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Methodological Evaluation of District Hospital Systems in Senegal: Quasi-Experimental Design for Yield Improvement Assessment

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Abstract

District hospitals in Senegal are pivotal healthcare providers, serving a significant portion of the population. However, their operational efficiency and effectiveness have not been systematically evaluated. A mixed-method approach combining quantitative data analysis and qualitative field observations was employed. The study utilised a matched-pair design for comparative analysis of efficiency metrics, including patient throughput and resource utilization. In the pilot phase, district hospitals showed an average increase in patient throughput by 15% with no significant changes in resource expenditure, indicating potential areas for yield improvement. The quasi-experimental design proved effective in assessing yield improvements within Senegalese district hospital systems. Further research is recommended to validate these findings across a broader sample of hospitals. Policy makers should consider implementing targeted interventions based on the identified efficiency gains, such as optimising resource allocation and workforce management practices. District Hospitals, Quasi-Experimental Design, Yield Improvement, Senegal Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, health systems reform, quasi-experimental design, performance measurement, institutional effectiveness, resource allocation, evaluation methodology*