



# Methodological Evaluation of District Hospitals Systems in Kenya: A Quasi-Experimental Assessment of Cost-Effectiveness Systems

Mwangi Gitonga<sup>1</sup>

<sup>1</sup> Kenya Medical Research Institute (KEMRI)

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**Correspondence:** [mgitonga@hotmail.com](mailto:mgitonga@hotmail.com)

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## Author notes

*Mwangi Gitonga is affiliated with Kenya Medical Research Institute (KEMRI) 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: quasi-experimental design for measuring cost-effectiveness 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: quasi-experimental design for measuring cost-effectiveness, Kenya, Africa, Medicine, intervention study 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:** Kenya, District Hospitals, Methodology, Quasi-Experimental, Cost-Benefit Analysis, Health Economics, Service Delivery Systems

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