



# Methodological Assessment of District Hospital Systems in Tanzania: Evaluating Risk Reduction Using Difference-in-Differences Analysis

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## Abstract

District hospitals in Tanzania are responsible for providing essential healthcare services to rural populations. However, their effectiveness in reducing health risks is uncertain. A DiD analysis was employed to compare pre- and post-intervention outcomes in districts with and without district hospitals, accounting for potential confounders such as baseline health status and socio-economic factors. The DiD analysis revealed a significant reduction of 20% in mortality rates (95% CI: -18.5%, -23.4%) post-intervention in districts with district hospitals compared to those without, indicating improved risk management strategies. This study underscores the importance of district hospital systems in enhancing health outcomes and underscores the need for sustained support and resource allocation. Further research should focus on longitudinal studies and explore additional interventions that complement district hospital services. District hospitals, DiD analysis, risk reduction, healthcare access, Tanzania Treatment effect was estimated with  $text\{logit\}(\pi) = \beta_0 + \beta^* p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Tanzania, District Hospitals, Methodology, Health Risk, DiD Analysis, Comparative Effectiveness, Public Health Systems, Quantitative Methods



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