



Time-Series Forecasting Model for Evaluating Clinical Outcomes in Urban Primary Care Networks in Uganda: A Methodological Assessment

Kizza Irungu^{1,2}, Osamu Mukasa³

¹ Department of Pediatrics, Mbarara University of Science and Technology

² Department of Public Health, Busitema University

³ Department of Pediatrics, Busitema University

Published: 06 October 2013 | **Received:** 11 July 2013 | **Accepted:** 20 September 2013

Correspondence: kirungu@outlook.com

DOI: [10.5281/zenodo.18983112](https://doi.org/10.5281/zenodo.18983112)

Author notes

Kizza Irungu is affiliated with Department of Pediatrics, Mbarara University of Science and Technology and focuses on Medicine research in Africa.

Osamu Mukasa is affiliated with Department of Pediatrics, Busitema University and focuses on Medicine research in Africa.

Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of urban primary care networks systems in Uganda: time-series forecasting model for measuring clinical outcomes in Uganda. 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 urban primary care networks systems in Uganda: time-series forecasting model for measuring clinical outcomes, Uganda, Africa, Medicine, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta^T X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African Geography, Urbanization, Primary Care, Time-Series Analysis, Forecasting Models, Methodology, Public Health 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