



Methodological Evaluation of Community Health Centre Systems in Uganda: Panel Data Estimation for Measuring Risk Reduction

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Abstract

Community health centers (CHCs) in Uganda play a crucial role in addressing public health challenges. A mixed-methods approach combining quantitative panel data with qualitative interviews was employed. Panel Data Estimation (PDE) techniques were used for the econometric analysis. In a sample of 100 communities, CHCs showed an average reduction in disease incidence by 25% over two years. The findings suggest that effective resource allocation and community engagement can significantly mitigate health risks. Policy recommendations include increasing funding for CHCs and improving referral mechanisms to enhance service delivery. Community Health Centers, Panel Data Estimation, Risk Reduction, 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 health systems, panel data analysis, qualitative research, public health, risk assessment, service delivery, community engagement

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