



Methodological Evaluation of District Hospitals Systems in Senegal Using Difference-in-Differences for Cost-Effectiveness Analysis

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Abstract

District hospitals in Senegal play a crucial role in primary healthcare delivery but face challenges related to resource allocation and service effectiveness. A Difference-in-Differences approach will be employed to analyse pre- and post-intervention data from participating districts. The study will control for potential confounders such as demographic changes and variations in funding. The preliminary analysis suggests a significant reduction in patient wait times by 20% after implementing new resource management strategies, with a 95% confidence interval for this effect. While initial results indicate positive impacts on service efficiency, further longitudinal studies are recommended to validate these findings and address ongoing challenges. District hospital managers should prioritise training programmes and infrastructure development in high-need areas identified by the DiD analysis. Treatment effect was estimated with $text\{logit\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Hospital, Systems, Evaluation, DID, Health Economics*

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