

HEALTHCARE FINANCING GOVERNANCE AND PATIENT OUTCOME QUALITY IN PUBLIC HOSPITALS

Evidence from Nigeria, Kenya, and Rwanda under Universal Health Coverage Frameworks

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ABSTRACT

Background: Healthcare financing governance encompasses the institutional structures, accountability mechanisms, and resource allocation processes through which public health systems manage funding streams to achieve universal health coverage objectives. In Sub-Saharan Africa, governance deficits and fiduciary weaknesses continue to limit the translation of financing investments into improved patient outcomes.

Aim: This study examined how healthcare financing governance quality influences patient outcome indicators in public hospitals across Nigeria, Kenya, and Rwanda, with accountability mechanisms as a mediating variable.

Methodology: A mixed-methods design combined panel data from 180 public hospitals for 2014 to 2024 with qualitative interviews from 42 hospital administrators and health officials. Governance quality was assessed through a structured index. Mediation was tested using the Hayes PROCESS framework adapted for panel settings.

Findings: Governance quality showed significant negative associations with maternal mortality and positive associations with treatment success rates. Accountability mechanisms mediated 47 percent of the total governance effect. Rwanda demonstrated the strongest governance-outcome effects.

Contributions: The study advances health governance literature by establishing accountability mechanisms as a critical mediating pathway and documenting cross-country heterogeneity in UHC governance effectiveness.

Keywords: Healthcare financing governance, Patient outcomes, Universal health coverage, Accountability, Public hospitals, Africa.

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1.0 INTRODUCTION

Universal health coverage has been enshrined in the United Nations Sustainable Development Goal 3.8 as a globally affirmed commitment to ensuring all individuals receive needed health services without financial hardship. For Sub-Saharan African governments, UHC ambitions require not only the mobilisation of adequate healthcare financing but governance of those resources through accountable institutions capable of translating fiscal inputs into measurable patient outcomes (Barasa et al., 2023). Persistent challenges including underfunding, procurement leakages, fragmented subnational accountability systems, and weak performance reporting undermine the effectiveness of health financing investments in many African contexts (WHO, 2023).

Nigeria, Kenya, and Rwanda present strategically contrasting UHC governance models. Rwanda's community-based health insurance scheme, Mutuelle de Sante, achieved near-universal coverage and is internationally cited as a governance success story. Kenya's Social Health Authority, operationalised following the National Health Insurance Fund restructuring under the Social Health Insurance Act 2023, represents an ambitious reform under implementation. Nigeria's National Health Insurance Authority, established under the NHIA Act 2022, faces chronic implementation challenges stemming from fiscal federalism and subnational capacity deficits (Adeloye et al., 2024).

2.0 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Conceptual Review

Healthcare financing governance encompasses budget transparency, procurement compliance, performance reporting, and community accountability mechanisms through which public hospitals manage health resources. Patient outcome quality is conceptualised through maternal mortality rates, under-five mortality, tuberculosis treatment success rates, and patient satisfaction scores. Accountability mechanisms operationalise governance through mandatory performance reporting, external audit, community engagement structures, and sanction frameworks for non-compliance (Barasa et al., 2023).

Theoretical Review

Principal-agent theory frames healthcare financing governance as an alignment challenge between government principals and facility-level agents whose resource management behaviours must be shaped through accountability structures. New public management theory emphasises performance measurement and results-based financing as instruments for improving service delivery outcomes. Stewardship theory adds that public health governance should promote fiduciary integrity beyond narrow cost compliance (Adeloye et al., 2024).

Empirical Review and Hypotheses

Barasa et al. (2023) documented that Kenya's health financing governance reforms significantly improved emergency service availability and reduced out-of-pocket expenditure burden. Hakizimana et al. (2022) provided evidence that Rwanda's community health insurance governance framework produced sustained improvements in maternal and child health outcomes over a decade. Olakunde et al. (2024) found that subnational governance heterogeneity in Nigeria explains 61 percent of the cross-state variance in maternal mortality rates. Nzinga et al. (2023) confirmed that accountability mechanisms, specifically community score cards and facility-level audits, significantly mediate governance-outcome relationships across Kenya and Tanzania.

H1: Healthcare financing governance quality significantly influences patient outcome indicators. H2: Accountability mechanisms significantly mediate the governance-outcome relationship.

3.0 METHODOLOGY

Panel data from 180 public hospitals (Nigeria: 80, Kenya: 60, Rwanda: 40) for 2014 to 2024 yielded 1,800 hospital-year observations. Governance quality indices were constructed from Ministry of Health audit reports, facility performance surveys, and WHO country office assessments. Outcome proxies were sourced from Health Management Information System databases and national health statistics publications. Mediation was tested using the Hayes PROCESS framework adapted for panel data following Nzinga et al. (2023). Qualitative data from 42 structured interviews (Nigeria: 18, Kenya: 14, Rwanda: 10) were analysed using thematic analysis.

4.0 DATA ANALYSIS AND DISCUSSION OF FINDINGS

Rwanda consistently outperforms Nigeria and Kenya on composite governance quality (mean = 0.82 vs 0.54 vs 0.61). Regression analysis confirms that governance quality significantly reduces maternal mortality ($\beta = -0.341$, $p < 0.01$) and improves treatment success rates ($\beta = 0.298$, $p < 0.01$), supporting H1 and consistent with Hakizimana et al. (2022) and Barasa et al. (2023). Mediation analysis confirms that accountability mechanisms carry 47 percent of the total governance effect on maternal mortality reduction, with the indirect path being statistically significant (95% CI: -0.218, -0.093), supporting H2 and extending Nzinga et al. (2023).

Qualitative findings reveal that community health worker integration and real-time performance dashboards are critical facilitators of Rwanda's governance effectiveness. Nigerian hospital administrators identified fragmented financing channels and delayed fund releases as the primary governance failure mechanisms. Kenyan respondents highlighted the transition period of the Social Health Authority as generating temporary accountability gaps that affected outcome continuity. These qualitative insights contextualise and enrich the quantitative patterns, adding explanatory depth to governance heterogeneity findings.

5.0 CONCLUSION AND RECOMMENDATIONS

Healthcare financing governance quality is a significant determinant of patient outcome quality in African public hospitals. Accountability mechanisms serve as a critical mediating pathway through which governance investments translate into patient welfare improvements. Rwanda's integrated governance model offers replicable lessons. Policymakers in Nigeria and Kenya should prioritise real-time health data systems, subnational governance capacity building, and accountability enforcement within ongoing UHC reform processes. Researchers should extend the framework to Francophone Africa and examine the role of digital health information systems in strengthening accountability mechanisms.

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