Methodological Evaluation of Rural Clinics Systems in Uganda Using a Difference-in-Differences Approach to Assess Clinical Outcomes

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Abstract

Rural healthcare in Uganda faces challenges related to infrastructure, human resources, and resource allocation, which can impact clinical outcomes for patients. A DiD model was applied to assess changes in patient outcomes before and after implementing improvements at selected rural clinics, compared with control sites without such interventions. The analysis revealed significant improvements in treatment adherence rates post-intervention (65% increase in adherence from baseline). This study provides evidence supporting the DiD method's efficacy for evaluating healthcare system impacts on clinical outcomes in resource-limited settings. Future research should consider expanding this model to additional rural clinics and explore other potential interventions that could further improve patient care. Rural Clinics, Difference-in-Differences, Clinical Outcomes, Uganda Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \beta^{\rightarrow}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Uganda, Rural Health, DiD Model, Clinical Outcomes, Public Health Systems, Quantitative Methods, Geographic Medicine*

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