



Methodological Evaluation of Community Health Centre Systems in South Africa Using Difference-in-Differences for Clinical Outcomes Measurement

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Abstract

Community health centers in South Africa have been established to improve access to healthcare services for underserved populations. A longitudinal study will employ a difference-in-differences approach to assess the impact of community health centre systems on patient clinical outcomes. Data from various health centers will be used, with random assignment as the baseline for comparison groups. The analysis indicates that patients treated in community health centers show an improvement in recovery rates by a statistically significant proportion ($p < 0.05$) compared to historical data. The difference-in-differences model demonstrates a positive effect of community health centre systems on clinical outcomes, supporting their continued integration into healthcare delivery networks. Future research should explore the scalability and cost-effectiveness of these models in broader geographical areas. Community Health Centers, Difference-in-Differences, Clinical Outcomes, Longitudinal Study, South Africa Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Sub-Saharan, Community Health Centers, Difference-in-Differences, Longitudinal Studies, Quantitative Methods, Public Health Systems*

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