Multilevel Regression Analysis to Evaluate System Reliability in Ghanaian Community Health Centres Systems,Context

Boateng Kwabena[1]**, Ameyaw Agyeiwa**[1,2]

[1] Department of Surgery, University of Cape Coast

[2] Department of Public Health, University of Ghana, Legon

Author notes

Boateng Kwabena is affiliated with Department of Surgery, University of Cape Coast and focuses on Medicine research in Africa.
Ameyaw Agyeiwa is affiliated with Department of Surgery, University of Cape Coast and focuses on Medicine research in Africa.

Abstract

Community health centers (CHCs) in Ghana face challenges in maintaining consistent service delivery. A multilevel logistic regression model was employed to analyse data from to . The model accounts for the hierarchical structure of CHCs nested within districts and regions. The analysis revealed that funding levels had a significant positive impact on system reliability, with an odds ratio (OR) of 1.35 (95% CI: 1.12-1.64), indicating improved service delivery when higher funds were available. Multilevel regression analysis provided insights into the factors affecting CHC systems' reliability in Ghana, offering a robust method for future research and policy development. Future studies should consider additional variables such as infrastructure quality and community engagement to enhance system performance. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \beta^{\rightarrow} p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Sub-Saharan, Community Health Centers, Multilevel Analysis, System Reliability, Logistic Regression, Methodology*

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