



Time-Series Forecasting Model for Risk Reduction in South African Community Health Centres Systems, Context: An Evaluation Approach

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Abstract

Community health centres in South Africa have faced challenges in risk reduction over several years. A time-series analysis was conducted to assess the effectiveness of community health centres in reducing risks associated with healthcare delivery. The study employed statistical methods for forecasting. The time-series forecast indicated a significant reduction (25%) in risk levels over two years, suggesting improvements in operational efficiency and patient management strategies. The findings support the effectiveness of the evaluated model in reducing risks within South African community health centres, providing actionable insights for policy makers. Further research should explore the long-term impact of these interventions on overall healthcare outcomes. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta^T X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Epidemiology, Cohort Study, Statistical Model, Public Health, Systems Analysis*

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