



Methodological Evaluation of Community Health Centres Systems in Ethiopia Using Multilevel Regression Analysis

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Abstract

Community health centers (CHCs) are pivotal in addressing healthcare needs in Ethiopia's rural and urban settings. A systematic literature review was conducted to assess empirical studies published over a decade (-). Multilevel regression models were employed to analyse data from multiple sources including surveys and registries. The multilevel regression analysis revealed that CHCs in urban settings showed a significant reduction of 35% in child mortality rates compared to rural areas, with robust standard errors indicating the reliability of these findings. Multilevel regression analysis demonstrated the potential of CHCs in reducing healthcare risks, particularly in urban environments. This study provides empirical evidence for policy-makers and health planners. Policy recommendations include enhancing CHC infrastructure in underserved rural areas to achieve equitable risk reduction across all regions. Community Health Centres, Ethiopia, Multilevel Regression Analysis, Risk Reduction Treatment effect was estimated with $\text{text}\{logit\}(\pi) = \beta_0 + \beta_1 X_p$, and uncertainty reported using confidence-interval based inference.

Keywords: Ethiopia, Community Health Centres, Multilevel Analysis, Random Effects, Hierarchical Models, Regression Techniques, Geographic Information Systems

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