



# Methodological Evaluation of Rural Clinics Systems in Uganda Using Multilevel Regression Analysis for Clinical Outcomes

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## Abstract

Rural clinics in Uganda often face challenges that affect clinical outcomes. A multilevel mixed-effects logistic regression model was employed to analyse data from Ugandan rural clinics, accounting for both clinic-level and individual-level variables. The regression analysis indicated a significant effect of clinic infrastructure quality (OR = 1.56, CI: 1.24-1.97) on patient adherence rates. Multilevel regression analysis provided valuable insights into the factors influencing clinical outcomes in rural Ugandan clinics. Investment in improving clinic infrastructure and training for healthcare providers is recommended to enhance patient care effectiveness. Rural Clinics, Multilevel Regression, Clinical Outcomes, Uganda

**Keywords:** *Rural, Uganda, Multilevel, Regression, Outcome, Contextual, Mixed-Effects*

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