Methodological Evaluation of Community Health Centres Systems in Uganda Using Difference-in-Differences Approach for Risk Reduction Measurement

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Abstract

Community health centers in Uganda face challenges in reducing healthcare risks among communities due to limited resources and infrastructure. A Difference-in-Differences approach was employed to assess the impact of enhanced healthcare resource allocation over a two-year period. Data from pre- and post-intervention surveys were analysed using statistical software. The DiD analysis revealed that community health centers in intervention areas saw a statistically significant decrease ($p < 0.05$) in maternal mortality rates by 18% compared to control regions, indicating improved healthcare access and quality. The study confirms the effectiveness of resource reallocation strategies on reducing healthcare risks, providing evidence for policy makers and health authorities to enhance community health centre services. Healthcare providers should prioritise training programmes and infrastructure improvements in under-resourced regions to further mitigate risks. Community Health Centers, DiD Model, Maternal Mortality Reduction, Resource Allocation Treatment effect was estimated with $text\{logit\}(\pi) = beta\, 0 + \beta^{\rightarrow} p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, community health centers, intervention studies, difference-in-differences, econometric methods, public health outcomes, randomized control trials*

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