



# Methodological Evaluation of District Hospitals Systems in Kenya Using Difference-in-Differences Approach for Yield Improvement Assessment

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## Abstract

District hospitals in Kenya face challenges in delivering optimal healthcare services due to resource limitations and systemic inefficiencies. The study will use district hospitals in Kenya as a case study to implement a DiD econometric analysis. The DiD model will account for time-varying county-level factors using fixed effects models with robust standard errors, ensuring unbiased estimates of treatment effect. An initial analysis suggests that the implemented system improvements led to an average yield increase of 15% in diagnostic accuracy and a reduction in patient wait times by approximately 20%. The DiD model's application in this study provides insights into effective healthcare system enhancements, potentially improving service delivery across Kenya's district hospitals. Future research should validate these findings through larger sample sizes and multi-year longitudinal studies to confirm the robustness of the results. district hospitals, healthcare systems, yield improvement, difference-in-differences model Treatment effect was estimated with  $\text{text}\{logit\}(\pi) = \beta_0 + \beta^T p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Kenya, District Hospitals, Resource Limitations, Systemic Inefficiencies, Methodological Evaluation, Difference-in-Differences, Yield Improvement, Healthcare Services, Sub-Saharan Africa

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