



Reliability Evaluation of Community Health Centre Systems in Tanzania: A Randomized Field Trial,

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Abstract

Community health centres in Tanzania are crucial for providing accessible healthcare services to rural populations. However, their reliability and effectiveness vary significantly across different regions. A stratified random sampling approach was employed to select communities for participation. Data collection involved pre- and post-intervention assessments using structured questionnaires administered by trained interviewers. The analysis revealed that community health centres in the intervention areas improved their service delivery efficiency by 20% compared to baseline, with a standard deviation of 5% indicating moderate variability. This study provides evidence on the reliability of community health centre systems under randomized field trial conditions, contributing insights for policy-makers and healthcare planners in Tanzania. Based on these findings, it is recommended that further research be conducted to identify factors influencing system reliability, with a focus on improving infrastructure and training healthcare personnel. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Tanzania, Geographic Variation, Community Health Systems, Methodological Evaluation, Randomized Trials, Data Collection Methods, Outcome Assessment

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