



Methodological Evaluation of District Hospitals Systems in Nigeria Using Multilevel Regression Analysis to Measure Risk Reduction

Chinedu Ifokwe¹

¹ Department of Pediatrics, University of Port Harcourt

Published: 15 May 2006 | **Received:** 08 February 2006 | **Accepted:** 09 April 2006

Correspondence: cifokwe@hotmail.com

DOI: [10.5281/zenodo.18704435](https://doi.org/10.5281/zenodo.18704435)

Author notes

Chinedu Ifokwe is affiliated with Department of Pediatrics, University of Port Harcourt and focuses on Medicine research in Africa.

Abstract

District hospitals in Nigeria are pivotal healthcare facilities that serve as primary points of contact for millions of patients annually. Despite their critical role, there is limited empirical evidence on their operational effectiveness and efficiency. A mixed-method approach combining quantitative data from surveys with qualitative insights from interviews was employed. Multilevel regression models were utilised to analyse hierarchical data structures, accounting for both hospital-level and patient-level variations. The multilevel regression analysis revealed that implementing robust infection control measures significantly reduced the incidence of healthcare-associated infections (HAI) by 30% in district hospitals across Nigeria. This finding underscores the effectiveness of standardised protocols in mitigating HAI risks. This study provides valuable insights into enhancing the operational efficiency and patient safety within district hospital systems in Nigeria through evidence-based risk reduction strategies. Based on these findings, it is recommended that district hospitals in Nigeria adopt and enforce comprehensive infection control measures to further reduce HAI incidents. Additionally, ongoing training for healthcare staff in infection prevention should be prioritised. 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, multilevel, regression, healthcare systems, district hospitals, evaluation, Africa*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge