



Bayesian Hierarchical Model for Measuring Adoption Rates of Community Health Centres in Senegal: A Systematic Literature Review

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Abstract

Community health centres in Senegal face challenges in measuring adoption rates due to variability across different regions and contexts. A comprehensive search strategy was employed using multiple databases. Studies were screened based on predefined inclusion criteria, and data extraction and synthesis were conducted according to PRISMA guidelines. Bayesian hierarchical models showed promise in accurately estimating adoption rates across Senegalese regions with varying healthcare needs and resources. The review highlights the potential of Bayesian hierarchical models for enhancing the reliability and accuracy of adoption rate measurements in community health centres. Future research should validate these findings through empirical studies, focusing on diverse geographical settings and resource levels. Bayesian hierarchical model, community health centre adoption rates, Senegal, systematic literature review Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Bayesian, Hierarchical, Adoption, Models, Evaluation, Senegal*

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