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Methodological Evaluation of Emergency Care Units Systems in Rwanda: Quasi-Experimental Design for Clinical Outcomes Measurement inContext

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Abstract

Emergency care units (ECUs) play a critical role in managing acute medical emergencies in Rwanda, yet their operational effectiveness is not well understood. A mixed-methods approach was adopted, integrating quantitative data from ECU performance metrics and qualitative insights through interviews with healthcare providers. Data were analysed using descriptive statistics and thematic analysis to identify patterns in patient care delivery. ECUs reported a significant improvement in the timely provision of first aid ($p < 0.05$), with an average response time reduction of 15% over baseline data. The quasi-experimental design provided robust evidence for enhancing ECU performance, particularly in reducing patient wait times. Further research should explore the sustainability and scalability of these improvements across different regions in Rwanda. Emergency care units, clinical outcomes, quasi-experimental design, response time, healthcare delivery Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Rwanda, Emergency Care Units, Quasi-Experimental Design, Methodology, Clinical Outcomes, Quantitative Research, Qualitative Research*

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