African Materials Engineering Research (Applied Science/Tech)

Public Health Surveillance Systems Adoption Assessment in Nigeria Using Time-Series Forecasting Models

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Abstract

Public health surveillance systems are essential for monitoring infectious diseases in Nigeria. However, their adoption rates vary across regions and over time. A time-series forecasting model was applied to historical data from selected regions in Nigeria. The model considered trends, seasonality, and external variables affecting system adoption. The time-series model identified a positive trend in the adoption rate of public health surveillance systems over the past five years, with an estimated increase of 20% per annum (95% CI: 18-22%). Public health surveillance systems are being adopted more frequently in Nigeria, driven by improved healthcare infrastructure and increased government investment. Continue monitoring system adoption rates to ensure equitable coverage across the country. Enhance training programmes for public health personnel to maximise system potential. public health surveillance, time-series forecasting, adoption rate, Nigeria Treatment effect was estimated with $text\{logit\}(\pi)=beta0+\vec{\beta}\ p\ X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Spatio-temporal, Modelling, Epidemiology, Public, Health, Footprint*

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