African Cardiovascular Surgery

Methodological Evaluation of Emergency Care Units Systems in Uganda Using Difference-in-Differences for Clinical Outcomes Measurement

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Abstract

Emergency care units (ECUs) in Uganda are critical for providing timely medical assistance to patients with life-threatening conditions. A DiD model was applied to analyse clinical outcomes in two groups: one receiving pre-improvement care, and another post-improvement. Patient data from January to December were used for analysis. The DiD model revealed a statistically significant improvement ($p < 0.05$) in patient survival rates after ECU system enhancements compared to the pre-improvement period, indicating effective intervention strategies. This study supports the efficacy of ECUs in improving clinical outcomes and recommends further implementation and refinement based on these findings. ECU systems should be continuously monitored for optimal performance and patient care. Future research could explore cost-effectiveness and scalability across different regions. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African healthcare, DiD model, Emergency care units, Methodological evaluation, Public health, Regression discontinuity, Uganda*

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