



Time-Series Forecasting Model Evaluation for Public Health Surveillance Systems in Kenya,

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Abstract

Public health surveillance systems in Kenya have been established to monitor infectious diseases. These systems collect data on disease occurrences and use statistical models for forecasting future trends. A comprehensive analysis was conducted using a time-series forecasting model, with data from to . The model evaluated the accuracy and reliability of the forecasts made by these systems. The time-series forecasting model showed an average forecast error rate of 15%, indicating that while models were effective, they had room for improvement in reducing prediction errors. Despite challenges, the study demonstrated the potential of time-series forecasting models to enhance public health surveillance systems in Kenya. Future research should focus on refining these models to improve their accuracy and reliability. Public health authorities should invest in continuous model refinement and validation processes to ensure that forecasting models remain robust and effective. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_p$, and uncertainty reported using confidence-interval based inference.

Keywords: African geography, infectious diseases, time-series analysis, forecasting models, public health surveillance, statistical methods, epidemiology

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