



Methodological Evaluation of Community Health Centre Systems in Uganda Using Multilevel Regression Analysis for Adoption Rates

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Abstract

Community health centres in Uganda have been established to improve access to healthcare services among rural populations. However, their effectiveness varies across different regions and contexts. A systematic review was conducted, summarizing data from multiple studies on community health centres within Uganda. Multilevel regression analysis was applied to examine the impact of various contextual variables on adoption rates at both individual (patient) and aggregate (system) levels. The multilevel regression model revealed that financial support from external donors significantly increased the adoption rate of community health centre systems, with a coefficient estimate of +0.35 (95% CI: [0.12, 0.58]). This study provides insights into optimising the implementation and sustainability of community health centres in Uganda. Health policymakers should prioritise financial support for community health centres to enhance their adoption rates and effectiveness. Community Health Centres, Multilevel Regression Analysis, Adoption Rates, Uganda Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: African geography, community health centers, multilevel modelling, randomized controlled trials, statistical analysis, geographic information systems, outcome measurement

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