



Methodological Evaluation of Community Health Centre Systems in Uganda: A Randomized Field Trial for Efficiency Gains

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Abstract

Community health centers in Uganda are critical for delivering healthcare services to underserved populations. However, their operational efficiency varies significantly. A randomized controlled trial was conducted among 100 randomly selected health centers. Data collected included patient flow, resource utilization, and service outcomes. Statistical analysis used a linear regression model to assess efficiency gains. The study revealed that the implementation of targeted interventions led to an average increase in patient throughput by 25% (95% CI: 18-32%). Our findings suggest that strategic adjustments can significantly improve operational efficiency, supporting better health outcomes for underserved communities. Health authorities should prioritise the replication of successful interventions and further research to refine strategies. Community Health Centres, Efficiency Gains, Randomized Field Trial, Linear Regression Model Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, randomized controlled trial, health service delivery, community health centers, impact evaluation, outcome measures, cost-effectiveness analysis*

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