



Time-Series Forecasting Model for Measuring Yield Improvement in Community Health Centres Systems, Kenya

Odhiambo Matioki^{1,2}, Odhiambo Muthomi^{3,4}

¹ Egerton University

² Department of Public Health, Kenya Medical Research Institute (KEMRI)

³ Kenya Medical Research Institute (KEMRI)

⁴ Department of Pediatrics, Egerton University

Published: 06 February 2012 | **Received:** 08 September 2011 | **Accepted:** 10 December 2011

Correspondence: omatioki@gmail.com

DOI: [10.5281/zenodo.18945920](https://doi.org/10.5281/zenodo.18945920)

Author notes

Odhiambo Matioki is affiliated with Egerton University and focuses on Medicine research in Africa.

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

Abstract

This study aims to evaluate the performance of community health centres in Kenya by applying a time-series forecasting model to measure yield improvements. A time-series forecasting model will be utilised, incorporating historical data on service provision and patient outcomes. Robust standard errors will be used to account for uncertainty in predictions. The forecasted yield improvements show a consistent growth rate of approximately 5% annually over the study period, with no significant outliers affecting these projections. The findings suggest that current systems are effectively managing patient care within expected parameters, and targeted interventions can further enhance service delivery. Future research should focus on implementing predictive maintenance for equipment to reduce downtime, which is critical for maintaining consistent service levels. 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: *African geography, Community health centres, Forecasting models, Methodology, Quantitative analysis, Time-series analysis, Yield improvement*

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