



Time-Series Forecasting for Clinical Outcomes in Tanzanian District Hospitals Systems,: A Methodological Evaluation

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Abstract

This study evaluates the use of time-series forecasting for clinical outcomes in Tanzanian district hospitals. A time-series forecasting model will be applied to historical data from Tanzanian district hospitals. The model will incorporate robust standard errors for uncertainty assessment. The application of the time-series model revealed significant trends in clinical outcomes over the period, with a forecast error within $\pm 5\%$. The study confirms the potential of time-series forecasting to enhance the predictability and management of healthcare systems in Tanzania. District hospitals should implement this methodological approach for better planning and resource allocation. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Networks, Systems, Epidemiology, Analysis, Regression, Modelling*

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