



# Methodological Evaluation of Community Health Centre Systems in Senegal Using Difference-in-Differences for Clinical Outcome Assessment

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## Abstract

Community health centres in Senegal have been established to improve access to healthcare services, particularly for underserved populations. However, their effectiveness and sustainability remain uncertain. The study employed a DiD approach to compare baseline and post-intervention data from control and intervention areas. Data were collected through structured surveys and validated by health records. A significant improvement in vaccination coverage was observed, with an increase of 12% in the intervention area compared to no change in the control area (95% CI: 4-20%). The DiD model demonstrated robustness in detecting treatment effects over time. Further research should explore long-term sustainability and cost-effectiveness of these health centres. Community Health Centres, Difference-in-Differences, Clinical Outcomes, Senegal Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *African geography, community health centers, difference-in-differences, intervention studies, randomized controlled trials, statistical methods, sustainability assessment*

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