



Efficiency Gains in Rwandan Community Health Centres: A Randomized Field Trial Evaluation

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Abstract

The Rwandan healthcare system aims to improve community health services by equipping them with modern facilities and trained personnel. However, the operational efficiency of these centres remains a critical area for improvement. A randomized field trial was conducted among 50 randomly selected community health centers across Rwanda. Data collection included patient flow metrics, service delivery times, and resource utilization measurements over six months. The analysis revealed that the median improvement in operational efficiency was 12% (95% CI: [8%, 16%]), with a significant reduction in patient waiting times by approximately 30 minutes per visit on average. The randomized field trial demonstrated that targeted interventions could significantly improve the operational efficiency of Rwandan community health centers, thereby enhancing service delivery and resource allocation effectiveness. Based on the findings, a series of evidence-based policy recommendations are proposed to optimise the functioning of these health centers, including streamlined appointment scheduling systems and improved facility maintenance protocols. Community Health Centers, Efficiency Gains, Randomized Field Trial, Operational Optimization Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Rwandan, Community Health Centres, Randomized Field Trial, Efficiency Metrics, Operational Effectiveness, Resource Allocation Models, Performance Measurement Techniques*

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