



Methodological Evaluation of District Hospital Systems in Kenya: Randomized Field Trial for Efficiency Gains

Cherono Okeyo¹, Mutua Mwita^{2,3}, Ngulu Ngila^{4,5}, Korogocho Chepkiron^{1,2}

¹ Kenya Agricultural and Livestock Research Organization (KALRO)

² Department of Clinical Research, Kenya Medical Research Institute (KEMRI)

³ Technical University of Kenya

⁴ Moi University

⁵ Kenya Medical Research Institute (KEMRI)

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Correspondence: cokeyo@gmail.com

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Author notes

Cherono Okeyo is affiliated with Kenya Agricultural and Livestock Research Organization (KALRO) and focuses on Medicine research in Africa.

Mutua Mwita is affiliated with Department of Clinical Research, Kenya Medical Research Institute (KEMRI) and focuses on Medicine research in Africa.

Ngulu Ngila is affiliated with Moi University and focuses on Medicine research in Africa.

Korogocho Chepkiron is affiliated with Kenya Agricultural and Livestock Research Organization (KALRO) 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 Kenya: randomized field trial for measuring efficiency gains in Kenya. 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 Kenya: randomized field trial for measuring efficiency gains, Kenya, Africa, Medicine, intervention study This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $\text{text}\{\logit\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Kenya, District Hospitals, Methodological Evaluation, Randomized Control Trial, Efficiency Measurement, Health Systems Reform, Quantitative Research

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