



Methodological Evaluation of Community Health Centre Systems in Rwanda: A Multilevel Regression Analysis on Adoption Rates

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Abstract

Community health centres (CHCs) play a crucial role in Rwanda's healthcare system by providing essential services to underserved populations. The study employs multilevel regression analysis, incorporating level-1 (individual patient) and level-2 (CHCs) predictors to understand factors influencing CHC adoption rates across Rwanda's healthcare landscape. Multilevel models revealed significant differences in adoption rates between urban and rural areas, with a proportion of 75% for urban CHCs compared to 60% in rural settings. The multilevel regression analysis provides nuanced insights into the factors affecting CHC adoption, offering policymakers robust evidence for resource allocation strategies. Policymakers should prioritise CHC expansion in underserved rural regions based on findings from this study. Treatment effect was estimated with $\text{text}\{logit\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, geographically, multilevel, regression, accessibility, public health, evaluation*

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