



# Methodological Evaluation of Emergency Care Units in Nigeria: Panel Data Estimation for Measuring Clinical Outcomes

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## Abstract

Emergency care units (ECUs) in Nigeria face significant challenges in providing timely and effective medical treatment to patients with neurological emergencies. A mixed-method approach combining quantitative data from ECU logs and qualitative interviews with healthcare providers. Panel data analysis using a fixed-effects model to control for unobserved heterogeneity across units. Survival rates varied between ECUs, with one unit recording survival rates 15% higher than the average (90% vs. 75%). Resource utilization showed significant inefficiencies in medication and diagnostic equipment. Panel data analysis revealed substantial disparities among ECUs in terms of clinical outcomes and resource management. Implement standardised protocols for neurological emergencies, improve training for healthcare providers, and invest in essential medical supplies to enhance patient survival rates and operational efficiency. Treatment effect was estimated with  $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, panel-data, econometrics, healthcare-systems, qualitative, quantitative, health-policy*

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