



Methodological Evaluation of District Hospitals Systems in Rwanda Using Time-Series Forecasting Models

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Abstract

The healthcare system in Rwanda, particularly at district hospitals, faces challenges related to resource allocation and operational efficiency. A time-series forecasting model was employed to analyse historical data from district hospitals. Robust standard errors were used to account for uncertainty in forecasts. The analysis revealed a positive trend in hospital efficiency, with an improvement of approximately 15% over the last five years. Time-series forecasting models can effectively measure and predict efficiency gains within district hospitals in Rwanda. Further research should focus on integrating these models into policy frameworks to enhance healthcare system performance. District Hospitals, Time-Series Forecasting, Efficiency Gains, Robust Standard Errors Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi)=\beta_0+\beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: African geography, district hospitals, forecasting models, time-series analysis, resource allocation, operational efficiency, econometrics

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