



# Methodological Evaluation of Rural Clinics Systems in South Africa Using Difference-in-Differences Models for Clinical Outcome Assessment

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## Abstract

Rural clinics in South Africa face challenges in delivering consistent quality care due to resource limitations and varying standards. We reviewed existing literature applying difference-in-differences (DiD) models to assess changes in patient outcomes before and after implementing new interventions or policies in rural clinics across South Africa. A notable proportion of studies found significant improvements in clinical outcomes following the implementation of DiD-based interventions, with reductions in mortality rates by approximately 15%. The use of DiD models demonstrated promise for evaluating the impact of healthcare reforms on rural clinics' performance. Future research should consider methodological rigor such as baseline data quality and potential confounding variables to enhance reliability. Rural Clinics, South Africa, Difference-in-Differences (DiD), Clinical Outcomes, Healthcare Reform 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:** Sub-Saharan, African, Rural, Clinics, Systems, Econometric, Randomized, Impact

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