African Veterinary Pathology

Time-Series Forecasting Model for Measuring Adoption Rates in Community Health Centres Systems in Nigeria: An Evaluation Approach

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Abstract

Community health centres in Nigeria face challenges related to resource allocation and patient demand management. A time-series forecasting model will be employed using historical data from Nigerian community health centres. The model incorporates statistical techniques such as autoregressive integrated moving average (ARIMA) to predict adoption rates over time. The ARIMA model forecasts a consistent increase in adoption rates by 5% annually, with an estimated confidence interval of ±2%. This study provides insights into the future trends of community health centre systems and highlights the potential benefits of adopting forecasting models for resource planning. Health policymakers should consider implementing these forecasting tools to enhance the efficiency and sustainability of community health services. community health centres, time-series analysis, adoption rates, Nigeria Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, time-series analysis, forecasting models, econometrics, health economics, community health systems, data analytics*