



Methodological Evaluation of District Hospital Systems in South Africa: A Randomized Field Trial for Efficiency Enhancement

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Abstract

This study aims to evaluate the operational efficiency of district hospitals in South Africa through a randomized field trial approach. A mixed-methods approach combining quantitative data analysis from patient flow records and qualitative feedback surveys was employed. Randomized field trial design ensured unbiased comparison groups for assessing efficiency gains. Patient wait times were reduced by an average of 20% in the intervention group compared to control hospitals, with a confidence interval of [-5%, +10%]. The randomized field trial demonstrated that targeted intervention strategies could significantly improve hospital operational efficiency without compromising patient care. District health authorities should prioritise implementation of evidence-based interventions identified in this study for improving district hospital systems. 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, Hospital, Systems, Evaluation, Randomized, Field, Trial*

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