



Bayesian Hierarchical Model for Evaluating Clinical Outcomes in Rural Ghanaian Clinics Systems

Kofi Amoako¹, Yaa Asante²

¹ Department of Pediatrics, Water Research Institute (WRI)

² Department of Epidemiology, Water Research Institute (WRI)

Published: 12 May 2009 | **Received:** 08 January 2009 | **Accepted:** 21 April 2009

Correspondence: kamoako@yahoo.com

DOI: [10.5281/zenodo.18895796](https://doi.org/10.5281/zenodo.18895796)

Author notes

Kofi Amoako is affiliated with Department of Pediatrics, Water Research Institute (WRI) and focuses on Medicine research in Africa.

Yaa Asante is affiliated with Department of Epidemiology, Water Research Institute (WRI) and focuses on Medicine research in Africa.

Abstract

Clinical outcomes in rural Ghanaian clinics have been challenging to evaluate due to variability across different health facilities and limited data. A Bayesian hierarchical model was employed to analyse clinical outcome data from multiple clinics. The model accounts for both clinic-specific and facility-level effects. The model revealed significant variability in treatment efficacy across different clinics, with some showing substantial improvement rates over others. The Bayesian hierarchical model effectively captured the heterogeneity of outcomes within rural Ghanaian health systems, providing a robust framework for future evaluations. Further research should explore how to implement and validate this model in other contexts or integrate it into routine clinical assessments. Bayesian Hierarchical Model, Clinical Outcomes, Rural Healthcare, Ghana Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Bayesian, Hierarchical, Model, Outcome, Evaluation, Ghanaian*

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