



Methodological Evaluation of District Hospitals Systems in Ghana Using Panel Data for Clinical Outcome Assessment

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Abstract

District hospitals in Ghana are critical for healthcare delivery, yet their operational efficiency varies significantly. Panel data was used to estimate the impact of resource allocation on patient recovery rates across selected districts. Robust standard errors were applied for inference. Resource allocation improved patient recovery rates by an average of 15% in treated hospitals compared to controls, with a 95% confidence interval (CI) [7%, 23%]. The panel data analysis revealed significant improvements in clinical outcomes following resource reallocation. Continuous monitoring and periodic review of hospital systems are recommended for sustained improvement. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Ghana, District Hospitals, Panel Data, Clinical Outcomes, Resource Allocation, Efficiency Metrics, Econometric Analysis

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