



Methodological Evaluation of Emergency Care Units in Nigeria: A Multilevel Regression Analysis of Clinical Outcomes

Chidera Emeka¹, Osita Anyaoku^{2,3}

¹ Department of Clinical Research, Ladoke Akintola University of Technology (LAUTECH), Ogbomoso

² Ladoke Akintola University of Technology (LAUTECH), Ogbomoso

³ Department of Internal Medicine, National Centre for Technology Management (NACETEM)

Published: 25 February 2012 | **Received:** 26 September 2011 | **Accepted:** 09 January 2012

Correspondence: cemeka@outlook.com

DOI: [10.5281/zenodo.18951132](https://doi.org/10.5281/zenodo.18951132)

Author notes

Chidera Emeka is affiliated with Department of Clinical Research, Ladoke Akintola University of Technology (LAUTECH), Ogbomoso and focuses on Medicine research in Africa.

Osita Anyaoku is affiliated with Ladoke Akintola University of Technology (LAUTECH), Ogbomoso and focuses on Medicine research in Africa.

Abstract

Emergency care units (ECUs) in Nigeria are crucial for managing critical health conditions, yet their effectiveness is often underreported. A mixed-method approach was employed, including both quantitative data from patient records and qualitative interviews with healthcare providers. Data were collected from three major regions in Nigeria over a six-month period. Multilevel regression models revealed significant variations in clinical outcomes across ECUs, with regional differences accounting for approximately 20% of the total variance. Our findings suggest that implementing standardised protocols and training programmes could improve patient outcomes in Nigerian ECUs. Healthcare managers should prioritise the development and enforcement of uniform emergency care guidelines to enhance the quality of services provided. Emergency Care Units, Multilevel Regression Analysis, Clinical Outcomes, Nigeria Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, multilevel modelling, regression analysis, emergency health systems, clinical outcomes, resource allocation, qualitative methods*

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