



# Methodological Assessment of Emergency Care Units in Senegal Using Panel Data to Measure Clinical Outcomes

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## Abstract

Emergency care units (ECUs) in Senegal face challenges in providing timely and effective treatment to patients presenting with acute medical conditions. The study employed a mixed-method approach combining quantitative (panel data) and qualitative methods to assess the performance of ECU systems in Senegal. Panel data from multiple years were used to estimate clinical outcomes, with robust standard errors accounting for within-unit correlation. Panel data analysis revealed significant variations in patient recovery rates across different ECUs, indicating that certain units have higher success rates than others. The study concludes that while there are disparities in ECU performance, systematic interventions can be implemented to improve clinical outcomes and reduce treatment inefficiencies. Specific recommendations include targeted training programmes for healthcare providers and the implementation of standardised protocols to enhance consistency in patient care within ECUs. Emergency Care Units, Clinical Outcomes, Panel Data Analysis, Senegal 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, mixed-methods, econometrics, panel-data, health-systems-research, clinical-outcomes-measurement, resource-limited-settings*

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