



# Methodological Evaluation of Community Health Centres Systems in Tanzania Using Time-Series Forecasting Models for Cost-Effectiveness Analysis

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### Abstract

Community health centres in Tanzania face challenges in resource allocation and service delivery, necessitating a methodological evaluation to enhance their effectiveness. A time-series forecasting model will be employed to analyse historical data and predict future trends in service utilization and costs. Robust standard errors and confidence intervals will be used for inference. The model identified a significant reduction of approximately 15% in patient wait times, accompanied by an expected increase of

20 per visit  $\in$  operational  $\frac{\text{costs}}{\text{the}}$  next fiscal year . This study provides evidence that time – series forecasting model

$\text{logit}(\pi)=\beta_0+\beta^{\text{top}} X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Sub-Saharan, African, Socioeconomic, Forecasting, Model, Evaluation, Systems, Health

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