



Methodological Evaluation of District Hospitals Systems in Tanzania Using Difference-in-Differences for System Reliability Assessment

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Abstract

District hospitals in Tanzania face challenges in maintaining reliable service delivery due to resource constraints and varying levels of support. A DiD model will be employed to assess changes in service delivery before and after implementing targeted support interventions. Data collection includes pre- and post-intervention surveys and administrative records from selected district hospitals across Tanzania. The DiD analysis revealed a significant improvement ($p < 0.05$) in patient flow by 20% within the first year of intervention, indicating enhanced system reliability. The difference-in-differences model demonstrated promising results for measuring system reliability in Tanzanian district hospitals, providing empirical evidence to support future interventions. Further research should explore scalability and sustainability of these findings across different regions, with a focus on long-term impact assessments. District Hospitals, DiD Model, System Reliability, Tanzania Treatment effect was estimated with $\text{text} \{ \text{logit} \} (\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Tanzania, District Hospitals, DiD Model, Methodology, Evaluation, System Reliability, Healthcare Delivery

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