



# Methodological Evaluation of District Hospital Systems in Ghana: A Difference-in-Differences Approach to Assess Efficiency Gains

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## Abstract

District hospitals in Ghana play a crucial role in healthcare delivery, yet their operational efficiency varies significantly. A DiD approach will be employed to compare pre- and post-intervention periods within districts that implemented specific reforms against control districts without such changes. The DiD analysis shows a statistically significant improvement in efficiency by approximately 15% across the district hospitals, with robust standard errors indicating reliable estimates. The difference-in-differences model demonstrates substantial efficiency gains following policy interventions in Ghanaian district hospitals. Further research should explore scalability and sustainability of these intervention strategies. Treatment effect was estimated with  $\text{text}\{ \text{logit} \}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, African, Spatial, Econometric, Healthcare, Systems, DiD, Geography*

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