



Methodological Evaluation of Community Health Centre Systems in Senegal: Quasi-Experimental Design for Efficiency Gains

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Abstract

Community health centres in Senegal face challenges in service delivery efficiency. A mixed-method approach combining quantitative data analysis with qualitative interviews to assess service flow, patient satisfaction, and operational costs. Community health centres demonstrated an average improvement of 15% in service delivery time, with significant reductions in wait times for common ailments (40-60 minutes). The quasi-experimental design successfully identified efficiency gains without the need for large-scale randomisation. Implement a tiered referral system to manage patient flow and allocate resources more efficiently. 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: *African geography, community health centres, quasi-experimental design, service delivery efficiency, mixed-methods, qualitative research, geographic information systems*

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