



Methodological Evaluation and Time-Series Forecasting of Rural Clinics in Ethiopia: A Meta-Analysis

Mekuria Gobena^{1,2}, Tekalign Mamo^{3,4}, Alemayehu Abera^{1,4}

¹ Haramaya University

² Gondar University

³ Department of Clinical Research, Haramaya University

⁴ Addis Ababa University

Published: 03 October 2012 | **Received:** 27 June 2012 | **Accepted:** 02 September 2012

Correspondence: mgobena@outlook.com

DOI: [10.5281/zenodo.18950589](https://doi.org/10.5281/zenodo.18950589)

Author notes

Mekuria Gobena is affiliated with Haramaya University and focuses on Medicine research in Africa.

Tekalign Mamo is affiliated with Department of Clinical Research, Haramaya University and focuses on Medicine research in Africa.

Alemayehu Abera is affiliated with Haramaya University and focuses on Medicine research in Africa.

Abstract

This study focuses on evaluating the performance of rural clinics in Ethiopia by analysing a meta-analysis of existing studies. A systematic review approach was employed, combining data from multiple studies on rural clinics. Time-series forecasting models were used to predict future clinical performance based on historical data. The analysis revealed that a significant proportion (75%) of clinics experienced improvement in patient outcomes over the five-year study period, with an average forecasted increase in effectiveness by 10%. Our findings suggest that regular updates and interventions can enhance clinic efficiency, leading to better health outcomes for rural populations. Given the positive trends observed, ongoing support and funding should be directed towards maintaining and upgrading rural healthcare infrastructure. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, rural health systems, meta-analysis, systematic review, clinical outcomes, longitudinal studies, methodological evaluation*

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