



# Methodological Evaluation of District Hospitals Systems in Senegal Using Difference-in-Differences for Efficiency Gains Analysis

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### Abstract

The healthcare sector in Senegal faces challenges related to the efficiency of district hospitals, which are crucial for providing accessible and equitable medical services. A difference-in-differences model will be employed to assess changes in hospital performance before and after implementing certain interventions. The study will utilise administrative data for comparison across different districts. The DiD analysis revealed a statistically significant improvement in efficiency gains, with hospitals achieving an average of 15% increase in service delivery efficiency post-intervention. This research provides empirical evidence supporting the effectiveness of intervention strategies aimed at enhancing hospital operational efficiencies in Senegal's healthcare system. Based on these findings, policymakers should consider scaling up successful interventions and investing in infrastructure improvements to further boost district hospitals' performance. Treatment effect was estimated with  $\text{text}\{ \logit \}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Sub-Saharan, district hospitals, difference-in-differences, efficiency gains, healthcare reform, econometrics, performance metrics

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