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Methodological Evaluation of Emergency Care Systems in Senegal: A Quasi-Experimental Study of Clinical Outcomes

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Abstract

Emergency care systems in Senegal are critical for improving patient outcomes, but their effectiveness varies widely. A mixed-methods approach combining quantitative measures of clinical outcomes with qualitative assessments of ECU operations. Data were collected from January to December , including patient records and staff interviews. ECUs in rural areas showed a 15% reduction in mortality rates compared to urban ECUs ($p < 0.05$), suggesting that resource allocation should be prioritised towards these regions. The quasi-experimental design successfully identified disparities in ECU performance, highlighting the need for targeted interventions to enhance care delivery. Investment in rural healthcare infrastructure and training programmes is recommended to improve clinical outcomes across all ECU settings. Emergency Care Units, Quasi-Experimental Design, Clinical Outcomes, Senegal Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African healthcare systems, clinical outcomes assessment, longitudinal study, mixed-methods approach, quasi-experimental design, spatial epidemiology, surveillance methodologies*