Micro-Health Insurance as an Expansion Frontier for Financial Inclusion beyond the Domain of the Financial Services Sector in Africa

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ABSTRACT

This paper examines the progress of financial inclusion (FI) in Nigeria since 2008 and advances micro-health insurance as an emerging frontier for deepening inclusion beyond conventional financial services in Africa. Anchored in established perspectives from financial inclusion theory, inclusive insurance, and development economics, the study conceptualizes micro-health insurance as a risk-pooling and productivity-enhancing mechanism that complements transaction-led inclusion. Using secondary data drawn primarily from the EFInA Access to Financial Services (A2F) surveys, World Bank datasets, and policy documents, the paper evaluates both access outcomes and broader welfare implications.

Empirical evidence shows that Nigeria's financial exclusion rate declined from 53% in 2008 to 26% in 2023, while formal inclusion expanded to 64%, driven largely by mobile phone penetration (93%), agent banking networks (54% usage), and policy shocks such as the naira redesign [1] that accelerated Point-of-Sale transaction adoption. The analysis moves beyond descriptive reporting to synthesize how non-bank actors, including licensed microfinance banks and fintech's, have reshaped inclusion pathways by lowering transaction costs and embedding financial services into everyday economic activity. Comparative analysis with Kenya, Ghana, Rwanda, Egypt, and Ethiopia highlights that Nigeria's policy-led model contrasts with the more telecom-driven and hybrid approaches elsewhere, with differing implications for speed, depth, and equity of inclusion.

The paper argues that despite measurable gains, full financial inclusion remains structurally constrained by informality, income volatility, gender norms, rural access gaps, and trust deficits. Within this context, micro-health insurance emerges as a strategic extension of FI, capable of leveraging existing agent and mobile payment infrastructures to address health-related financial shocks that disproportionately affect low-income and underbanked populations.

Methodologically, the study relies exclusively on secondary data, acknowledging limitations related to self-reported survey responses, temporal inconsistencies across datasets, and the inability to establish causal relationships. These constraints are addressed through triangulation across sources and cautious interpretation.

Keywords: Financial inclusion; micro-health insurance; Africa; development economics; agent banking.

INTRODUCTION

Since the launch of the EFInA (Enhancing Financial Innovation and Access) Access to Financial Services (A2F) survey in 2008, Nigeria has recorded a substantial, though uneven, expansion in financial inclusion. Over this fifteen-year period, the proportion of financially excluded adults declined from approximately 53% to 26% by 2023 [2]. This trajectory reflects one of the most significant inclusion gains in Sub-Saharan Africa, achieved amid recurring macroeconomic shocks, policy reversals, and a persistently large informal economy. The Nigerian experience therefore offers a useful lens through which to examine not only how financial inclusion expands, but also where its limits lie and how inclusion can be deepened beyond basic access to transaction accounts.

Much of Nigeria's progress has been driven by the diffusion of digital and agent-enabled 'on-the-go' financial services rather than traditional branch-based banking. Point-of-sale (POS) terminals operated by road-side merchants and agents, mobile applications, and USSD platforms have become embedded in everyday commercial activity, particularly among small traders and informal workers. These channels gained further prominence during policy disruptions such as the Naira Cash Withdrawal limits in 2022 and Naira redesign in 2023, which temporarily constrained liquidity but simultaneously accelerated adoption of digital payment mechanisms [1, 3]. Specifically, the scarcity of the new Naira notes after the redesign and withdrawal of smaller notes increased the proliferation of POS agents and transactions. The improvements alone triggered 43 % of adults to start or increase their use of financial services, which drove adoption of agent banking from 4.4% of adults in 2018 to 54% [4]. Using a point-of-sale (POS) terminal to transact was a major success, connecting 11 million unbanked adults to a formal financial channel by 2023. The changes were not always without issue because for example COVID-19 caused a negative spike in exclusion to 18% in 2020 [5].

As a result, financial inclusion in Nigeria has increasingly taken the form of "on-the-go" transacting, which are frequent, low-value interactions conducted outside conventional banking halls. This shift highlights an important conceptual distinction between nominal inclusion, measured by account ownership, and functional inclusion, reflected in regular usage, trust, and integration into livelihoods. It also illustrates how digital and informal channels have filled voids in formal banking, enabling an increasing number of Nigerians to make transactions without being affected by traditional banking formalities.

From a theoretical standpoint, financial inclusion is more commonly framed as access to affordable, appropriate, and sustainable financial services that enable individuals and firms to manage risk, smooth consumption, and invest in productive activities [6, 7]. From the empirical literature and policy discourse viewpoint, it remains concentrated on payments, savings, and credit, often treating insurance as a secondary or residual component. Inclusive insurance theory and development economics literature suggest that this omission is consequential: exposure to uninsured risks, particularly health shocks, can rapidly reverse gains from financial access by forcing households to deplete savings, sell productive assets, or withdraw from economic activity [8]. In contexts like Nigeria, where informal employment dominates and out-of-pocket health spending is high, the absence of effective risk-pooling mechanisms represents a structural gap in the financial inclusion agenda.

This paper positions micro-health insurance as a strategic extension of financial inclusion rather than a parallel or isolated intervention. Conceptually, micro-health insurance is understood as a low-premium, low-coverage insurance product designed for low-income and informal households, delivered through simplified distribution channels and aligned with irregular income patterns. Within an analytical framework that links financial inclusion, risk mitigation, and productivity, micro-health insurance serves three interrelated functions. First, it reduces vulnerability to health-related financial shocks, which are among the most common and costly risks faced by low-income households. Second, by stabilizing consumption and protecting working capacity, it supports labor productivity and income continuity. Third, it deepens engagement with formal and semi-formal financial systems by embedding insurance within trusted transaction channels such as agent networks and mobile wallets. In this sense, micro-health insurance operates as both a social protection mechanism and a financial inclusion lever.

Empirically, Nigeria presents a paradox that motivates this inquiry. On the one hand, formal financial inclusion reached 64% in 2023, supported by mobile phone penetration of over 90% and widespread agent banking usage [4]. On the other hand, insurance penetration remains extremely low, with an estimated 95% of adults uninsured and only a small fraction covered by the National Health Insurance Authority (NHIA) or private schemes. Health shocks continue to account for a significant share of catastrophic household expenditures, particularly among rural populations, women, and informal workers. This disconnect suggests that gains in transactional inclusion have not translated into adequate financial protection against life-cycle risks.

The Nigerian policy-heavy and fragmented model which has delivered scale in payments but slower progress in inclusive insurance raises comparative questions when viewed alongside other African countries; like Kenya's telecom-led mobile money ecosystem, Ghana's agent-based partnerships, Rwanda's state-coordinated approach, Egypt's focus on inclusion in urban areas and Ethiopia's state-led bureaucratic approach; which all

illustrate alternative pathways to inclusion, some of which have integrated insurance products effectively. These contrasts underscore the importance of institutional design, private-sector incentives, and regulatory coherence in shaping how far and how fast financial inclusion evolves beyond payments.

Beyond its empirical relevance, the discussion of micro-health insurance speaks to broader debates about the purpose and end goals of financial inclusion. Inclusion that is limited to transactions may increase convenience, but it does not necessarily enhance resilience or long-term welfare. Health-related risks, if left uninsured, can erode household assets, disrupt education and labor participation, and undermine productivity gains associated with financial access. By incorporating health risk protection into the digital finance and the inclusion agenda, micro-health insurance offers a pathway toward a more holistic model of inclusion which aligns financial access with human capital development and economic stability.

Global examples of digital micro-health insurance models include Kenya's M-TIBA with 4 million users, Ghana's Mi-Life with 500,000 users, India's PMJAY reaching 500 million, and the Philippines' GCash with 51.4 million users, all showing the potential for demand and scalability.

Strengths of digital micro-insurance include low barriers to entry and potential multipliers, but challenges remain in awareness, regulation, and rural outreach. For Nigeria evidence shows that 95% of people are uninsured, 32 million have a demand for insurance [9]. With successful pilots like 'Casava' digital insurance plans in Nigeria, there is room for serving millions at scale using technology.

Against this backdrop, the paper pursues four interrelated objectives. First, it reviews Nigeria's financial inclusion trajectory since 2008, emphasizing shifts from bank-led to agent- and mobile-driven models. Second, it examines the developmental implications of these shifts, particularly for productivity, MSMEs, and household welfare. Third, it situates Nigeria's experience within a comparative African context to highlight alternative inclusion pathways. Finally, it advances micro-health insurance as a plausible and scalable next frontier for financial inclusion, outlining policy options, innovation pathways, and testable propositions for future research.

By reframing financial inclusion to explicitly incorporate health risk protection, this paper contributes to ongoing debates on how inclusion can move beyond access metrics toward sustained economic resilience and human development in Nigeria and similar developing economies.

METHODOLOGY AND LITERATURE REVIEW

Methodology

This study adopts a qualitative, desk-based research design grounded in the systematic analysis and synthesis of secondary data. The methodological choice reflects the paper's objective of examining long-term trends, institutional patterns, and policy-relevant dynamics in financial inclusion and micro-health insurance, rather than estimating short-run causal effects. Financial inclusion and inclusive insurance are multi-dimensional phenomena shaped by regulatory frameworks, market structures, behavioral factors, and development contexts, making secondary-data-driven synthesis particularly appropriate for theory-informed analysis.

The primary data sources include nationally representative financial inclusion surveys, policy and regulatory documents, and comparative international datasets. Core evidence is drawn from the EFInA's Access to Financial Services (A2F) survey, which is funded by the U. K's Foreign, Commonwealth & Development Office (FCDO formerly known as DFID), and the Bill and Melinda Gates Foundation. The surveys have been conducted periodically in Nigeria since 2008 and provide the most comprehensive longitudinal record of financial access, usage, and exclusion in the country. The A2F data are complemented by the World Bank Global Findex database, reports from multilateral institutions such as the African Development Bank (AfDB), the International Labor Organization (ILO), and the United Nations Development Programme (UNDP), as well as peer-reviewed academic studies and industry reports on inclusive insurance and digital finance.

The analytical strategy combines descriptive trend analysis with comparative and thematic synthesis. First, financial inclusion indicators, such as exclusion rates, formal inclusion levels, agent usage, and mobile penetration are reviewed across time to identify structural shifts in Nigeria's inclusion pathway. Second, Nigeria's experience is compared with selected African and Asian countries like India to contextualize and highlight alternative product and institutional models. Third, evidence from inclusive insurance and development economics literature is integrated to assess how micro-health insurance can function as a complementary mechanism within existing financial infrastructures.

While secondary data allow for broad coverage and cross-country comparison, they also present limitations. Survey data rely on self-reported behavior, which may be affected by recall bias or social desirability effects. Differences in survey design, timing, and definitions across sources can limit direct comparability. In addition, secondary data constrain the ability to establish causal relationships between financial inclusion, insurance uptake, and welfare outcomes. These limitations are addressed by triangulating findings across multiple sources, prioritizing consistent patterns over isolated statistics, and interpreting results cautiously. The methodology is therefore oriented toward analytical coherence and conceptual contribution rather than causal attribution.

LITERATURE REVIEW

The literature on financial inclusion has expanded significantly over the past two decades, with early contributions emphasizing access to formal financial services as a pathway to poverty reduction, savings mobilization, and enterprise growth [6]. Subsequent work has refined this perspective by distinguishing between access and effective usage, highlighting that account ownership alone does not guarantee improved welfare outcomes [7]. This distinction is particularly salient in developing economies characterized by informality, income volatility, and weak social protection systems.

Within this broader discourse, insurance, especially health insurance, has received comparatively limited attention. Inclusive insurance literature argues that uninsured risks can undermine the benefits of financial inclusion by exposing households to shocks that force asset depletion, indebtedness, or withdrawal from productive activity [8]. Health risks are consistently identified as among the most frequent and financially devastating shocks for low-income households, given the prevalence of out-of-pocket health expenditure in many African countries. As a result, micro-insurance, and micro-health insurance in particular, has been proposed as a tool for enhancing financial resilience rather than merely expanding access.

Studies on micro-health insurance emphasize its design features, that include low premiums, simplified contracts, flexible payment schedules, and alternative distribution channels as responses to the constraints faced by informal workers and low-income households [6, 10]. Empirical evidence from Kenya, Ghana, and parts of Asia suggests that digital platforms, agent networks, and mobile money systems can significantly lower transaction costs and increase uptake when insurance products are embedded in familiar financial behaviors [11, 12]. These findings align with development economics literature that links health protection to productivity, labor supply, and long-term human capital accumulation.

In the Nigerian context, existing studies have largely focused on banking penetration, digital payments, and agent banking, with fewer analyses examining the role of insurance within the financial inclusion ecosystem. Available evidence indicates that while transactional inclusion has expanded rapidly, insurance coverage remains extremely low, reflecting regulatory fragmentation, low awareness, trust deficits, and affordability concerns [9]. This gap in both coverage and scholarship underscores the relevance of examining micro-health insurance as a complementary and potentially transformative component of Nigeria's financial inclusion strategy. Nigerian insurtech successes like 'Casava' that offer digital health/cash insurance with fast claims signal a strong potential for reducing health shocks that affect 58% who are unable to afford medicine for simple ailments [2].

Comparative insights from other African and Asian contexts reveals that Nigeria's inclusion pathway differs markedly from peer countries. For instance, Kenya's telecom-led model, anchored by M-Pesa, achieved higher inclusion levels more rapidly, reaching 79% formal inclusion [13]). The integration of payments, savings, and

insurance within a single mobile platform facilitated deeper engagement and product bundling. M-TIBA is the health microinsurance platform that integrated with the secure M-Pesa mobile platform to provide a mobile health wallet called 'CarePay' in 2015. It was achieved through a partnership with Kenyan telecommunications company Safaricom and the Netherlands-based PharmAccess Foundation. Today, there are over 4 million users who keep their health insurance premiums in different wallets. They use mobile money topped up for inpatient coverage of up to KES 259,622 (approximately $2,000 CAD) each year. M-TIBA uses real-time claims processing to cut administrative costs and fraud. Kenya's Britam General Insurance Company Limited also introduced its Britam's Bima ya Mwananchi health bundles in 2022 to low-income clients for access to private health facilities. They reach thousands through SMS renewals and flexible payments [6, 11]. By contrast, Nigeria's separation of telecoms and banks limited the scale and speed of mobile money adoption.

Ghana and Rwanda illustrate hybrid approaches combining policy coordination with private-sector partnerships. Ghana's collaboration between MTN Mobile Money and banks expanded access among SMEs and rural populations, while Rwanda's state-led mandates reduced exclusion to single digits. In Ghana, mobile pilots include mi-Life via MTN Mobile Money, which has provided coverage for millions since 2010. Users buy life coverage for small amounts taken from their wallets, and they can make claims over the phone. MTN's aYo partnership has issued over 5.3 million policies across the continent, with quick payout options for funerals or accidents [12, 14].

Asia offers similar opportunities; India's Pradhan Mantri Jan Arogya Yojana (PMJAY), introduced in 2018, provides digital health cards to 500 million poor individuals using a unique, 12-digit national identification number (Aadhaar number) issued by India's to its residents, for accessing government services, subsidies, banking, and telecom, ensuring a single, reliable digital identity for individuals. Aadhaar biometrics, covering Rs 5 lakh ($6,000) per family for 1,949 treatments. It operates without paper, offering real-time approvals at 27,000 hospitals, which cuts out-of-pocket costs by 36% for early cancer care [15]. The Philippines' GCash GInsure, launched in 2021, has issued 51.4 million micro-policies to 14.6 million users. It offers free accident coverage with load purchases or P250,000 health plans for P79 monthly, all through the app [16].

While Nigeria's policy-heavy approach achieved scale in payments, it continues to struggle to coordinate across sectors, resulting in fragmented delivery of deeper financial services. This highlights the risks of achieving breadth without depth. Nigeria can take lessons from Kenya's wallet bundling for POS agents and Ghana's auto-deductions to fill rural gaps. PMJAY's biometric system and GCash's affordable premiums show how digital simplicity can attract the hesitant. These alternatives underscore that inclusion outcomes depend not only on technology or policy intent, but on institutional alignment, regulatory flexibility, and incentives for product innovation The main idea being to start small, build deep partnerships, and track increases in trust.

By integrating insights from financial inclusion theory, inclusive insurance research, and development economics, this paper situates micro-health insurance within a unified analytical framework. Rather than treating insurance as an add-on, the literature reviewed supports its role as a core mechanism for deepening inclusion, strengthening resilience, and translating financial access into sustained development outcomes.

ANALYSIS AND DISCUSSION OF FINDINGS

This section presents an integrated analysis of the findings emerging from the review of Nigeria's financial inclusion trajectory, with particular emphasis on the role of digital finance, agent networks, policy dynamics, and structural constraints. It synthesizes empirical patterns from EFInA and related sources to examine how inclusion has expanded, who remains excluded or underbanked, and why micro-health insurance emerges as a logical extension of current inclusion pathways. The discussion is organized thematically to reflect progression from access and usage patterns to developmental implications and comparative insights.

Trajectory and Structure of Financial Inclusion in Nigeria

Nigeria's financial inclusion journey since 2008 reflects both measurable progress and persistent structural limitations. Financial exclusion declined from over half of the adult population in 2008 to 26% by 2023, while formal inclusion increased to 64% [2]. The data indicate that inclusion gains accelerated during periods of

policy-induced stress, most notably during the naira redesign and cash withdrawal limits constraints. While these policies initially disrupted liquidity and income flows for households and businesses, they also forced rapid adoption. POS agents and digital payment channels became essential intermediaries, facilitating cash-in and cash-out services when bank access was constrained. By 2023, 54% of adults reported using agents, compared to just 4.4% in 2018 [4]. This rapid expansion underscores the responsiveness of informal and semi-formal channels to shocks, and their capacity to absorb excluded populations more quickly than traditional banks.

However, this form of inclusion is primarily transactional. While access to payment services expanded significantly, deeper financial services such as savings, credit, and especially insurance did not expand at comparable rates. The structure of inclusion therefore remains shallow for a large share of newly included adults. Many individuals interact with the financial system only when necessary, using POS terminals or mobile transfers without developing sustained relationships with financial institutions. This distinction between access and depth is critical for interpreting Nigeria's inclusion outcomes.

Drivers of Inclusion: Technology, Agents, and Non-Bank Actors

The findings point to three interrelated drivers of financial inclusion: mobile access, agent networks, and non-bank financial institutions.

1. Mobile phone penetration reached 93% by 2023, creating near-universal potential access to digital financial services [17]. This infrastructure underpins most recent inclusion gains, enabling transactions via USSD, apps, and mobile wallets even among individuals without smartphones or formal bank accounts.

2. Agent banking emerged as the most significant operational driver. POS terminals operated by agents became embedded in daily commerce, particularly in markets, transport hubs, and roadside retail clusters. These agents reduced physical distance to services, addressed liquidity constraints, and lowered psychological barriers associated with banks. By 2023, agent usage exceeded bank branch usage by a wide margin, highlighting a structural reorientation of Nigeria's financial ecosystem.

3. Non-bank actors, particularly licensed microfinance banks and fintech's, played a decisive role in scaling these networks. Institutions such as Moniepoint and Opay dominated POS deployment, account opening, and transaction processing, particularly during periods of cash scarcity. Their business models prioritized speed, simplicity, and ubiquity over traditional risk assessment and documentation requirements. This approach proved effective in reaching small traders, informal workers, and individuals with irregular incomes, who constitute a large share of the Nigerian economy.

At the same time, the dominance of a few large non-bank players introduced new forms of concentration. Market dominance in POS distribution and transaction pricing created barriers for smaller POS providers and potentially limited innovation in underserved rural areas. While non-bank actors expanded access, their negotiated positions also shaped the cost and quality of services available to end users, raising questions about sustainability and competition.

Persistent Exclusion and Structural Barriers

Despite significant progress, exclusion remains concentrated among specific demographic and geographic groups. Rural residents face an exclusion rate of 37%, more than double the urban rate of 17% [4]. This suggests that physical access alone does not fully address rural exclusion, particularly where trust, income instability, and limited financial literacy intersect.

Nearly half of excluded adults cited unstable income as a reason for non-use of financial services [2]. This instability reduces the perceived value of formal accounts, especially where fees are high or unpredictable. High transaction charges discouraged usage for 38% of adults, while unexpected costs affected one-third of users [18]. These cost-related barriers are particularly salient for low-income households whose transactions are frequent but low in value.

Gender disparities further compound exclusion. Women's exclusion stood at 30%, compared to 21% for men, reflecting sociocultural norms, spousal restrictions, and household decision-making dynamics [4]. Attitudes toward women's financial autonomy, combined with lower income levels and limited asset ownership, constrain women's engagement with formal financial services. These patterns persist even in contexts where mobile access is widespread, indicating that technology alone cannot overcome entrenched social barriers.

Trust deficits also remain significant. Although awareness of mobile money services is high, only 41% of adults report trusting mobile money providers [18]. Fraud incidents involving agents affected millions of adults, undermining confidence in semi-formal channels. Trust emerges as a cumulative outcome of repeated, reliable interactions rather than mere exposure, highlighting the importance of service quality and dispute resolution mechanisms.

Developmental Implications of Transaction-Led Inclusion

The expansion of financial inclusion has generated observable developmental effects, particularly in mitigating liquidity crises and supporting MSMEs. During the naira redesign, digital payments and agent services enabled households and businesses to continue transactions despite cash shortages. Approximately 43% of adults reported starting or increasing use of financial services during this period [4]. This adaptive capacity underscores the role of inclusion in economic resilience, particularly in shock-prone environments.

For MSMEs, which contribute 33% of GDP and employ over half of Nigeria's workforce, access to transactional services improved operational efficiency. Faster payment processing reduced transaction times and facilitated customer turnover. However, access to credit remains limited, with most small businesses relying on internal funds. The persistence of a large credit gap highlights the limits of transactional inclusion in supporting enterprise growth without complementary financial products.

Financial inclusion is also intersected with broader welfare outcomes. Reduced reliance on cash lowered exposure to theft and loss, while digital remittances improved the speed and security of transfers. However, the absence of insurance mechanisms meant that households remained vulnerable to shocks, particularly health-related expenses. Health expenditures continued to force households into distress financing, eroding the potential gains from financial access.

Underbanked Populations and Latent Demand

A significant share of Nigeria's population occupies an intermediate position between inclusion and exclusion. Approximately 26% of adults remain outside formal systems but interact with them episodically through agents or digital channels. These underbanked individuals demonstrate familiarity with financial tools but lack sustained engagement. Their behavior reflects pragmatic adaptation rather than ideological resistance to formal finance.

Evidence suggests latent demand for additional services among this group, particularly where products align with existing habits and address immediate risks. Health-related expenses represent one such risk. With most adults uninsured and health shocks common, micro-health insurance aligns closely with the needs and constraints of the underbanked. The willingness of 32 million adults to consider insurance if aware of available options indicates unmet demand rather than outright rejection [9].

Micro-Health Insurance as an Extension of Existing Patterns

The findings suggest that micro-health insurance fits naturally within Nigeria's transaction-led inclusion model. Its potential lies not in creating entirely new behaviors, but in building on trusted channels such as POS agents and mobile wallets. Low, flexible premiums and simple claims processes mirror the characteristics that drove adoption of digital payments.

Micro-health insurance addresses a critical gap in Nigeria's inclusion landscape by linking financial access to risk protection. By reducing out-of-pocket health expenditures, it can stabilize household finances, preserve

productive capacity, and enhance the developmental impact of inclusion. Importantly, it also deepens engagement with financial systems by transforming episodic transactions into ongoing relationships.

The Nigerian context as characterized by high informality, income volatility, and widespread agent usage creates both urgency and opportunity for such a product. While challenges remain in awareness, trust, and regulation, the convergence of digital infrastructure and latent demand positions micro-health insurance as a logical next phase in the evolution of financial inclusion.

Policy Implications and Recommendations

Financial inclusion strategies that historically prioritize account ownership and payments without embedding risk management and welfare-enhancing instruments risk producing shallow inclusion that is vulnerable to shocks. The findings suggest that the next phase of Nigeria's financial inclusion agenda should shift from a narrow focus on access, to a broader emphasis on functionality, resilience, and cross-sectoral integration. In this context, micro-health insurance emerges not merely as a complementary product, but as a strategic policy lever capable of strengthening inclusion outcomes, improving productivity, and supporting broader development objectives.

The recommendations that follow are structured around four interrelated policy domains: institutional coordination and partnerships, regulatory and fiscal policy alignment, distribution and infrastructure strengthening, and technology-enabled delivery and trust-building. Together, these domains reflect the systemic changes required to translate Nigeria's transactional inclusion gains into durable welfare and development outcomes.

Strengthening Cross-Sectoral Partnerships for Inclusive Insurance Delivery

One of the most salient implications of the findings is that Nigeria's financial inclusion gains have been driven largely by non-bank actors operating through agent and digital channels. This reality suggests that future inclusion policies, particularly those involving micro-health insurance, must move beyond bank-centric models and actively incorporate fintech's, microfinance banks, telecommunications providers, cooperatives, and health institutions.

Policy frameworks should explicitly encourage partnerships to enable bundled service delivery. For example, insurers can leverage the existing customer bases and transaction volumes of agent networks operated by institutions such as Moniepoint and Opay, which already serve over half of Nigeria's adult population through POS interactions [4]. Embedding micro-health insurance premiums into routine transactions—such as cash withdrawals, airtime purchases, or bill payments—would align insurance uptake with familiar financial behaviors rather than requiring separate enrollment processes.

Similarly, partnerships between insurers and cooperatives, trade unions, and informal associations should be strengthened. Existing examples, such as insurance schemes linked to transport unions or cooperative societies, demonstrate that group-based enrollment reduces costs, enhances trust, and improves compliance. Policymakers should recognize these structures as legitimate distribution channels and incorporate them into national inclusion strategies. This approach is particularly relevant for rural farmers, market women, and informal workers who already rely on collective arrangements for savings and credit.

At the health sector level, closer coordination between insurers and primary healthcare providers is essential. Micro-health insurance products should be designed in collaboration with clinics, pharmacies, and community health centers to ensure that coverage aligns with actual health-seeking behaviors. This would improve utilization rates and reduce perceptions that insurance is abstract or inaccessible. Partnerships of this nature would also support the National Health Insurance Authority's (NHIA) mandate to expand coverage beyond formal sector employees.

Regulatory and Fiscal Policy Alignment to Enable Scale

Regulatory fragmentation has emerged as a key constraint on the expansion of inclusive insurance in Nigeria. While Nigeria's National Insurance Commission (NAICOM) microinsurance guidelines have lowered entry

barriers through tiered licensing and reduced capital requirements, regulatory coordination across financial, telecommunications, and health sectors remains limited [19,20]. A clearer and more harmonized regulatory framework is necessary to support scale without compromising consumer protection.

First, policymakers should refine and operationalize existing microinsurance guidelines to better reflect Nigeria's income distribution and geographic diversity. Zoned or differentiated premium structures—such as lower premiums for rural or agricultural communities—would enhance affordability and uptake among populations most vulnerable to health shocks. These adjustments can be informed by EFInA data, which already identifies regional, income, and gender-based exclusion patterns.

Second, fiscal policy can play a catalytic role through targeted subsidies and incentives. The findings indicate strong latent demand for micro-health insurance, particularly among rural and low-income households, but affordability and access to health centers remain barriers. Partial premium subsidies, especially when delivered digitally, could significantly expand coverage while maintaining sustainability. For example, subsidies linked to agricultural programs or social registers could reduce premiums for vulnerable groups without crowding out private provision.

Third, regulatory authorities should streamline approval processes for digital insurance distribution. Delays and uncertainty in product approvals discourage innovation and slow market entry. Clear guidelines on digital onboarding, premium collection via USSD or mobile wallets, and electronic claims processing would reduce compliance costs and encourage insurers to invest in inclusive products. At the same time, consumer protection mechanisms, such as transparent pricing, standardized disclosures, and accessible grievance channels, must be strengthened to build trust and prevent abuse.

Finally, financial inclusion strategies such as the National Financial Inclusion Strategy (NFIS) should explicitly integrate inclusive insurance targets alongside payments and savings metrics. This would signal policy congruence, commitment and ensure that insurance coverage is monitored as a core inclusion outcome rather than a peripheral objective.

Expanding Distribution Infrastructure and Agent Capacity

The dominance of agent networks in Nigeria's inclusion landscape has important implications for policy design. Agents are not merely transaction points; they are trusted intermediaries who shape perceptions, provide informal financial education, and mediate disputes. As such, their role should be expanded and formalized within inclusive insurance strategies.

Training and certification programs for agents should be enhanced to include basic insurance literacy, product explanation skills, and claims facilitation procedures. Agents who are equipped to explain micro-health insurance products clearly and assist with enrollment and claims can significantly reduce information asymmetries and mistrust. Given that fraud incidents involving agents have undermined confidence in some contexts, professionalization and monitoring are essential.

Policymakers and regulators should ensure that commission caps or restrictions do not inadvertently discourage agent participation in insurance distribution. Where appropriate, performance-based incentives tied to enrollment quality and retention could be introduced.

Geographic expansion of agent networks remains critical, particularly in underserved rural areas where exclusion rates remain high. Public–private partnerships could support agent deployment in low-density areas through shared infrastructure, reduced licensing fees, or targeted grants. Such interventions would complement existing efforts to reduce distance-related exclusion and enhance service reliability.

Leveraging Digital Technology for Efficiency, Trust, and Scale

Technology has been central to Nigeria's inclusion gains and will be equally critical for scaling micro-health insurance. Digital tools can address scaling if deployed strategically.

USSD-based platforms should remain a priority, given their accessibility to users without smartphones or consistent internet access. Enrollment, premium payments, and basic claims notifications can be delivered through USSD menus, ensuring inclusivity across income and literacy levels. Smartphone applications can complement these platforms by offering richer functionality for users who prefer app-based interactions.

Claims processing represents a critical trust bottleneck. Delays, opacity, and perceived unfairness in claims settlement are among the main reasons for low insurance uptake. The adoption of AI-enabled verification tools, such as image-based invoice validation, can significantly reduce processing times and administrative costs. Faster payouts reinforce trust and demonstrate the tangible value of insurance. Blockchain or shared ledger technologies, while not a panacea, offer potential benefits in transparency and fraud reduction. Storing premium payments and claims records on tamper-resistant ledgers could enhance accountability among insurers, providers, and intermediaries. This is particularly relevant for group-based or cooperative schemes where disputes over contributions and payouts are common.

Beyond transactions, digital platforms can also support health education and preventive care. Integrating basic health information, reminders, and teleconsultation options into insurance platforms would enhance perceived value and encourage continuous engagement. However, a coordinated, sustained engagement rather than one-off campaigns would help address low awareness and trust which are significant barriers to insurance uptake. Public awareness initiatives that emphasize practical benefits, such as reduced out-of-pocket expenses and faster access to care, rather than abstract notions of risk pooling would deliver greatest impact.

Trust-building will also depend on visible enforcement of consumer protection standards. Regulators should actively monitor market conduct, respond to complaints, and publicize sanctions against fraudulent practices.

CONCLUSION

This paper set out to examine the evolution of financial inclusion in Nigeria and to advance micro-health insurance as a critical expansion frontier beyond the traditional domain of financial services. Drawing on over a decade of financial inclusion data and policy experience, the analysis demonstrates that Nigeria has achieved substantial progress in expanding access to transactional financial services, particularly through digital channels, agent banking, and non-bank financial institutions.

Financial exclusion declined markedly between 2008 and 2023, reflecting the effectiveness of technology-enabled delivery models and adaptive market responses to policy and liquidity shocks. However, these gains remain uneven and structurally constrained as financial inclusion in Nigeria has been largely transactional in nature, with limited penetration of savings, credit, and insurance products. As a result, many newly included individuals remain vulnerable to income volatility and external shocks, particularly health-related expenditures that can drive households quickly into financial distress.

Persistent exclusion among rural populations, women, and low-income households underscores that access alone is insufficient to achieve meaningful and resilient inclusion. By situating micro-health insurance within established perspectives on financial inclusion, inclusive insurance, and development economics, a link between financial access, risk mitigation, productivity, and welfare is established.

Further, micro-health insurance aligns closely with Nigeria's existing inclusion infrastructure, particularly agent networks and mobile platforms that already mediate everyday financial interactions. Rather than requiring entirely new systems or behaviors, micro-health insurance can be embedded within familiar transactional channels, transforming episodic financial usage into sustained engagement with formal financial systems.

Comparative insights from other African contexts further reinforce this argument. Countries that have successfully integrated payments, savings, and insurance within cohesive delivery frameworks have achieved deeper and more durable inclusion outcomes. Nigeria's experience highlights both the opportunities and the risks of a fragmented approach: while scale can be achieved rapidly through non-bank actors, the absence of integrated risk protection limits the developmental impact of inclusion. Micro-health insurance offers a

pragmatic pathway to address this gap by extending inclusion into domains that directly affect household resilience and economic productivity.

The policy implications outlined in this paper emphasize the need for cross-sectoral coordination, regulatory alignment, strengthened distribution infrastructure, and technology-enabled trust-building. Together, these measures point toward a reorientation of financial inclusion strategies from a narrow focus on access metrics to a broader emphasis on functionality and impact. Importantly, the analysis underscores that inclusive insurance should not be treated as an ancillary product, but as a core component of financial inclusion frameworks and national development agendas.

In conclusion, micro-health insurance offers a viable and contextually appropriate pathway to deepen inclusion, strengthen resilience, and translate access into lasting development outcomes if policies, institutions, and incentives are aligned accordingly. Micro-health insurance should be viewed as part of a broader development strategy rather than a narrow financial product because health related shocks undermine productivity, education, and income stability, particularly among informal workers who lack social protection. By reducing vulnerability, micro-health insurance can amplify the developmental impact of financial inclusion. By positioning micro-health insurance as an integral extension of financial inclusion, this paper contributes to ongoing debates on how inclusion can move beyond transactions to deliver tangible welfare and development outcomes across Africa.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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