



Methodological Evaluation of District Hospitals Systems in Ethiopia Using Quasi-Experimental Design to Assess Risk Reduction Efforts

Alemayehu Tadesse¹, Asaminew Mengiste^{2,3}, Mulugeta Beyene⁴, Yared Woldemariam⁵

¹ Ethiopian Public Health Institute (EPHI)

² Mekelle University

³ Department of Clinical Research, Addis Ababa University

⁴ Department of Pediatrics, Hawassa University

⁵ Department of Pediatrics, Addis Ababa University

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Correspondence: atadesse@gmail.com

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Author notes

Alemayehu Tadesse is affiliated with Ethiopian Public Health Institute (EPHI) and focuses on Medicine research in Africa.

Asaminew Mengiste is affiliated with Mekelle University and focuses on Medicine research in Africa.

Mulugeta Beyene is affiliated with Department of Pediatrics, Hawassa University and focuses on Medicine research in Africa.

Yared Woldemariam is affiliated with Department of Pediatrics, Addis Ababa University and focuses on Medicine research in Africa.

Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of district hospitals systems in Ethiopia: quasi-experimental design for measuring risk reduction in Ethiopia. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Methodological evaluation of district hospitals systems in Ethiopia: quasi-experimental design for measuring risk reduction, Ethiopia, Africa, Medicine, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Ethiopia, District Hospitals, Quasi-Experimental Design, Quality Improvement, Risk Management, Public Health Systems, Outcome Evaluation

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