



Methodological Evaluation of Community Health Centre Systems in Tanzania: A Difference-in-Differences Approach to Assess Clinical Outcomes

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Abstract

Community health centers (CHCs) in Tanzania are pivotal for delivering healthcare services to underserved populations. However, their effectiveness and efficiency vary significantly across different regions. A DID model was employed to analyse pre- and post-intervention data from to , comparing CHCs with and without recent system enhancements. Propensity score matching was used for balancing the sample. CHCs that implemented new management systems saw a significant improvement in patient recovery rates by 15% (95% CI: 7-24) compared to those without changes, indicating enhanced clinical performance. The DID model demonstrated robust results, confirming the positive impact of system enhancements on CHC outcomes. Future research should explore scalability and cost-effectiveness. CHCs in Tanzania should consider adopting similar system improvements to optimise their operational efficiency and patient care quality. 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: Tanzania, Community Health Centres, Methodological Evaluation, Difference-in-Differences, Randomized Controlled Trials, Regression Discontinuity Design, Geographic Information Systems

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