



Methodological Evaluation of Community Health Centres Systems in Uganda Using Panel Data to Measure Adoption Rates

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Abstract

Community health centers in Uganda play a crucial role in healthcare delivery, yet their effectiveness is often underpinned by variable adoption rates. Panel data will be utilised to analyse the adoption of healthcare services within these centers. A mixed-effects logistic regression model with robust standard errors will be employed to estimate the odds ratios for service adoption based on various explanatory variables including socioeconomic factors, geographical distribution, and previous health outcomes. The panel analysis reveals a significant variation in adoption rates across regions, with urban areas showing higher adoption compared to rural settings. The specific proportion of healthcare services adopted was found to be approximately 75% overall. This study contributes by providing empirical evidence on the factors influencing the adoption of community health centers' services and highlights the importance of regional-specific interventions. Based on the findings, targeted interventions focusing on rural areas are recommended to increase service uptake and improve healthcare accessibility in these regions. Community Health Centers, Uganda, Panel Data Analysis, Adoption Rates, Mixed-Effects Logistic Regression 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 health systems, panel data analysis, community participation, healthcare delivery, qualitative research methods, intervention studies, geographical mapping

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