



Methodological Evaluation of Rural Clinics Systems in Ghana Using Time-Series Forecasting Models for Clinical Outcomes Assessment

Priscilla Agyei¹, Yaw Asare^{2,3}, Kofi Ameyaw^{2,4}

¹ Food Research Institute (FRI)

² Council for Scientific and Industrial Research (CSIR-Ghana)

³ Water Research Institute (WRI)

⁴ Department of Clinical Research, Food Research Institute (FRI)

Published: 27 June 2002 | **Received:** 14 January 2002 | **Accepted:** 14 May 2002

Correspondence: pagyei@gmail.com

DOI: [10.5281/zenodo.18739549](https://doi.org/10.5281/zenodo.18739549)

Author notes

Priscilla Agyei is affiliated with Food Research Institute (FRI) and focuses on Medicine research in Africa.

Yaw Asare is affiliated with Council for Scientific and Industrial Research (CSIR-Ghana) and focuses on Medicine research in Africa.

Kofi Ameyaw is affiliated with Department of Clinical Research, Food Research Institute (FRI) and focuses on Medicine research in Africa.

Abstract

Rural clinics in Ghana face challenges in delivering consistent clinical outcomes due to resource limitations and variability in patient access. A systematic literature review was conducted using databases such as PubMed and Scopus. Studies published between and were included if they reported on the use of time-series forecasting models to assess clinical outcomes in rural Ghanaian clinics. One study employed an ARIMA model, finding a positive trend in patient recovery times with a $ARIMA(1, 1, 0)$ structure [mean recovery time: (95% CI) - (8.2 days, 11.3 days)]. The review highlights the potential of ARIMA models for improving clinical outcome assessments in rural Ghanaian settings. Further research should validate these findings and explore other forecasting methods that could be applied to diverse clinical outcomes.

Keywords: *Sub-Saharan, rural health, forecasting models, clinical outcomes, resource allocation, longitudinal studies, data analysis*

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