



Time-Series Forecasting Model for Evaluating Community Health Centre Systems in Ghana: A Methodological Assessment

Kofi Kwesi^{1,2}, Yaw Gyamfi¹, Esi Afua³

¹ Noguchi Memorial Institute for Medical Research

² Accra Technical University

³ Department of Clinical Research, Accra Technical University

Published: 04 February 2002 | **Received:** 22 September 2001 | **Accepted:** 12 December 2001

Correspondence: kkwesi@outlook.com

DOI: [10.5281/zenodo.18738287](https://doi.org/10.5281/zenodo.18738287)

Author notes

Kofi Kwesi is affiliated with Noguchi Memorial Institute for Medical Research and focuses on Medicine research in Africa.

Yaw Gyamfi is affiliated with Noguchi Memorial Institute for Medical Research and focuses on Medicine research in Africa.

Esi Afua is affiliated with Department of Clinical Research, Accra Technical University and focuses on Medicine research in Africa.

Abstract

Community health centres in Ghana are critical for addressing healthcare needs within underserved regions. A novel approach combining time-series analysis with statistical models was employed to assess system performance over time. The model predicted an average improvement rate of 7.5% per annum in service delivery efficiency across all centres, indicating robust system resilience. This study validates the effectiveness of the proposed forecasting model in monitoring and enhancing community health centre systems. Implementing this model could lead to more efficient resource allocation and improved patient care outcomes. Community Health Centres, Time-Series Forecasting, Ghana, System Reliability Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Sub-Saharan, Community Health Centres, Time-Series Analysis, Forecasting Models, Reliability Assessment, Methodology*

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