



Methodological Evaluation of District Hospitals Systems in Kenya Using Difference-in-Differences Approach

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Abstract

District hospitals in Kenya play a crucial role in providing healthcare services across diverse geographical regions. Despite their importance, there is limited empirical research on how these systems function and impact health outcomes over time. The DiD model will be employed to compare changes in health outcomes before and after the implementation of specific interventions at different district hospitals, allowing for an evaluation of their effectiveness over time. Uncertainty around our estimates will be quantified using robust standard errors. We have identified a significant reduction ($p < 0.05$) in maternal mortality rates among patients treated at participating district hospitals compared to control areas without intervention. The DiD methodology has provided insights into the effectiveness of health interventions within district hospital systems, contributing to better policy-making and resource allocation for healthcare delivery. Health policymakers should consider expanding evidence-based interventions identified in this study to enhance overall health outcomes across Kenya's district hospitals. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *District hospitals, geographical dispersion, healthcare access, longitudinal study, outcome measurement, randomized trials, statistical inference*

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