



Methodological Validation of Rural Clinic Systems in Uganda Using Difference-in-Differences for Clinical Outcomes Measurement

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Abstract

The rural health care systems in Uganda face challenges related to resource allocation and service delivery. A difference-in-differences approach was employed to measure changes in clinical outcomes before and after implementing new rural clinic protocols. The DiD model accounts for potential confounders through the use of pre- and post-policy intervention periods as comparison groups. The analysis revealed a statistically significant improvement in patient recovery rates ($p < 0.05$) following the implementation of new clinic protocols, with a 20% reduction in hospital readmission rates across all clinics. The DiD model demonstrated its effectiveness in measuring clinical outcomes and validating the efficacy of rural clinic systems in Uganda. Based on these findings, further research should be conducted to explore scalability and sustainability of the interventions within different contexts. Rural clinics, Difference-in-Differences (DiD), Clinical Outcomes, Uganda 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: *Rural health, Uganda, Difference-in-Differences, Public Health, Evaluation, Quasi-experimental, Outcome Measures*

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