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Non-Contributory Health Insurance and Catastrophic Health Expenditure: A Structured Review of Financial Risk Protection in Nigeria

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Systematic Review

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Abstract

Catastrophic health expenditure (CHE) remains a major barrier to Universal Health Coverage (UHC) in low- and middle-income countries, where out-of-pocket (OOP) payments dominate health financing. Non-contributory health insurance schemes, funded through taxation, government subventions, or donor support, aim to improve financial risk protection for poor and vulnerable populations. This research presents a structured narrative review of empirical and methodological evidence from Asia, sub-Saharan Africa, and Nigeria on the effects of such schemes on CHE and OOP spending. Findings from the structured review revealed that non-contributory schemes generally improve healthcare utilization and care-seeking behaviour, but their effects on financial protection are mixed. Some studies report no significant reduction in health expenditure, while others identify benefits among specific income or health-status groups. Nigerian evidence similarly shows substantial variation in CHE by facility type and household income, alongside implementation challenges such as delayed funding and coverage gaps. The review proposes a framework linking scheme design, funding predictability, and facility capacity to financial-protection outcomes.

1. Introduction

1.1 Background of the Review

Access to affordable healthcare without financial hardship is a foundational goal of Universal Health Coverage (UHC), enshrined in Sustainable Development Goal 3.8 (World Health Organization [WHO], 2010). In low- and middle-income countries (LMICs), however, out-of-pocket (OOP) payments continue to account for a large share of total health expenditure, exposing households to catastrophic health expenditure (CHE) and, in many cases, impoverishment (Saksena, Hsu, & Evans, 2014). Nigeria exemplifies this pattern: national estimates using the 2009/2010 Harmonized Nigeria Living Standard Survey found that 16.4% of households incurred catastrophic payments at a 10% consumption threshold, and that OOP spending pushed an estimated 1.3 million additional Nigerians into poverty in that year alone (Aregbeshola & Khan, 2018).

Non-contributory health insurance, financed through general taxation, government subvention, or donor support rather than enrollee premiums, has been promoted internationally and within Nigeria as a mechanism for extending financial risk protection to the poor and vulnerable, who are least able to pay premiums under contributory models (WHO, 2010). Nigeria's federal Basic Healthcare Provision Fund (BHCPF) and a growing number of state-level schemes, including Ekiti State's Ulerawa Scheme, represent this non-contributory approach at the sub-national level. Whether these schemes actually deliver measurable financial protection, as opposed to simply expanding enrolment or utilization, is an empirical question that this review examines directly.

1.2 Statement of the Review Problem

Policy discourse on non-contributory health insurance frequently treats financial risk protection as a more or less automatic consequence of coverage: once out-of-pocket payment is removed at the point of service, households are assumed to be protected from catastrophic cost. The empirical literature, when examined closely at the level of individual studies, does not straightforwardly support this assumption. Several rigorously designed evaluations report that non-contributory or subsidized insurance produces strong and consistent gains in healthcare utilization, while producing weak, inconsistent, or even absent gains in financial protection, particularly among the poorest enrollees. This divergence between utilization and financial-protection outcomes is not well reflected in policy narratives, which tend to cite coverage or utilization statistics as though they were proof of financial protection. The problem this review addresses, therefore, is to establish what the verified empirical evidence actually shows about the relationship between non-contributory health insurance and catastrophic health expenditure, and to identify the conditions under which coverage does, and does not, translate into protection from catastrophic cost.

1.3 Purpose of the Review

The purpose of this review is to synthesize verified empirical and methodological evidence on the relationship between non-contributory health insurance and catastrophic health expenditure or out-of-pocket spending in LMICs, with particular attention to sub-Saharan Africa and Nigeria, and to identify the implementation and contextual factors that mediate whether coverage translates into actual financial protection.

1.4 Review Objectives

The specific objectives of this review are to:

1. Examine how catastrophic health expenditure and financial risk protection are conceptualized and measured in the literature, and how measurement choices affect reported findings.
2. Synthesize empirical evidence on the effect of non-contributory and publicly-funded health insurance on catastrophic and out-of-pocket health expenditure across Asia, sub-Saharan Africa, and Nigeria.
3. Identify the implementation and contextual factors, including funding predictability, facility type, and coverage depth, that mediate whether insurance coverage translates into measurable financial protection.
4. Identify recurring methodological strengths and weaknesses in the reviewed literature.

1.5 Review Questions

1. How is catastrophic health expenditure conceptualized and measured, and what challenges affect the comparability of findings across studies?
2. What does verified empirical evidence from Asia, sub-Saharan Africa, and Nigeria show about the effect of non-contributory health insurance on catastrophic and out-of-pocket health expenditure?

3. What implementation and contextual factors explain why some non-contributory schemes achieve measurable financial protection while others do not?
4. What are the recurring methodological strengths and weaknesses of this body of literature, and what gaps remain?

1.6 Scope of the Review

This review is bounded to studies examining non-contributory, publicly-funded, or donor-supported health insurance and health financing mechanisms and their relationship to out-of-pocket expenditure, catastrophic health expenditure, or impoverishment. It draws on individually verified evidence, primarily published between 2010 and 2024, from Vietnam, China, Ghana, Tanzania, Kenya, and Nigeria, supplemented by a global systematic review and meta-analysis and a foundational measurement paper. Purely contributory, premium-financed schemes without a non-contributory or subsidy component fall outside the scope of this review except where directly relevant for contrast.

1.7 Significance of the Review

This review is significant for policymakers and administrators of state-level non-contributory schemes in Nigeria, including agencies responsible for schemes such as Ekiti State's Ulerawa programme, who require an accurate rather than an optimistic picture of what coverage expansion can be expected to achieve. It is significant for researchers designing future evaluations of non-contributory schemes, by identifying where the existing evidence is strong, where it is genuinely mixed, and where common methodological pitfalls, including the mistaken citation of policy or document reviews as primary impact evidence, should be avoided. It is also significant more broadly for the discourse on Universal Health Coverage in Nigeria and other LMICs, by cautioning against treating enrolment or utilization statistics as a proxy for financial protection.

2. Review Methodology

2.1 Review Design and Protocol

This study adopted a structured narrative literature review design, appropriate given that the relevant evidence spans heterogeneous quantitative designs, including difference-in-differences, propensity score matching, cross-sectional comparisons, and meta-analysis, that are better suited to thematic and qualitative synthesis than to further statistical pooling. This review does not report a full systematic search with exhaustive database counts or a PRISMA flow diagram, since it is not a systematic review in that sense; rather, it is a purposive, thematically structured review of a focused set of studies on non-contributory health insurance and catastrophic health expenditure. A distinguishing feature of the protocol used here is that every empirical claim attributed to an included study was individually checked against that study's original publication, abstract or full text, before being used in the synthesis. This step was taken because secondary or derivative literature reviews can, particularly where heavily assisted by generative tools, attach fabricated or mismatched study details to genuine citations; studies whose

claims could not be confirmed against their original source, or where the claimed findings diverged materially from the source, were excluded from the synthesis rather than repeated.

2.2 Search Strategy and Information Sources

Candidate studies were identified using keyword combinations built around the review's core concepts, including "non-contributory health insurance," "publicly-funded health insurance," "tax-funded health insurance," "catastrophic health expenditure," "out-of-pocket payments," "financial risk protection," and "impoverishment," combined with geographic terms such as "Nigeria," "Ekiti," "sub-Saharan Africa," and "low- and middle-income countries." Sources consulted included PubMed/PMC, PLOS ONE and PLOS Medicine, BMC Health Services Research, BMC Public Health, Health Policy and Planning, Frontiers journals, MDPI Healthcare, and the World Health Organization's published reports and Bulletin, accessed through their publisher platforms.

2.3 Inclusion and Exclusion Criteria

Studies were included if they:

- • examined a non-contributory, publicly-funded, tax-financed, or donor-subsidized health insurance or health financing mechanism;
- • reported empirical findings, or provided a conceptual or measurement framework, relating to out-of-pocket expenditure, catastrophic health expenditure, or impoverishment;
- • were set in a low- or middle-income country, with particular relevance given to sub-Saharan Africa and Nigeria, or provided a globally applicable measurement framework; and
- • had findings that could be confirmed against the original publication.

Studies were excluded if they:

- • addressed only contributory, premium-financed schemes with no non-contributory or subsidy component;
- • were opinion pieces, editorials, or commentaries without empirical or conceptual substance; or
- • had claimed findings that could not be verified against, or diverged materially from, the original source.

2.4 Study Verification and Selection

Candidate studies were located through the search strategy above and screened for topical relevance. Each candidate was then checked directly against its original publication to confirm study design, sample, and reported quantitative findings before inclusion. This verification step led to the exclusion of several frequently cited studies whose claimed findings, on inspection, did not match the content of the actual publication. The resulting evidence base comprises twelve primary sources spanning Vietnam, China, Ghana, Tanzania, Kenya, and Nigeria, together with a 61-study global systematic review and meta-analysis and a foundational WHO-affiliated measurement paper, providing the evidentiary basis for the

thematic synthesis presented in Section 3. This is a deliberately focused rather than exhaustive evidence base; breadth was traded for verified accuracy.

3. Thematic Literature Review

3.1 Conceptualizing Catastrophic Health Expenditure and Financial Risk Protection

The World Health Organization defines financial risk protection as safeguarding households against financial hardship arising from health payments, encompassing two related concepts of hardship: catastrophic health expenditure and impoverishment due to out-of-pocket payments (WHO, 2010). Saksena, Hsu, and Evans (2014) note that catastrophic health expenditure occurs when a household's out-of-pocket payments are high enough relative to its available resources that the household is forced to forgo consumption of other necessary goods and services. Measuring CHE requires two consequential choices: a threshold, typically ranging from 10% to 40% of resources, and a denominator, which may be total household expenditure, non-food expenditure, or expenditure net of a basic subsistence allowance. Saksena et al. (2014) identify four standard indicators used across the literature: the incidence (headcount) of catastrophic expenditure, the catastrophic overshoot (intensity beyond the threshold), the incidence of impoverishment, and the increase in poverty depth attributable to health payments.

These measurement choices are not a merely technical footnote; they materially change reported findings. In Ghana, Sataru, Twumasi-Ankrah, and Seddoh (2022), analyzing the 2016/2017 round of the Ghana Living Standards Survey covering 14,009 nationally representative households, found that the incidence of catastrophic payments fell from 1.0% at a 10% consumption threshold to just 0.1% at a 25% threshold. A single change in threshold produced a tenfold difference in the headline statistic, illustrating why cross-study comparisons of CHE incidence must be treated cautiously unless the underlying threshold and denominator are identical. Saksena et al. (2014) further caution that indirect costs, such as transport and accommodation, are frequently omitted from household expenditure surveys, and that only a limited number of countries have the repeated survey data needed to track CHE trends reliably over time.

3.2 Global Evidence: Publicly-Funded Insurance in Asia

Two rigorously designed Asian evaluations offer some of the strongest causal evidence available on this question, and both converge on a similar, and somewhat uncomfortable, conclusion. In Vietnam, Nguyen and Lindholm (2012) evaluated the Health Care Fund for the Poor using a double-difference propensity score matching design applied to longitudinal data from the FilaBavi demographic surveillance site in rural Hanoi, covering 3,957 elderly households, of which 509 were policy-covered, across survey rounds in 2001, 2003, 2005, and 2007. The policy was associated with a significant shift in where care was sought: covered households increased their use of lower-cost communal health stations and

pharmacies relative to uncovered households, moving away from private care and self-treatment. However, the change in health-care expenditure as a proportion of total household expenditure was not statistically significant between covered and uncovered groups; the authors concluded the policy "met some goals but not all" with respect to reducing the financial burden of illness.

In China, Fang et al. (2019) evaluated the New Cooperative Medical Scheme (NCMS) using a difference-in-differences design that exploited the scheme's staggered rollout across villages between 2003 and 2007, drawing on the National Rural Fixed-Point Survey of roughly 300 villages across 31 provinces. Contrary to the expectation that subsidized insurance would reduce household spending, the study found that NCMS enrolment was associated with a 12.3% average increase in medical expenditure. This increase was concentrated among better-off and healthier households, whose spending rose by 20.6% and 22.1% respectively, consistent with a moral-hazard response in which insured households facing lower marginal costs simply consumed more care. Critically, households in poor health and low-income households showed no statistically significant change in expenditure at all, meaning the groups theoretically most in need of financial protection registered no measurable benefit. The authors attributed this to persistent co-payments, transport costs, and pre-payment requirements that continued to constrain the poorest households' effective access.

Read together, these two methodologically strong Asian studies suggest that publicly-subsidized insurance reliably changes where and how care is sought, but does not reliably reduce the financial burden borne by households, and in the Chinese case coincided with higher aggregate spending concentrated among those best able to afford it.

3.3 Evidence from Sub-Saharan Africa

In Tanzania, Renggli et al. (2019) examined the Community Health Fund (CHF) through a cross-sectional study of routine health-facility records and administrative and financial documents from two rural councils, together with economic-costing interviews with 21 health staff, covering the 2013/2014 financial year and early 2015. The study found that CHF enrolment coverage was extremely low, at only 11% of the population in one council and just 1% in the other, and that administering the CHF consumed roughly 16% to 17% of total operating costs. The authors concluded that the CHF "cannot be looked at as a stand-alone system," underscoring that a non-contributory scheme with very shallow population coverage cannot plausibly deliver population-level financial protection, regardless of how well it is designed on paper.

In Kenya, Barasa, Rogo, Mwaura, and Chuma (2018) examined reforms to the National Hospital Insurance Fund (NHIF), including the Health Insurance Subsidy Programme for the poor introduced from 2010 onward, through a review of published and grey literature evaluated against a health-financing framework assessing feasibility, equity, efficiency, and sustainability. This is a policy and document analysis rather than a primary household-level impact evaluation; the authors identified design flaws across several of the reforms examined that they concluded could compromise the extent to which these mechanisms achieve universal financial risk protection for the Kenyan population. Its evidentiary

weight is therefore that of an informed policy assessment rather than a quasi-experimental impact estimate, and it should not be cited as though it were the latter, a distinction not always maintained in secondary literature.

3.4 Evidence from Nigeria

At the national level, Aregbeshola and Khan (2018) analyzed the 2009/2010 Harmonized Nigeria Living Standard Survey and found catastrophic health expenditure incidence of 16.4% at a 10% consumption threshold and 13.7% at a 40% non-food-expenditure threshold. Using a $1.25-a-day poverty line, out-of-pocket payments were estimated to have pushed roughly an additional 1.3 million Nigerians into poverty. Counterintuitively, better-off households were more likely than poorer households to incur catastrophic payments, a pattern the authors interpreted as reflecting that the poorest households may simply forgo care they cannot afford rather than incur catastrophic cost seeking it, meaning headline CHE statistics can understate the true burden borne by the very poor.

Evidence from Ekiti State, the setting of the Ulerawa non-contributory scheme, is directly relevant. Ipinnimo and Durowade (2022) conducted a comparative cross-sectional study of 360 patients with non-communicable diseases, evenly split between private and public health facilities, recruited through multistage sampling. Catastrophic health expenditure prevalence was roughly double in private facilities compared with public facilities across both indicators used (42.2% versus 21.7% on one measure, and 46.8% versus 28.0% on a second), while impoverishment rates were statistically similar across facility type. Predictors of catastrophic expenditure also differed by sector, including occupation, disease complications, and visit frequency in private facilities, and education, occupation, socioeconomic status, complications, and alcohol use in public facilities. This finding indicates that, within the very state where the Ulerawa scheme operates, facility type is a first-order determinant of a household's financial risk exposure, and that any evaluation of the scheme's financial-protection effect will need to establish which facility types its beneficiaries actually use in practice.

At the federal level, Igbokwe et al. (2024) evaluated the implementation of the Basic Healthcare Provision Fund (BHCPF) across six northern Nigerian states between January 2021 and June 2022, using a mixed-methods design combining document review with key-informant interviews with state-level programme leads. While 80.8% of eligible ward-level primary health centres achieved BHCPF accreditation, disbursement timeliness varied sharply by state: some states disbursed funds across all four quarters, while others, including Borno and Kano, failed to commence disbursement in the first quarter and managed only two of four quarters overall. Every state examined showed suboptimal implementation in at least one thematic area. This illustrates that even a well-designed, adequately resourced non-contributory financing mechanism can fail to deliver predictable resources at facility level, a precondition for any downstream financial-protection effect to materialize.

At the sub-national scheme level, Onyemaechi and Ezenwaka (2022) conducted a pre-post mixed-methods study of a social health insurance scheme in Anambra State, surveying 447 respondents across 12 health facilities alongside 12 sex-disaggregated focus group discussions. The study

documented substantial and statistically significant shifts in health-seeking behaviour following enrolment: the proportion of respondents taking immediate action when ill rose from 34% to 83%; the proportion identifying a hospital as their first choice of care rose from 37.4% to 90.2%; and reliance on patent medicine vendors fell from 46% to 8.1%, with 71% of respondents reporting an overall positive behavioural change. This is strong evidence of a utilization and care-seeking effect. The study did not, however, measure catastrophic health expenditure, facility-based deliveries, or antenatal care attendance, and its relevance to this review is therefore to the access and utilization pathway rather than to direct financial-protection evidence.

3.5 Cross-Country Meta-Analytic Evidence

The strongest single piece of evidence available for this review comes from Eze, Ilechukwu, and Lawani (2023), a systematic review and meta-analysis of community-based health insurance in low- and middle-income countries. The review synthesized 61 studies, comprising 49 peer-reviewed publications, 10 working papers, one preprint, and one dissertation, covering 221,568 households across 20 LMICs, and was restricted to randomized, non-randomized, and quasi-experimental designs employing statistical methods to address selection bias. Community-based health insurance was associated with significantly higher odds of overall healthcare utilization (adjusted odds ratio [AOR] = 1.60), outpatient service use (AOR = 1.58), and facility-based delivery (AOR = 2.21), while the increase in inpatient hospitalization was not statistically significant (AOR = 1.53). Financial-protection effects were positive but comparatively modest and less consistent: out-of-pocket expenditure was reduced (AOR = 0.94) and catastrophic expenditure at the 10% threshold was reduced (AOR = 0.69), but the authors' own conclusion was that community-based health insurance "generally improves healthcare utilization but inconsistently delivers financial protection from health expenditure shocks." Because this finding aggregates across dozens of independent primary studies, it lends considerable weight to the pattern observed individually in the country-level evidence reviewed above: utilization gains from non-contributory and community-based insurance are more reliable than financial-protection gains.

4. Critical Analysis and Synthesis

4.1 Areas of Consensus

Across markedly different contexts, Vietnam, China, Ghana, Tanzania, Kenya, and Nigeria, and different methodologies, one finding recurs with unusual consistency: non-contributory or subsidized health insurance reliably increases healthcare utilization and shifts care-seeking behaviour toward formal, often public-sector, providers (Nguyen & Lindholm, 2012; Onyemaechi & Ezenwaka, 2022; Eze, Ilechukwu, & Lawani, 2023). This is the single most consistent finding in the reviewed literature and appears regardless of study design. There is also consensus that catastrophic health expenditure is highly sensitive to how it is measured, particularly the threshold and denominator chosen, which materially affects reported incidence and undermines simple cross-study comparison (Saksena, Hsu, & Evans,

2014), a point illustrated empirically by Sataru et al.'s (2022) tenfold swing in Ghana's reported incidence across two thresholds.

4.2 Areas of Disagreement and Inconsistency

Whether utilization gains translate into reduced catastrophic or out-of-pocket expenditure is not merely under-researched; it is a genuinely mixed finding across independent, methodologically credible studies. Nguyen and Lindholm (2012) found no significant reduction in Vietnam. Fang et al. (2019) found no effect for poor or low-income households in China, alongside an expenditure increase concentrated among the better-off. Eze et al.'s (2023) meta-analysis of 61 studies found statistically weaker and less consistent financial-protection effects relative to strong and consistent utilization effects. This pattern recurs too often, across too many independent and rigorously designed studies, to be dismissed as a temporary evidence gap; it appears to be a substantive feature of how non-contributory insurance actually operates.

4.3 Methodological Strengths of the Reviewed Literature

The strongest studies in this evidence base use designs capable of addressing selection bias directly: difference-in-differences with propensity score matching (Nguyen & Lindholm, 2012), difference-in-differences exploiting staggered rollout (Fang et al., 2019), and meta-analytic pooling restricted to studies employing selection-bias-adjusted methods (Eze, Ilechukwu, & Lawani, 2023). These designs substantially strengthen the causal weight that can be placed on their findings relative to simple before-after or insured-versus-uninsured comparisons.

4.4 Methodological Weaknesses

Several widely cited pieces of literature in this field are policy or document reviews rather than primary impact evaluations; Barasa et al.'s (2018) analysis of Kenya's NHIF reforms is a review of published and grey literature assessed against a financing-evaluation framework, not a household-level quasi-experiment, and can be mistakenly cited as though it were the latter if its actual content is not checked. Facility-record-based studies, such as Renggli et al. (2019) on Tanzania, capture administrative and coverage realities well but cannot speak directly to individual household expenditure burden. Cross-sectional single-country studies (Ipinnimo & Durowade, 2022; Aregbeshola & Khan, 2018; Sataru et al., 2022) provide valuable prevalence estimates but cannot, by design, establish whether insurance status or facility choice caused the differences observed, since neither is randomly assigned.

4.5 Contextual Differences

Facility type appears to be at least as strong a determinant of catastrophic expenditure as insurance status itself in the one Nigerian setting where this was directly examined: Ipinnimo and Durowade's (2022) Ekiti State findings show catastrophic expenditure prevalence roughly double in private facilities compared with public ones. Implementation capacity also varies sharply within a single country: Igbokwe et al.'s (2024) evaluation of Nigeria's BHCPF across six northern states found universally suboptimal implementation, but of very different kinds and severity by state, meaning a scheme's

financial-protection effect can differ enormously by administrative unit even where the underlying design is identical.

4.6 Emerging Issues

Indirect and non-medical costs, transport, accommodation, and informal payments, recur across this literature as a barrier that formal fee removal at the point of service does not address (Fang et al., 2019; Saksena, Hsu, & Evans, 2014), suggesting that eliminating out-of-pocket payment for medical services is necessary but not sufficient for full financial protection. Coverage depth and enrolment penetration may also matter more than scheme design details in absolute terms: Renggli et al.'s (2019) finding of 1% to 11% CHF coverage in Tanzania illustrates that a well-designed scheme reaching very few people cannot achieve population-level financial protection, whatever its intended design.

4.7 Future Directions

Future evaluations of sub-national non-contributory schemes, including Ekiti State's Ulerawa Scheme, would benefit from designs that explicitly separate the utilization effect from the financial-protection effect rather than assuming the two move together; from facility-type-disaggregated analysis, given the Ekiti-specific evidence that private-facility use roughly doubles catastrophic-expenditure risk; and from measurement of indirect, non-medical costs alongside formal out-of-pocket payments at the point of service.

5. Proposed Conceptual Framework

The evidence synthesized above supports a conceptual framework in which non-contributory health insurance influences financial risk protection through a two-stage pathway rather than a single, direct effect. In the first stage, scheme design and funding, mediated by implementation capacity, including disbursement timeliness and predictability (Igbokwe et al., 2024) and facility accreditation and enrolment coverage depth (Renggli et al., 2019), produces a utilization and care-seeking effect. This first-stage effect is the most consistently observed outcome across the reviewed literature (Onyemaechi & Ezenwaka, 2022; Eze, Ilechukwu, & Lawani, 2023).

In the second stage, this utilization effect translates into an actual financial-protection effect, measured as reduced catastrophic or out-of-pocket expenditure, only conditionally, moderated by indirect cost exposure, the facility type used by beneficiaries (Ipinnimo & Durowade, 2022), household income and health status (Fang et al., 2019), and the measurement threshold applied (Saksena, Hsu, & Evans, 2014). The central proposition of this framework is that utilization improvement is a necessary but not sufficient condition for financial protection: the pathway from being covered to being protected from catastrophic cost is governed by a distinct set of factors that must be separately targeted by scheme design and separately monitored by evaluation, rather than assumed to follow automatically from enrolment or utilization gains. Figure 1 presents this pathway.

6. Conclusions and Recommendations

6.1 Conclusion

This review set out to establish what verified empirical evidence actually shows about the relationship between non-contributory health insurance and catastrophic health expenditure. The evidence supports two conclusions held simultaneously. First, non-contributory health insurance is a consistently effective tool for improving healthcare utilization and shifting care-seeking behaviour toward formal providers; this finding recurs across every context examined in this review. Second, and in tension with common policy assumptions, financial risk protection should not be treated as an automatic consequence of coverage. Effects on catastrophic and out-of-pocket expenditure are real in some contexts but modest, inconsistent, and concentrated among particular groups in others; in the Chinese case, gains were essentially absent for the poorest enrollees who most needed protection. This distinction has direct relevance for evaluating and designing sub-national non-contributory schemes such as Ekiti State's Ulerawa Scheme, where facility-type mix, indirect costs, and implementation and disbursement capacity are likely to matter as much as coverage design itself in determining whether beneficiaries are actually protected from catastrophic cost.

6.2 Recommendations

For researchers

evaluations of non-contributory schemes should measure utilization and financial-protection outcomes as distinct outcomes rather than assuming one implies the other; should use quasi-experimental or difference-in-differences designs where feasible; should disaggregate findings by facility type and by household income or health status; and should account for indirect, non-medical costs alongside formal out-of-pocket payments.

For scheme administrators and practitioners

attention to disbursement timeliness and facility accreditation is a precondition for any financial-protection effect, not a secondary implementation detail, given the scale of disparity documented across Nigerian states by Igbokwe et al. (2024).

For policymakers

coverage and enrolment targets alone are an incomplete indicator of scheme success; catastrophic-expenditure indicators, disaggregated by facility type and income quintile, should be tracked alongside enrolment and utilization statistics before a scheme's financial-protection impact is publicly claimed.

For future evaluation of the Ulerawa Scheme specifically

given Ipinnimo and Durowade's (2022) finding that catastrophic-expenditure prevalence is roughly double in Ekiti State's private facilities compared with public ones, an evaluation of Ulerawa's actual financial-protection effect would need to establish which facility types beneficiaries use in practice, since

the scheme's benefit-package design and its real-world financial-protection effect may diverge substantially depending on this pattern.

Declarations

Funding Declaration

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Data Availability Declaration

Data availability: Not applicable. This study is a structured review based on information obtained from published and publicly available sources. No new datasets were generated or analysed during the study.

Ethics, Consent to Participate, and Consent to Publish Declarations

Ethics, Consent to Participate, and Consent to Publish declarations: not applicable. This study is a structured review of previously published and publicly available literature and did not involve human participants, the collection of personal data, or direct interaction with participants.

Author Contributions

All authors contributed equally to the conceptualization and design of the structured review, development of the review methodology, literature search and screening, data extraction and synthesis, interpretation of findings, and drafting of the manuscript. All authors contributed equally to the critical review and revision of the manuscript and approved the final version for publication.

Competing Interests

The authors declare no competing interests.

References

1. Aregbeshola BS, Khan SM (2018) Out-of-pocket payments, catastrophic health expenditure and poverty among households in Nigeria 2010. Int J Health Policy Manage 7(9):798–806. https://doi.org/10.15171/ijhpm.2018.19
2. Barasa E, Rogo K, Mwaura N, Chuma J (2018) Kenya National Hospital Insurance Fund reforms: Implications and lessons for universal health coverage. Health Syst Reform 4(4):346–361. https://doi.org/10.1080/23288604.2018.1513267
3. Eze P, Ilechukwu S, Lawani LO (2023) Impact of community-based health insurance in low- and middle-income countries: A systematic review and meta-analysis. PLoS ONE 18(6):e0287600. https://doi.org/10.1371/journal.pone.0287600

4. Fang C, He C, Rozelle S, Shi Q, Sun J, Yu N (2019) Heterogeneous impacts of basic social health insurance on medical expenditure: Evidence from China's New Cooperative Medical Scheme. Healthcare 7(4):131. https://doi.org/10.3390/healthcare7040131
5. Igbokwe U, Ibrahim R, Aina M, Umar M, Salihu M, Omoregie E, Sadiq FU, Obonyo B, Muhammad R, Isah SI, Joseph N, Wakil B, Tijjani F, Ibrahim A, Yahaya MN, Aigbogun E Jr (2024) Evaluating the implementation of the National Primary Health Care Development Agency (NPHCDA) gateway for the Basic Healthcare Provision Fund (BHCPF) across six Northern states in Nigeria. BMC Health Serv Res 24(1):1404. https://doi.org/10.1186/s12913-024-11867-3
6. Ipinnimo TM, Durowade KA (2022) Catastrophic health expenditure and impoverishment from non-communicable diseases: A comparison of private and public health facilities in Ekiti State, Southwest Nigeria. Ethiop J Health Sci 32(5):993–1006. https://doi.org/10.4314/ejhs.v32i5.15
7. Nguyen XT, Lindholm L (2012) Has Vietnam health care funds for the poor policy favored the elderly poor? BMC Health Serv Res 12:333. https://doi.org/10.1186/1472-6963-12-333
8. Onyemaechi S, Ezenwaka U (2022) Influence of sub-national social health insurance scheme on enrollees' health seeking behaviour in Anambra State, Nigeria: A pre and post study. BMC Public Health 22:1171. https://doi.org/10.1186/s12889-022-13606-x
9. Renggli S, Mayumana I, Mshana C, Mboya D, Kessy F, Tediosi F, Pfeiffer C, Aerts A, Lengeler C (2019) Looking at the bigger picture: How the wider health financing context affects the implementation of the Tanzanian Community Health Funds. Health Policy Plann 34(1):12–23. https://doi.org/10.1093/heapol/czy091
10. Saksena P, Hsu J, Evans DB (2014) Financial risk protection and universal health coverage: Evidence and measurement challenges. PLoS Med 11(9):e1001701. https://doi.org/10.1371/journal.pmed.1001701
11. Sataru F, Twumasi-Ankrah K, Seddoh A (2022) An analysis of catastrophic out-of-pocket health expenditures in Ghana. Front Health Serv 2:706216. https://doi.org/10.3389/frhs.2022.706216
12. World Health Organization (2010) The world health report: Health systems financing: The path to universal coverage. World Health Organization

Figures

Non-Contributory Scheme Design & Funding	→	Implementation Capacity (disbursement timeliness, facility accreditation, coverage depth)	→	Utilization / Care-Seeking Effect (consistently positive)
			↓	
Financial Protection Outcome (CHE / OOP reduction, impoverishment avoided) — inconsistent, conditional	←	Moderators: facility type used, indirect/non-medical costs, household income & health status, CHE measurement threshold	←	

Figure 1

Coverage-to-Protection Pathway for Non-Contributory Health Insurance. Source: Author's synthesis of reviewed evidence (2026).