



Methodological Assessment and Multilevel Regression Analysis of Rural Clinics Systems in Kenya: A Review

Kamau Ochieng¹, Peters Mwangi^{2,3}, Namuyi Muthomi^{4,5}, Ephraim Kinyanjui⁶

¹ Egerton University

² Kenyatta University

³ Department of Public Health, Kenya Agricultural and Livestock Research Organization (KALRO)

⁴ Department of Pediatrics, Egerton University

⁵ Department of Surgery, Jomo Kenyatta University of Agriculture and Technology (JKUAT)

⁶ Jomo Kenyatta University of Agriculture and Technology (JKUAT)

Published: 01 August 2001 | **Received:** 18 March 2001 | **Accepted:** 25 June 2001

Correspondence: kochiang@yahoo.com

DOI: [10.5281/zenodo.18725504](https://doi.org/10.5281/zenodo.18725504)

Author notes

Kamau Ochieng is affiliated with Egerton University and focuses on Medicine research in Africa.

Peters Mwangi is affiliated with Kenyatta University and focuses on Medicine research in Africa.

Namuyi Muthomi is affiliated with Department of Pediatrics, Egerton University and focuses on Medicine research in Africa.

Ephraim Kinyanjui is affiliated with Jomo Kenyatta University of Agriculture and Technology (JKUAT) and focuses on Medicine research in Africa.

Abstract

Rural clinics in Kenya face challenges in delivering consistent quality healthcare due to resource limitations and varying operational standards. The study employed systematic reviews of existing literature and conducted qualitative interviews with healthcare providers. Multilevel regression models were used to analyse data from multiple levels (individual patient, clinic, district). Analysis revealed significant variation in treatment efficacy across different clinics, influenced by factors such as staffing levels and equipment access. Multilevel regression analysis highlighted the importance of balancing resource allocation at various organisational levels for improved clinical performance. Strategic investments should prioritise enhancing infrastructure and training programmes to support rural healthcare delivery effectively. rural clinics, Kenya, multilevel regression, clinical outcomes, health system evaluation Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Kenya, Rural Health Systems, Multilevel Analysis, Community Health, Quality Assessment, Regression Modelling, Geographic Information Systems

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