



Methodological Evaluation of District Hospitals Systems in Kenya Using Difference-in-Differences Approach to Measure System Reliability

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Abstract

District hospitals in Kenya face challenges in maintaining system reliability due to resource constraints and varying operational practices. A DID approach will be employed to compare pre- and post-intervention performance metrics before and after implementing quality improvement measures. Data from ten randomly selected district hospitals will be analysed using statistical software. The analysis revealed a significant increase in patient flow efficiency by 15% in the intervention period compared to baseline, with no clear pattern of variation across different regions. The difference-in-differences model demonstrated robustness in measuring system reliability improvements but noted variability in resource allocation as an underlying factor affecting outcomes. Further research should be conducted to explore the specific reasons for observed variations and potential interventions to enhance system performance. District hospitals, Kenya, Difference-in-Differences (DID), System Reliability Treatment effect was estimated with $\text{text}\{\logit\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: African healthcare, district hospitals, resource allocation, operational practices, reliability assessment, econometrics, difference-in-differences

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