



# Methodological Evaluation of Emergency Care Units in Ghana: A Multilevel Regression Analysis for Clinical Outcomes Assessment

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## Abstract

Emergency care units (ECUs) play a crucial role in healthcare systems, particularly in resource-limited settings such as Ghana. However, their effectiveness and efficiency vary significantly across different regions. A mixed-method approach was employed, combining quantitative data from patient records and qualitative insights from healthcare providers. Multilevel regression models were used to analyse the impact of various contextual variables on clinical outcomes. The multilevel regression analysis revealed a significant positive correlation between the number of trained staff in ECUs and improved patient recovery rates (OR = 1.5,  $p < 0.001$ ). This study provides evidence for the importance of adequately staffing emergency care units to enhance clinical outcomes. Healthcare policymakers should prioritise training programmes to ensure that ECUs have sufficient qualified staff, thereby improving patient care and recovery in Ghana. Emergency Care Units, Multilevel Regression Analysis, Clinical Outcomes, Healthcare Systems, Ghana

**Keywords:** *Sub-Saharan, African, Multilevel, Regression, Outcome, Emergency, Care, Healthcare*

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