of Christianity, with 590 (98%) identifying as Christian, while only 1% were Muslim and another 1% adhered to traditional beliefs. Finally, the settlement patterns revealed that a majority of the respondents lived in rural areas 428 (71%), compared to 172 (29%) in urban settings. Overall, the demographic characteristics depicted in Table 1 reflected a population with specific social and economic challenges that could influence their access and perspectives on social health insurance.

Table 2 illustrated the sources of information on social health insurance programs as reported by respondents. The data revealed that television and radio were the most commonly cited sources, each accounting for 21% of the responses. Health workers followed closely behind, providing information to 18% of the respondents. Social media was referenced by 7% of individuals, while friends contributed the same percentage. Family members accounted for 9% of the sources of information. Community leaders were mentioned by only 4% of the respondents, and newspapers represented a mere 2%. Religious institutions, such as mosques and churches, were cited infrequently, with only 0% and 11% of respondents reporting them as sources, respectively. Finally, SMS and WhatsApp were mentioned by only 1% of respondents, indicating a limited use of these platforms for disseminating information about social health insurance. Overall, the table highlighted a diverse array of information sources, with traditional media and health workers playing significant roles in educating the public about social health insurance programs.

Table 2: Source of information on social health insurance program

Variable	Frequency	Percent (%)
Television	345	21%
Radio	336	21%
Community leader	59	4%
Newspaper	29	2%
Social media	118	7%
Family member	152	9%
Friends	118	7%
Health workers	296	18%
Mosque	1	0%
Church	169	11%
SMS/WhatsApp	1	0%

Table 3: Frequency of source of information on social health insurance program

Variable	Daily	Weekly	Monthly	Rarely	Never
Source of information					
Television	9	153	146	34	3
Radio	5	157	141	30	3
Community leader	1	31	21	6	0
Newspaper	1	9	15	4	0
Social media	0	52	57	8	1
Family member	2	59	75	16	0
Friends	1	104	74	9	0
Health workers	9	136	103	46	2
Mosque	0	1	0	0	0
Church	6	107	49	7	0
SMS/WhatsApp	0	0	0	0	1

Table 3 provided a comprehensive overview of the various sources through which respondents received information regarding the social health insurance program. The data illustrated that television emerged as the most frequently utilized source, with 153 respondents indicating they accessed information on a weekly basis, while 9 reported daily engagement. A significant number, 146 respondents, mentioned they received updates monthly, while only 34 and 3 respondents claimed they were informed rarely and never, respectively. Radio followed closely behind as another prominent source of information. A majority of respondents, 157, indicated they received information weekly, while 141 did so monthly. Daily engagement was reported by 5 respondents, and the figures for those who received information rarely and never were 30 and 3, respectively. Community leaders were less frequently cited as a source of information, with only 31 respondents reporting weekly engagement and 21 monthly. A total of 6 respondents claimed to have received information rarely, while no respondents indicated they never received information from this channel. In contrast, newspapers were minimally utilized, with only 9 respondents indicating weekly access and a mere 15 monthly. The responses showed that 4 people received information rarely, while none reported never having received information from this channel. Social media served as a moderately popular source, with 52 respondents accessing information weekly and 57 monthly. However, the engagement diminished significantly with only 8 respondents indicating rare access and 1 respondent never using this medium for information. Family members and friends were also important sources, with 59 and 104 respondents, respectively, receiving information weekly. Monthly engagement was reported by 75 family members and 74 friends, while 16 and 9 respondents claimed they received information rarely from these sources, with no one indicating they never received information from either channel. Health workers were another crucial source of information, with 136 respondents receiving information weekly and 103 monthly. The data showed that 46 respondents received information rarely, while only 2 reported never having received information from health workers. Religious institutions, such as mosques and churches, played a lesser role in disseminating information about the social health insurance program. The mosque saw negligible engagement, with only 1 respondent indicating weekly access. In contrast, churches were somewhat more effective, with 107 respondents accessing information weekly and 49 monthly; however, only 7 claimed they received information rarely, and none reported never receiving information from this source. Lastly, SMS and WhatsApp emerged as the least utilized channels, with no respondents indicating they received information via these platforms, except for 1 person who stated they never used this method at all. Overall, the data from Table 3 underscored the significant reliance on traditional media such as television and radio, alongside personal and community connections, while highlighting the relatively limited role of social media and other modern communication methods in disseminating information about the social health insurance program.

Table 4: Respondents' preferred language for information dissemination of social health insurance program

Variable	Frequency	Percent (%)
English	441	37%
Pidgin English	505	42%
Vernacular language (Ijaw dialect)	235	20%
Yoruba dialect	1	0%
Igbo dialect	11	1%

Table 4 illustrated the preferred languages of respondents for disseminating information regarding the social health insurance program. A significant portion of the respondents, 505 individuals, or 42%, favoured Pidgin English as their preferred language for communication. English was the second most preferred option, chosen by

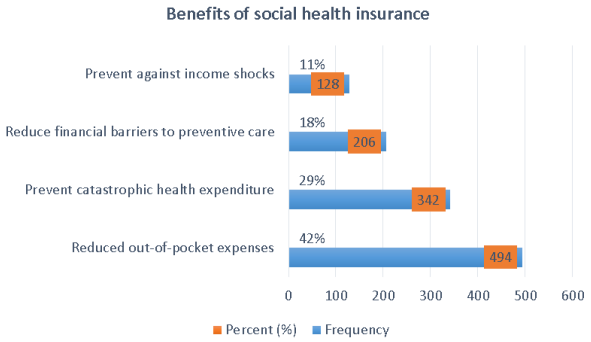

Figure 2: Respondents' knowledge on the benefits of social health insurance program

441 respondents, which accounted for 37% of the total. The vernacular language, specifically the Ijaw dialect, was the preference of 235 respondents, representing 20%. In contrast, the Yoruba dialect was nearly negligible, with only 1 respondent, while the Igbo dialect had an even smaller representation, with just 11 respondents, equating to 1%. This data indicated that the majority of respondents favoured Pidgin English and English for effective communication about the social health insurance program.

Figure 2 illustrated the respondents' knowledge regarding the benefits of the social health insurance program. A significant portion of the respondents, 42%, recognized that the program reduced out-of-pocket expenses, indicating a strong awareness of its financial relief aspects. Additionally, 29% of respondents understood that the program helped prevent catastrophic health expenditures, highlighting its role in protecting individuals from excessive medical costs. Furthermore, 18% acknowledged that the program aimed to reduce financial barriers to preventive care, suggesting that some respondents were aware of its preventive health benefits. Lastly, 11% of participants identified the program's ability to prevent income shocks, reflecting a more limited understanding of this particular benefit. Overall, the responses indicated a varied level of knowledge about the different advantages of the social health insurance program among the respondents.

Table 5: Chi-square test of independence of awareness of eligibility criteria of social health insurance program

OBSERVED			
Variable	**AWARENESS OF SOCIAL HEALTH INSURANCE PROGRAM**		
	No	**Yes**	**Grand Total**
KNOWLEDGE OF ELIGIBILITY CRITERIA			
All residents are eligible	136	448	584
Eligibility is for the elderly and young person's only	39	27	66
Eligibility is for women and children only	22	15	37
Eligibility requires national identity card	12	66	78
Eligibility is for only government employees	25	22	47
Grand Total	234	578	812
EXPECTED			
KNOWLEDGE OF ELIGIBILITY CRITERIA			
All residents are eligible	168.296	415.7	584
Elderly and young persons are eligible	19.020	46.98	66
Women and children are eligible	10.663	26.337	37
Eligibility requires national identity card	22.478	55.522	78
Government employees are eligible	13.544	33.456	47
Grand Total	234	578	812

p-value = 1.486 x 10-15

Table 5 presented the results of a chi-square test of independence, which evaluated the relationship between awareness of the social health insurance program and knowledge of its eligibility criteria. The analysis indicated a statistically significant association between these two variables, as evidenced by the extremely low p-value of 1.486 x 10-15. In the observed data, the majority of respondents who were aware of the social health insurance program believed that all residents were eligible (448 out of 578), while a smaller number thought eligibility was limited to specific groups, such as the elderly and young persons (27), women and children (15), those requiring a national identity card (66), or only government employees (22). The grand total of individuals surveyed was 812. When comparing the observed counts to the expected counts, it was noted that the actual awareness of the programs deviated significantly from what would be expected if there were no association between awareness and knowledge of eligibility criteria. For instance, the expected count for those who believed all residents were eligible while being aware was 168.296, compared to the observed count of 448, indicating a strong positive awareness among respondents. Overall, the findings suggested that greater awareness of the social health insurance program correlated with a more accurate understanding of its eligibility criteria, highlighting the importance of public education and outreach in promoting awareness of such programs.

Table 6: Linear regression analysis of awareness campaign with social health insurance uptake and financial protection

ANOVA								
	df	**SS**	**MS**	**F**	**Significance F**			
Regression	**4**	**41.3925**	**10.3481**	**89.7988**	**0.0000**			
Residual	595	68.5659	0.1152					
Total	599	109.9583						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.4312	0.0822	5.2427	0.0000	0.2696	0.5927	0.2696	0.5927
Insurance uptake	0.3362	0.0293	11.4701	0.0000	0.2786	0.3938	0.2786	0.3938
Provide family health security	0.0595	0.0201	2.9577	0.0032	0.0200	0.0991	0.0200	0.0991
Provide financial risk protection	0.1019	0.0208	4.9110	0.0000	0.0612	0.1427	0.0612	0.1427
Prevention of out-of-pocket expenditure	0.0801	0.0117	6.8606	0.0000	0.0572	0.1030	0.0572	0.1030

Table 6 presented a linear regression analysis that assessed the relationship between an awareness campaign and the uptake of social health insurance, as well as financial protection. The analysis aimed to determine how effectively the awareness campaign influenced these outcomes. The ANOVA results indicated that the regression model was statistically significant, with an F-value of 89.7988 and a p-value of 0.0000. This suggested that the model was a good fit for the data and that the independent variables collectively had a significant effect on the dependent variable. In terms of the coefficients, the intercept was 0.4312, which represented the baseline level of the dependent variable when all independent variables were equal to zero. The coefficient for insurance uptake was 0.3362, indicating that for each unit increase in insurance uptake, there was an associated increase of 0.3362 in the dependent variable. This result highlighted the positive impact of increased insurance uptake on the overall effectiveness of the campaign. Additionally, the variables "Provide family health security," "Provide financial risk protection," and "Prevention of out-of-pocket expenditure" had coefficients of 0.0595, 0.1019, and 0.0801, respectively. Each of these coefficients suggested that as these aspects were emphasized in the awareness campaign, there were corresponding positive increases in the outcomes measured. Specifically, the campaign's focus on financial risk protection was notably effective, with a coefficient of 0.1019, which indicated a strong relationship with the dependent variable. The standard errors for all coefficients were low, and the t-statistics were high, further confirming that the results were statistically significant. The p-values associated with each coefficient were all less than 0.05, indicating that the effects observed were statistically significant at the conventional levels. Overall, the regression analysis demonstrated that the awareness campaign had a significant positive influence on both the uptake of social health insurance and the provision of financial protection, suggesting that public awareness efforts were effective in promoting these essential health services in the past.

Discussions

The findings from this study (Table 1) provided valuable insights into the demographic characteristics of individuals engaged in social health insurance in Bayelsa State, Nigeria. The predominant age group of respondents, aged 35 to 54 years, aligns with the assertion by research findings that middle-aged individuals often exhibit higher engagement in health-related programs due to increased health awareness and responsibilities, such as family care (Ahola *et al.*, 2025; Moudud-Ul-Huq *et al.*, 2021). This demographic trend underscores the importance of targeting awareness campaigns toward this age group, as they were more likely to influence their families' health decisions. The gender distribution revealed a significant majority of female respondents (54%), which was consistent with prior studies indicating that women were often more proactive in seeking health information (Garg, 2016; Halder *et al.*, 2010). This finding suggests that awareness campaigns could benefit from emphasizing female participation, as women were typically the primary caregivers in families and could play a crucial role in promoting health insurance uptake within their communities. Marriage status emerged as a significant factor, with 68% of respondents being married. This finding was supported the fact that married individuals tend to have a greater inclination towards securing health insurance for their families. The implications of marital status on health insurance uptake should be considered in future campaigns, emphasizing the collective benefits of social health insurance for families. Educational attainment played a crucial role in shaping respondents' understanding of social health insurance. The majority (55%) had secondary education, while only 28% had tertiary education. This was in line with research finding, which concluded that higher education levels correlate with greater awareness and acceptance of health insurance schemes (Przybylska *et al.*, 2014). Given that a notable portion of the population had no formal education (5%), awareness campaigns must adopt strategies that cater to varying literacy levels, potentially using visual aids or community-based education programs to enhance understanding. Occupational status reflected significant challenges, notably with 58% of respondents being unemployed. This high unemployment rate echoes the economic hardships prevalent in many regions of Nigeria (Dhami & Al-Nowaihi, 2012; George Anarwat, 2022). The economic barriers to accessing health insurance could not be overlooked, as individuals who were unemployed might view insurance as an unaffordable luxury. Future campaigns should address these economic challenges directly, perhaps by advocating for subsidized insurance options or community health initiatives that reduce financial barriers. The overwhelming religious affiliation with Christianity (98%) among respondents aligns with previous research suggesting that faith-based organizations could play a pivotal role in health education and advocacy (Franke *et al.*, 2026). Leveraging religious platforms for awareness campaigns could enhance outreach and acceptance of social health insurance, particularly in rural areas where community ties were strong. Settlement patterns indicated that 71% of respondents resided in rural areas, which poses unique challenges in terms of access to health services and information dissemination. The challenges faced by rural populations in accessing health care services had been well-documented (Yuan *et al.*, 2024; Zhou & Ping, 2024). Awareness campaigns must adopt community-specific strategies that consider transportation barriers and utilize local channels for information dissemination.

Moreover, the findings in Table 2 revealed critical insights into the sources of information regarding social health insurance programs among respondents in Bayelsa State, Nigeria. The prominence of traditional media, particularly television and radio, as the primary sources of information—accounting for 21% of responses each—supports previous research that highlights the ongoing influence of these platforms in disseminating health-related information (Febrina *et al.*, 2024; OTUYA-ASOHRO & IJEH, 2024). This reliance on conventional media could be attributed to its wide reach and accessibility, particularly in regions where internet penetration remains low. Health workers emerged as significant information providers, engaging 18% of the respondents. This finding aligns with research findings, who posited that healthcare professionals play a pivotal role in promoting health literacy and enhancing the public's understanding of health insurance programs (Cleary, 1988; Perini, 2023). Their direct interactions with the community might facilitate trust and encourage more individuals to seek information on social health insurance, potentially increasing uptake rates. Contrarily, social media and peer networks, represented by friends and family, contributed minimally to the dissemination of information, with both sources accounting for 7% and 9% of responses, respectively. This observation resonates with research findings that uptake of health insurance was often hampered by misinformation and a lack of engagement through digital platforms in similar contexts (Shuaibu *et al.*, 2024). The limited role of social media in this discourse might indicate an area for future intervention, suggesting that targeted digital campaigns could enhance awareness and improve public understanding of social health insurance options. Community leaders and religious institutions, which traditionally serve as influential figures in Nigerian society, reflected lower engagement rates, with only 4% and 11% of respondents citing them as information sources. This underscores a potential gap in leveraging these critical community structures for health promotion. As highlighted by research findings, involving local leaders in awareness campaigns could significantly enhance the credibility and reach of health messages, ultimately improving community engagement in health initiatives (Durrance-Bagale *et al.*, 2022). The findings also indicated a stark underutilization of SMS and WhatsApp, with only 1% of respondents acknowledging these platforms as sources for social health insurance

information. This limited engagement with mobile technology was noteworthy, particularly given the increasing global trend toward digital communication in health promotion (Alhaji *et al.*, 2025). As mobile phone usage continues to rise in Nigeria, future campaigns could benefit from exploring innovative ways to integrate these technologies into awareness strategies.

Furthermore, the findings in Table 3 on the impact of awareness campaigns on social health insurance uptake in Bayelsa State, Nigeria, revealed significant insights into the frequency of use of different channels of information dissemination and language preferences among respondents (Mhina *et al.*, 2025). The data indicated that traditional media, particularly television and radio, were the most frequently utilized sources for information regarding the social health insurance program, with 153 and 157 respondents accessing information weekly, respectively. This aligns with previous research that emphasized the effectiveness of traditional media in reaching diverse populations in low-resource settings. The reliance on these platforms underscores the critical role they play in health communication strategies, especially in regions where literacy levels might vary and access to newer technologies remains limited. In contrast, social media channels, including SMS and WhatsApp, were notably underutilized, with minimal engagement reported. This finding mirrors the observations of previous findings, who noted that while social media has the potential to enhance health communication, its adoption has been slow in certain demographics due to factors such as limited internet access and digital literacy. The data suggested that community leaders and health workers were also pivotal in disseminating information, with 136 respondents receiving updates from health workers weekly. This finding was consistent with studies that advocate for community-based approaches in health education, emphasizing the importance of trusted local figures in fostering awareness and promoting health initiatives. The language preference data (Table 4) provided further insights into the contextual factors influencing communication effectiveness. A significant majority of respondents favoured Pidgin English (42%) and English (37%) for information dissemination, which aligns with existing literature that highlights the need for health communication to be culturally and linguistically relevant (Brooks *et al.*, 2019; El-Amouri & O'Neill, 2011). The predominance of these languages suggests that efforts to enhance awareness of social health insurance should prioritize these modes of communication to ensure comprehension and engagement among the target population. Interestingly, the limited preference for vernacular languages such as the Ijaw dialect indicated a potential gap in reaching certain subsets of the population, which might hinder equitable access to information. Overall, the study underscored the necessity for tailored awareness campaigns that leverage the strengths of traditional media and recognize the linguistic diversity of the population. By enhancing the effectiveness of information dissemination through these preferred channels and languages, stakeholders could improve the uptake of social health insurance in Bayelsa State. Future research should explore innovative strategies for integrating modern communication tools while addressing barriers to access, particularly in rural areas where traditional media remains the primary source of information.

Again, the findings of Figure 2 provided significant insights into the relationship between awareness campaigns and the knowledge of social health insurance among residents of Bayelsa State, Nigeria. A substantial proportion of respondents (42%) recognized that the social health insurance program reduced out-of-pocket expenses, which underscores the effectiveness of awareness initiatives in communicating the financial benefits associated with such programs. This aligns with previous research that has highlighted the importance of financial protection in health care access (Blü *et al.*, 2020; Rahman *et al.*, 2022). The understanding that social health insurance could mitigate catastrophic health expenditures (29%) further reflected the respondents' grasp of how such programs could safeguard them against potentially overwhelming medical costs, echoing findings from studies in other contexts that demonstrated similar protective effects (Ravangard *et al.*, 2021). However, the awareness of preventive health benefits appeared to be less pronounced, with only 18% of respondents acknowledging this aspect. This gap suggests a need for more robust educational outreach focused on the preventive care dimensions of social health insurance. As noted in previous studies, effective health insurance systems could significantly enhance the accessibility of preventive services, which were essential for reducing the burden of diseases and improving overall public health outcomes. The limited awareness of the program's ability to prevent income shocks (11%) might indicate a significant misconception or lack of information among the populace, emphasizing the necessity for targeted communication strategies that elucidate all dimensions of social health insurance benefits (Adegboye *et al.*, 2023).

The results of the chi-square test of independence (Table 5) revealed a statistically significant association between awareness of the social health insurance program and knowledge of its eligibility criteria. The overwhelming majority of respondents (448 out of 578) believed that all residents were eligible for the program, contrasting with a much smaller number who identified specific groups as eligible. This finding suggested that awareness campaigns not only increased general knowledge about the program but also fostered a more inclusive understanding of its applicability. This was consistent with the previous research work, who argued that comprehensive education on eligibility could enhance public confidence in health insurance schemes and encourage greater uptake (Ashry, 2024; Bugshan *et al.*, 2022). The observed deviations between the actual and expected counts indicated the impact of awareness efforts in shaping perceptions about

eligibility criteria. The strong positive awareness among respondents regarding universal eligibility could be attributed to effective campaigning, which was supported by the literature demonstrating that tailored information dissemination could significantly improve public understanding of health insurance. Thus, the correlation identified in this study between increased awareness and accurate knowledge of eligibility criteria highlights the pivotal role of public education and outreach in promoting social health insurance uptake.

In the context the Table 6 findings, the study provided compelling evidence regarding the significant impact of awareness campaigns on the uptake of social health insurance and financial protection in Bayelsa State, Nigeria. The linear regression analysis indicated that the awareness campaign was effective in promoting social health insurance, as demonstrated by the statistically significant F-value of 89.7988 ($p < 0.0001$). This finding aligns with previous literature that underscores the essential role of awareness and education in enhancing health insurance uptake (Seymour, 2018). The coefficient for insurance uptake (0.3362) highlighted a direct relationship between increased awareness and the likelihood of individuals enrolling in social health insurance programs. This finding corroborated earlier studies that identified a positive correlation between awareness campaigns and health insurance enrolment, indicating that informed individuals were more likely to seek coverage. The results further emphasized the critical nature of targeted messaging, as the campaign effectively communicated the benefits of social health insurance, thereby influencing public perception and behaviour. Moreover, the coefficients associated with the campaign's focus on "Provide family health security" (0.0595), "Provide financial risk protection" (0.1019), and "Prevention of out-of-pocket expenditure" (0.0801) demonstrated that these elements significantly contributed to the overall effectiveness of the campaign. Particularly, the strong association between financial risk protection and the dependent variable highlighted the importance of addressing economic concerns in health messaging. As noted in the literatures, financial protection was a pivotal factor that influences health-seeking behaviour, as individuals were more likely to engage with health services when they perceive a reduced financial burden (Blü *et al.*, 2020). The low standard errors and high t-statistics for all coefficients further reinforced the reliability of these findings. The statistically significant p-values (all less than 0.05) suggested not only that the relationships observed were unlikely to be due to chance but also that the campaign's strategic focus on financial protection resonated with the target population, leading to measurable increases in insurance uptake. This study's findings had vital implications for policymakers and health program planners in Nigeria and similar contexts. By recognizing the effectiveness of awareness campaigns, stakeholders could allocate resources more efficiently and design interventions that prioritize clear communication of the benefits of social health insurance. The results also highlighted the necessity for ongoing education and outreach efforts to sustain and enhance engagement with health insurance programs.

CONCLUSION

The study evaluated the impact of awareness campaigns on the uptake of social health insurance (SHI) in Bayelsa State, Nigeria, revealing significant insights into the demographic characteristics of respondents, their sources of information, and their knowledge regarding the benefits of SHI. The findings indicated that the campaigns effectively reached a considerable segment of the population, particularly those aged 35 to 54 years, who displayed a higher engagement with health-related programs. The predominance of female respondents highlighted the potential for leveraging women's roles as primary caregivers to enhance health insurance uptake within families. The reliance on traditional media, specifically television and radio, proved to be instrumental in disseminating information about SHI. Health workers emerged as credible sources of information, reinforcing the importance of community-based approaches in health education. However, the limited utilization of social media and community leaders as information channels indicated areas for improvement in future outreach strategies. The study also underscored varying levels of awareness regarding the benefits of SHI, with notable recognition of its role in reducing out-of-pocket expenses. Nevertheless, gaps in understanding the program's preventive health benefits and its ability to prevent income shocks were identified, suggesting a need for more targeted educational initiatives. Statistical analyses demonstrated a significant association between awareness of the SHI program and knowledge of its eligibility criteria, indicating that effective communication campaigns could foster a more inclusive understanding of the program. The linear regression analysis confirmed that awareness campaigns had a positive influence on both the uptake of SHI and financial protection, highlighting the critical role of public education in promoting health insurance coverage. In summary, the research provided compelling evidence that awareness campaigns were essential in shaping public perceptions and behaviours toward social health insurance in Bayelsa State. The findings emphasized the need for ongoing education and outreach efforts, tailored to the specific needs of diverse communities, to improve the uptake of SHI and ultimately contribute to broader health coverage goals in Nigeria.

No Conflict of Interest

The authors of this research work declared that there were no conflicts of interest related to the study conducted on the impact of awareness campaigns on social health insurance uptake in Bayelsa State, Nigeria. Throughout the research process, the authors ensured that their professional relationships, financial interests,

and affiliations did not influence the outcomes or interpretations of the study. All funding sources were disclosed, and no external influences affected the integrity of the research findings. The authors'-maintained transparency and objectivity in all aspects of the study, ensuring that the results were presented truthfully and without bias.

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