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Methodological Evaluation of Urban Primary Care Networks in Tanzania Using Multilevel Regression Analysis for Clinical Outcomes Assessment

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Abstract

Urban primary care networks in Tanzania face challenges related to clinical outcomes assessment, necessitating methodological improvements. A multilevel regression model was employed to analyse data from urban primary care networks in Tanzania. The model included fixed effects for network-level variables and random intercepts for individual patient outcomes. The multilevel regression analysis revealed that the proportion of patients achieving clinical improvement varied significantly across different urban primary care networks ($p < 0.05$). Multilevel regression analysis provided a nuanced understanding of factors influencing clinical outcomes in urban primary care settings. Further research should focus on implementing targeted interventions within identified network-specific areas to enhance patient outcomes. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Primary Care, Multilevel Modelling, Regression Analysis, Outcome Evaluation, Geographic Information Systems, Community Health Services*

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