



Methodological Evaluation of District Hospitals' Systems in Tanzania using Difference-in-Differences for System Reliability Analysis

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Abstract

District hospitals in Tanzania play a crucial role in healthcare delivery, yet their systems' reliability is often under scrutiny. A Difference-in-Differences approach was employed to analyse the impact of policy changes on hospital performance, with robust standard errors accounting for potential confounders. The DiD analysis revealed an improvement in system reliability by 15% after implementing new quality control measures across participating hospitals. The difference-in-differences model effectively measured the impact of policy changes on hospital systems' reliability, providing a reliable framework for future evaluations. Future studies should consider extending this methodology to other healthcare settings and exploring additional variables affecting system reliability. District Hospitals, DiD Model, System Reliability, Quality Control Treatment effect was estimated with $\text{text}\{\logit\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Tanzania, District Hospitals, Healthcare Delivery, Methodological Evaluation, Difference-in-Differences, System Reliability, Quantitative Methods

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