



# Adoption Rates in Senegalese Community Health Centers: A Multilevel Regression Analysis within Context

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## Abstract

This study examines the adoption rates of community health centers within Senegalese communities over a five-year period. A longitudinal study design was employed, incorporating data from multiple community health centers across Senegal. Multilevel regression models were used to analyse adoption rates over time, accounting for both individual and contextual factors. Findings indicate a modest increase in adoption rates from baseline levels, with significant differences observed between urban and rural settings ( $p < 0.05$ ). The study highlights the importance of considering local context in healthcare system development and suggests strategies for enhancing community health centre adoption. Future research should focus on implementing targeted interventions to improve service delivery and sustainability within underserved communities. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Geographic, Senegal, Longitudinal, Community Health Centers, Multilevel Regression, Evaluation, Methodology*

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