African Perioperative Nursing

Methodological Evaluation of Urban Primary Care Networks in Senegal Using Bayesian Hierarchical Models for Clinical Outcomes Assessment

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Abstract

Urban primary care networks in Senegal are underpinned by a complex system of healthcare delivery, necessitating methodological evaluation for effective clinical outcomes assessment. The study will employ Bayesian hierarchical models to analyse data from urban primary care networks. This approach allows for the integration of multiple sources of information at various levels, providing a nuanced understanding of network performance. A preliminary analysis suggests that the implementation of the Bayesian hierarchical model has improved the accuracy and reliability of clinical outcome measurements by reducing systematic errors in estimation. The use of Bayesian hierarchical models for clinical outcomes assessment in urban primary care networks offers a robust methodological framework, enhancing the precision of health service evaluations in Senegal. Future research should further validate these findings and explore potential applications within different healthcare settings in Senegal. Bayesian Hierarchical Models, Clinical Outcomes Assessment, Urban Primary Care Networks, Senegal Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, urbanization, primary care, clinical outcomes, Bayesian models, hierarchical analysis, randomized trials, data analytics*

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