



# Methodological Evaluation of Community Health Centre Systems in Senegal Using Panel Data for Clinical Outcomes Measurement

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## Abstract

Community health centers (CHCs) play a crucial role in healthcare delivery in Senegal, particularly for underserved populations. A mixed-methods approach was employed, including quantitative analysis with a linear regression model. Panel-data analysis revealed that patients treated at CHCs had an average improvement rate of 15% in chronic disease management compared to those served by other facilities. The study concluded that CHC systems are effective in improving clinical outcomes, particularly for chronic diseases. Further research should focus on the sustainability and scalability of these systems across different regions of Senegal. Community Health Centers, Clinical Outcomes, Panel Data Analysis, Chronic Disease Management Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** African healthcare, Community health centres, Panel data analysis, Methodology, Evaluation, Quantitative methods, Rural medicine

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