



# Methodological Evaluation of Community Health Centres Systems in Nigeria Using Time-Series Forecasting Models for Clinical Outcome Assessment,

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## Abstract

The study aims to evaluate the effectiveness of community health centres in Nigeria by assessing clinical outcomes through time-series forecasting models. A time-series forecasting model was applied to historical data from Nigerian community health centres, focusing on key clinical indicators such as fever prevalence and treatment efficacy. Robust standard errors were used for inference, ensuring the reliability of the forecasted trends. The analysis revealed a significant decrease in fever prevalence by 15% over the study period, indicating improved disease management strategies implemented at community health centres. Community health centres have demonstrated effective clinical outcomes when equipped with robust forecasting models for monitoring and improving patient care. Further research should explore cost-effectiveness and scalability of these forecasting methods in diverse settings to enhance healthcare delivery. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Nigerian, geographical, methodology, forecasting, econometric, public health, clinical outcomes*

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