African Sport Psychology (Clinical/Applied)

Time-Series Forecasting Model for Risk Reduction in District Hospitals Systems in Kenya: An Evaluation of Methodological Approaches

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Abstract

District hospitals in Kenya face significant operational challenges, particularly related to risk management and forecasting. A comprehensive analysis of district hospital data was conducted using a time-series forecasting model. Robust standard errors were applied to estimate the uncertainty around predictions. The time-series model demonstrated an average reduction in risk by approximately 20% over a one-year period, with significant variance among districts. Methodological approaches for risk assessment in district hospitals have shown promise but require further refinement and validation. Further research should explore the scalability of these methods across different regions and integrate them into existing hospital management systems. district hospitals, time-series forecasting, risk reduction, Kenya Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta}\ p\ X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African healthcare, forecasting models, risk management, time-series analysis, econometrics, predictive analytics, district health systems*

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