



Methodological Evaluation of Community Health Centre Systems in Rwanda: A Meta-Analysis

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Abstract

Community health centres (CHCs) play a critical role in Rwanda's healthcare system, aiming to provide accessible and affordable medical services. A meta-analysis approach was employed to aggregate data from multiple studies conducted across different regions of Rwanda. Randomized field trials were used to measure the effectiveness and acceptance of CHCs, with stratified sampling ensuring diversity within participant groups. The analysis revealed a significant adoption rate of 75% for CHCs in urban areas compared to 60% in rural settings, highlighting geographical disparities in service uptake. CHC systems require targeted interventions to improve their efficacy and accessibility, particularly in underserved rural regions. Strategic placement of CHCs should prioritise high-density population zones to maximise coverage. Enhanced community engagement strategies are also recommended to increase user adoption. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Community Health Centres, Meta-Analysis, Methodology, Randomized Controlled Trials, Public Health Systems, Rwanda*

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