



# Cost-Efficiency Analysis of District Hospitals in Uganda Using Time-Series Forecasting Models,

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## Abstract

The healthcare landscape in Uganda has seen a significant increase in district hospitals' operational costs over time. A meta-analysis approach was employed to analyse financial records from to . Time-series forecasting models were used to project future costs based on historical data. The time-series forecast model indicated a consistent upward trend in operational costs, with an estimated increase of 5% per annum over the study period. Despite initial cost efficiency, long-term projections suggest escalating costs that could strain district hospital budgets if not managed effectively. Implementing predictive financial models and targeted interventions to control rising costs is recommended for sustainability. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, district hospitals, meta-analysis, cost-effectiveness, forecasting*

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