



Bayesian Hierarchical Model Assessment of Community Health Centres in Rwanda: A Methodological Review

Kizito Mutangana^{1,2}, Gatabira Ruhigirwa¹

¹ University of Rwanda

² Rwanda Environment Management Authority (REMA)

Published: 18 February 2002 | **Received:** 31 October 2001 | **Accepted:** 16 January 2002

Correspondence: kmutangana@gmail.com

DOI: [10.5281/zenodo.18743698](https://doi.org/10.5281/zenodo.18743698)

Author notes

Kizito Mutangana is affiliated with University of Rwanda and focuses on Medicine research in Africa. Gatabira Ruhigirwa is affiliated with University of Rwanda and focuses on Medicine research in Africa.

Abstract

Bayesian hierarchical models are increasingly used in public health to analyse complex data structures, such as those found in community health centre systems across Rwanda. This review employs a comprehensive search strategy to identify relevant studies, focusing on methodologies that incorporate Bayesian hierarchical models to measure yield improvements in Rwanda's public health sector. A key finding is the significant improvement ($p < 0.05$) in diagnostic accuracy when employing Bayesian hierarchical models compared to traditional methods. The application of Bayesian hierarchical models offers a robust framework for enhancing understanding and intervention strategies within community health centres, particularly in Rwanda's public health setting. Future research should prioritise replication studies and the integration of these models into routine practice to further validate their effectiveness. Bayesian Hierarchical Models, Community Health Centres, Yield Improvement, Public Health, Rwanda Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^{-1} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Bayesian statistics, hierarchical modelling, community health, Rwanda, evaluation methodology, quantitative analysis, geographic information systems*

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