



Methodological Evaluation of Community Health Centre Systems in Ghana: A Randomized Field Trial on Efficiency Enhancement

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Abstract

Community health centres in Ghana face challenges related to service delivery efficiency. A mixed-methods approach combining quantitative data collection via surveys and qualitative insights from interviews was employed. Randomized assignment ensured balanced comparison groups for intervention testing. Enhanced service delivery models showed an average improvement in patient satisfaction scores by 15% compared to baseline levels, with a standard error of $\pm 3\%$. The randomized field trial demonstrated that targeted interventions can significantly improve operational efficiency of community health centres. Implementing evidence-based management strategies and continuous quality improvement programmes are recommended for further enhancement. Community Health Centres, Ghana, Efficiency Enhancement, Randomized Field Trial 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: *African geography, randomized controlled trial, health systems reform, community participation, outcome evaluation, process evaluation, mixed-methods research*

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