Time-Series Forecasting Model for Measuring Adoption Rates in Nigerian Community Health Centre Systems: A Methodological Evaluation

Osaze Adeboyo[1]

[1] Department of Surgery, Bayero University Kano

Author notes

Osaze Adeboyo is affiliated with Department of Surgery, Bayero University Kano and focuses on Medicine research in Africa.

Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of community health centres systems in Nigeria: time-series forecasting model for measuring adoption rates in Nigeria. 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 community health centres systems in Nigeria: time-series forecasting model for measuring adoption rates, Nigeria, Africa, Medicine, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $text\{logit\}(\pi)=beta\,0+\beta^{\neg}p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan Africa, Community Health Centres, Time-Series Analysis, Forecasting Models, Evaluation Metrics, Epidemiology, 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