African Bioethics (Interdisciplinary - Philosophy/Medical/Law/Social)

Methodological Evaluation of District Hospitals Systems in Senegal: Multilevel Regression Analysis on Adoption Rates

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Abstract

District hospitals in Senegal play a crucial role in health service delivery, yet their operational effectiveness varies significantly. A multilevel logistic regression model was employed to analyse data from Senegalese district hospitals. The model includes district-level characteristics (e.g., population size, geographic location) as predictors of system adoption. The multilevel logistic regression revealed that the primary predictor of system adoption is the presence of a functional referral mechanism between district and provincial hospitals, with an odds ratio of 1.85 (95% CI: 1.03-3.32). This study provides insights into the determinants of hospital system adoption in Senegal. Future research should consider expanding data collection to other factors potentially influencing system adoption, such as financial sustainability and public health policies. District Hospitals, Multilevel Regression Analysis, Adoption Rates, Senegal Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *District hospitals, Sub-Saharan, Multilevel analysis, Logistic regression, Health systems, Evaluation, Senegal*

ABSTRACT-ONLY PUBLICATION

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