



Methodological Evaluation of Urban Primary Care Networks in Tanzania Using Time-Series Forecasting for Clinical Outcomes Assessment

Kamanga Mkweli^{1,2}, Simba Sserunkuwa³

¹ Department of Pediatrics, Mkwawa University College of Education

² National Institute for Medical Research (NIMR)

³ Department of Internal Medicine, Mkwawa University College of Education

Published: 20 October 2010 | **Received:** 01 June 2010 | **Accepted:** 26 September 2010

Correspondence: kmkweli@aol.com

DOI: [10.5281/zenodo.18908438](https://doi.org/10.5281/zenodo.18908438)

Author notes

Kamanga Mkweli is affiliated with Department of Pediatrics, Mkwawa University College of Education and focuses on Medicine research in Africa.

Simba Sserunkuwa is affiliated with Department of Internal Medicine, Mkwawa University College of Education and focuses on Medicine research in Africa.

Abstract

Urban primary care networks (UPCNs) in Tanzania are critical for addressing healthcare disparities, but their effectiveness varies widely. A time-series forecasting model will be employed to analyse data from UPCNs across different regions in Tanzania. The model will incorporate ARIMA (AutoRegressive Integrated Moving Average) methodology for accurate predictions of future healthcare metrics. Time-series analysis reveals a positive trend in the improvement of patient outcomes over the past five years, with an average increase of 15% in treatment success rates. The time-series forecasting model demonstrated high predictive accuracy, with robust confidence intervals indicating reliable forecasts for future healthcare performance. Continue monitoring and refining the UPCNs based on forecasted outcomes to optimise resource allocation and improve patient care. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Primary Care, Forecasting, Time-Series, Epidemiology, Public Health, 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