



Methodological Evaluation of Emergency Care Systems in Uganda Using Time-Series Forecasting Models

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Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of emergency care units systems in Uganda: time-series forecasting model for measuring clinical outcomes in Uganda. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A structured review of relevant literature was conducted, with thematic synthesis of key findings. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Methodological evaluation of emergency care units systems in Uganda: time-series forecasting model for measuring clinical outcomes, Uganda, Africa, Medicine, systematic review This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $\text{text} \{ \text{logit} \} (\pi) = \beta_0 + \beta^{-1} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, healthcare systems, forecasting, epidemiology, evaluation, analytics, outcomes*

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