# Methodological Evaluation of Community Health Centre Systems in Senegal Using Multilevel Regression Analysis

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## Abstract

Community health centers play a critical role in providing accessible healthcare services in Senegal. A comprehensive meta-analysis was conducted using data from various studies published on community health centers in Senegal. Multilevel logistic regression models were employed to assess the impact of multiple variables at both individual and organisational levels. The multilevel regression analysis revealed that factors such as access to transportation, patient satisfaction, and healthcare provider training significantly influenced adoption rates of community health centre systems. This study provides valuable insights into the effectiveness of community health centers in Senegal by identifying key drivers of their success. Policy makers should prioritise improving infrastructure accessibility and enhancing healthcare provider education to boost the adoption of community health centre systems. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \beta^{\rightarrow}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

**Keywords:** *African geography, multilevel modelling, community health centres, meta-analysis, intervention evaluation, statistical methods, randomized controlled trials*

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