African Clinical Nutrition

Methodological Assessment of District Hospitals Systems in Senegal Using Time-Series Forecasting Models for Adoption Rate Measurement

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Abstract

This study focuses on methodological assessment of district hospitals systems in Senegal with a particular emphasis on measuring adoption rates for health interventions. The methodology employs time-series forecasting models to analyse historical data from district hospitals in Senegal. The study utilizes a linear regression model for predicting future adoption rates based on past trends and seasonal variations. A notable trend observed was a consistent increase in the number of health intervention adoptions over the five-year period, with an average annual growth rate of approximately 5%. The time-series forecasting models have proven effective in predicting future adoption rates, providing valuable insights for system improvement and resource allocation. Based on findings, it is recommended that district hospitals implement targeted interventions to stabilise or accelerate the adoption process, particularly during peak seasons. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

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