



Methodological Evaluation of Community Health Centres Systems in Ethiopia Using Multilevel Regression Analysis for System Reliability Assessment

Mekuria Abera¹

¹ Gondar University

Published: 27 July 2004 | **Received:** 31 March 2004 | **Accepted:** 30 May 2004

Correspondence: mabera@hotmail.com

DOI: [10.5281/zenodo.18792360](https://doi.org/10.5281/zenodo.18792360)

Author notes

Mekuria Abera is affiliated with Gondar University and focuses on Medicine research in Africa.

Abstract

Community health centers play a crucial role in healthcare delivery in Ethiopia, particularly in underserved areas where access to specialized medical care is limited. Multilevel regression analysis was employed to assess system reliability across different levels (individual patients, healthcare providers, and community health centers) in Ethiopia's healthcare landscape. The multilevel model revealed significant variation in patient satisfaction scores among health centre locations, with a moderate effect size indicating that proximity to urban areas positively influenced patient satisfaction. This study contributes to the understanding of system reliability by identifying key factors affecting patient experience and providing evidence-based recommendations for enhancing service delivery. Enhancing communication between patients and healthcare providers, improving infrastructure in rural settings, and increasing training opportunities for community health workers are recommended strategies. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, community health centers, multilevel analysis, regression modelling, reliability assessment, statistical methods, systematic review*

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