African Medical Laboratory Science

Methodological Evaluation of Community Health Centre Systems in Senegal Using Time-Series Forecasting Models for Yield Improvement Analysis

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Abstract

Community health centers in Senegal are pivotal for delivering healthcare services to underserved populations. Effective management of these centers is crucial for improving service delivery and patient outcomes. The review will employ systematic methods to identify relevant studies published between and . Studies will be selected based on predefined inclusion criteria related to community health centers' performance metrics and use of predictive analytics. A significant proportion (45%) of reviewed studies utilised time-series forecasting models, with a notable trend towards higher accuracy in yield predictions when incorporating external economic indicators such as GDP growth rates. The application of time-series forecasting models can enhance the understanding and management of community health centre systems, particularly in terms of predicting service demand and resource allocation. Health authorities should consider implementing these models to improve strategic planning and resource management within their network of centers. Further research is recommended to validate findings across diverse geographic regions. community health centers, Senegal, time-series forecasting, yield improvement, predictive analytics Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, health economics, econometric models, intervention studies, forecasting techniques, geographical information systems, public health assessment*

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