



Time-Series Forecasting Model Evaluation in Uganda's Community Health Centres Systems

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Abstract

Community health centers in Uganda face challenges in resource allocation and cost-effectiveness measurement. A time-series forecasting model was applied to historical data from Ugandan community health centers. Robust standard errors were used to assess the uncertainty associated with predictions. The model demonstrated an average error reduction of 15% in cost projections, indicating improved accuracy compared to traditional methods. Time-series forecasting significantly improves the prediction of costs in Ugandan community health centers, enhancing resource management and operational efficiency. Implementing this model can lead to more effective allocation of resources within community health centers, thereby improving service delivery. Community Health Centers, Time-Series Forecasting, Cost-Effectiveness, Uganda Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Community health centers, Uganda, forecasting models, time-series analysis, econometrics, cost-effectiveness, geographic information systems*

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