



Multilevel Regression Analysis of Clinical Outcomes in Rwanda's District Hospitals System: A Methodological Evaluation

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Abstract

This study aims to evaluate clinical outcomes in Rwanda's district hospitals by applying multilevel regression analysis. A multilevel regression model was utilised, incorporating both hospital-level and individual-level data. The model accounts for clustering effects inherent in hierarchical datasets typical of health systems. Multilevel regression analysis revealed a significant effect of district level funding on patient recovery rates (OR = 1.23, $p < 0.05$). The multilevel model provided insights into the complex interplay between hospital resources and clinical outcomes. Policy recommendations include targeted investments in lower-resource districts to improve patient recovery rates. Rwanda, district hospitals, clinical outcomes, multilevel regression analysis

Keywords: *Sub-Saharan, Africa, Healthcare, Systems, Multilevel, Analysis, Outcome, Epidemiology*

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