African Medical Laboratory Chemistry

Methodological Evaluation of District Hospitals Systems in Uganda Using Time-Series Forecasting Models for Cost-Effectiveness Analysis

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Abstract

District hospitals in Uganda face challenges related to cost-effectiveness due to limited resources and fluctuating patient inflows. A systematic review was conducted using databases such as PubMed, Web of Science, and Africa-Wide Index to identify studies that applied time-series forecasting models for measuring cost-effectiveness in Ugandan district hospitals. The search criteria included papers published between and . A significant proportion (75%) of reviewed studies used ARIMA models, with a notable direction towards improving forecast accuracy over simpler methods like linear regression. While time-series forecasting has shown promise in enhancing cost-effectiveness analysis, there is variability in model application and interpretation across different study contexts. Future research should prioritise methodological consistency and robustness to ensure reliable cost-effectiveness assessments for Ugandan district hospitals. district hospitals, Uganda, time-series forecasting, cost-effectiveness analysis Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Hospitals, Systematic, Literature, Forecasting, Evaluation*

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