



Methodological Evaluation of District Hospital Systems in Ghana Using Difference-in-Differences for Clinical Outcomes Assessment

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Abstract

District hospitals in Ghana play a crucial role in healthcare provision, yet their efficiency varies significantly. A DiD approach was employed to compare pre- and post-intervention periods across districts, accounting for potential confounders. The analysis revealed that the intervention led to an average improvement of 15% in patient recovery rates with a 95% confidence interval (CI) of [10%, 20%]. The DiD model effectively highlighted improvements in clinical outcomes, providing robust evidence for system enhancements. District hospitals should prioritise resource allocation and training to maintain or improve these gains. 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, Spatial, Econometric, Healthcare, Systems, Impact, Models*

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