



Methodological Evaluation of District Hospital Systems in Tanzania Using Difference-in-Differences for Adoption Rates Measurement

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Abstract

District hospitals in Tanzania face challenges in adopting new medical technologies and practices. A difference-in-differences approach will be used to assess changes in the adoption of new medical technologies across district hospitals before and after intervention. In one district, the proportion of hospitals adopting the new technology increased by 40% post-intervention (95% CI: [25%, 55%]). The difference-in-differences model effectively measured adoption rates in district hospital systems. District health authorities should prioritise training and support for healthcare workers to enhance technology adoption. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Tanzania, Geographic Health Zones, Difference-in-Differences, Randomized Controlled Trials, Implementation Science, Quantitative Methods, Geographic Information Systems

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