African Performing Arts Research

Time-Series Forecasting Model for Evaluating Clinical Outcomes in Maternal Care Facilities Systems in Kenya,

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Abstract

The healthcare system in Kenya faces challenges in ensuring timely and effective maternal care, leading to suboptimal clinical outcomes. A time-series forecasting model was employed to analyse and predict clinical outcomes based on historical data from maternal care facilities. The model included ARIMA (AutoRegressive Integrated Moving Average) methodology, accounting for potential uncertainties with robust standard errors. The analysis revealed a significant upward trend in the number of adverse birth outcomes over the study period, suggesting improvements are needed to mitigate these risks. This study underscores the importance of continuous monitoring and timely intervention strategies to enhance maternal care quality in Kenya. Healthcare authorities should prioritise training programmes for healthcare providers and implement preventive measures tailored to identified trends. Maternal Care, Clinical Outcomes, Time-Series Forecasting, ARIMA Model Treatment effect was estimated with $text\{logit\}(\pi)=beta0+\vec{\beta}\,pX_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, geospatial analysis, predictive modelling, epidemiology, public health systems, cohort studies, data analytics*

ABSTRACT-ONLY PUBLICATION

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