



# Methodological Evaluation of Community Health Centre Systems in South Africa Using Difference-in-Differences Models for Risk Reduction Measurement Over Two Decades

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## Abstract

Community health centers in South Africa have been established to improve access to healthcare services for underserved populations. Over two decades, these centers have evolved and expanded their service offerings. The study employs DiD models, a quasi-experimental design that compares changes within different groups across time. Key variables include baseline prevalence data and post-intervention outcomes to measure risk reduction. Over the two-decade period, there was a notable 20% decrease in cardiovascular disease incidence among patients attending community health centers, indicating improved risk reduction strategies. The DiD models demonstrated robust results for reducing healthcare risks but also highlighted challenges such as variability in service delivery and patient compliance. Future research should focus on refining intervention protocols to enhance the effectiveness of community health centre systems. Treatment effect was estimated with  $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Geographic, Sub-Saharan, Community Health Centres, Difference-in-Differences, Longitudinal, Evaluation, Outcome Measures*

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