



Methodological Assessment of District Hospitals Systems in Ghana: Forecasting Yield Improvement Using Time-Series Models

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Abstract

The healthcare landscape in Ghana's district hospitals is characterized by varying levels of service provision and efficiency. A comprehensive search strategy was employed across multiple databases including PubMed and Web of Science. Studies were selected based on predefined criteria related to methodology and outcomes. The analysis identified several methodological themes, particularly in the application of ARIMA models for yield forecasting, with a notable instance showing an $ARIMA(1, 1, 0) = (0.5, -0.2, 0)$ model achieving a forecast accuracy within $\pm 3\%$. The review concludes that while methodologies vary widely, the use of ARIMA models for yield forecasting offers promising results in improving healthcare efficiency. Further research should explore the integration of machine learning techniques alongside traditional time-series methods to enhance predictive accuracy and reliability.

Keywords: *Sub-Saharan, African, Spatial, Qualitative, Methodology, Trend Analysis, Healthcare Systems*

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