



Evaluating District Hospital System Reforms in Nigeria

A Methodological Review of the Difference-in-Differences Model for Risk Reduction Assessment

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ABSTRACT

Background: District hospital system reforms in Nigeria aim to improve healthcare delivery and reduce systemic risks. Robust evaluation of their impact is critical for evidence-based policy, yet methodological rigour in existing assessments is often inconsistent.

Purpose and objectives: This review critically evaluates the application of the difference-in-differences (DiD) model for assessing risk reduction outcomes within Nigerian district hospital reforms. It aims to appraise model specification, identify common methodological pitfalls, and propose enhancements for causal inference in this context.

Keywords: *District hospitals, Nigeria, Difference-in-differences, Health systems reform, Risk assessment, Sub-Saharan Africa, Methodological review*

Article Highlights

- Systematic review critiques DiD model application for Nigerian district hospital reform evaluations.
- Identifies frequent omission of robustness checks like placebo tests, threatening causal validity.
- Recommends rigorous parallel trends testing and appropriate clustering (e.g., state/zone).
- Advocates for mandatory sensitivity analyses and event-study designs to examine effect dynamics.

Core Methodological Focus

The review scrutinizes the standard DiD equation and its critical assumptions—parallel trends, serial correlation, heteroskedasticity—typically addressed via clustered robust standard errors, within the context of Nigerian health system interventions.

This review emphasizes statistical rigor for causal inference in policy evaluation.

ABSTRACT-ONLY PUBLICATION

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