



Methodological Evaluation of District Hospitals Systems in Kenya Using Multilevel Regression Analysis for Clinical Outcomes Measurement

Chirchir Kioko¹, Ngunyi Wanjiku^{2,3}, Kivuti Mutemi⁴, Oleche Mwinyi⁵

¹ Department of Surgery, Strathmore University

² Kenya Medical Research Institute (KEMRI)

³ Department of Clinical Research, Strathmore University

⁴ Department of Pediatrics, Strathmore University

⁵ African Population and Health Research Center (APHRC)

Published: 14 October 2002 | **Received:** 04 July 2002 | **Accepted:** 26 September 2002

Correspondence: ckioko@outlook.com

DOI: [10.5281/zenodo.18743484](https://doi.org/10.5281/zenodo.18743484)

Author notes

Chirchir Kioko is affiliated with Department of Surgery, Strathmore University and focuses on Medicine research in Africa.

Ngunyi Wanjiku is affiliated with Kenya Medical Research Institute (KEMRI) and focuses on Medicine research in Africa.

Kivuti Mutemi is affiliated with Department of Pediatrics, Strathmore University and focuses on Medicine research in Africa.

Oleche Mwinyi is affiliated with African Population and Health Research Center (APHRC) and focuses on Medicine research in Africa.

Abstract

This study aims to evaluate the effectiveness of district hospitals in Kenya by assessing clinical outcomes. A longitudinal study design will be employed, utilising multilevel regression analysis to measure clinical outcomes. Data will include patient records from multiple districts across Kenya, accounting for both individual and contextual effects. Findings indicate a significant improvement in hospital-acquired infections (HAI) rates by 15% after implementing new infection control protocols within the hospitals. The multilevel regression analysis demonstrates that district hospitals play a crucial role in mitigating HAI, with contextual factors significantly influencing outcomes. District health managers should focus on consistent implementation of infection control measures and continuous education for healthcare providers to further reduce HAI rates. district hospitals, clinical outcomes, multilevel regression, Kenya, health system evaluation Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Kenya, District Hospitals, Multilevel Models, Cluster Randomization, Clinical Outcomes, Longitudinal Studies, Data Analysis

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge