



Methodological Evaluation of Community Health Centre Systems in Kenya Using Difference-in-Differences for Clinical Outcomes Measurement

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Abstract

Community health centers (CHCs) in Kenya have been established to improve access to healthcare services for rural populations. However, their impact on clinical outcomes remains underexplored. A DID model was applied to assess pre-post intervention effects comparing baseline and post-intervention data from CHC patients versus matched control groups. Patient data included demographics, health indicators, and clinical trial results. An uncertainty statement is provided for the statistical analysis: standard errors are robust. Prevalence of hypertension decreased by 15% in post-intervention period compared to baseline (95% CI: -20% to -10%). The DID model effectively captured changes attributable to CHC interventions, demonstrating a significant impact on clinical outcomes. Further studies should consider longitudinal follow-up and incorporate qualitative assessments for comprehensive evaluation. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_p$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, clinical outcomes, difference-in-differences, health economics, intervention studies, randomized controlled trials, service delivery systems*

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