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Time-Series Forecasting Model Evaluation of Senegal's Community Health Centre Systems,

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Abstract

This study aims to evaluate the efficiency of Senegal's community health centre systems over a five-year period. A time-series analysis was conducted, employing an ARIMA (AutoRegressive Integrated Moving Average) model with robust standard errors estimated at the 95% confidence level. The forecast indicated a consistent upward trend in patient visits over the five-year period, suggesting improved access to healthcare services. The time-series forecasting model proved effective in measuring efficiency gains within Senegal's community health centres. Further research should focus on extending this model to other sectors and regions for comprehensive evaluation. Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Sub-Saharan, Community Health, Time-Series Analysis, Forecasting, ARIMA, Evaluation*

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