Multilevel Regression Analysis to Evaluate Rural Clinics Systems and Measure Clinical Outcomes in Ethiopia: An Assessment of Systemic Efficiency and Quality

Abay Woldemichael[1,2], Yared Girma[3]

[1] Department of Pediatrics, Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa

[2] Adama Science and Technology University (ASTU)

[3] Department of Clinical Research, Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa

Correspondence: awoldemichael@outlook.com

Author notes

Abay Woldemichael is affiliated with Department of Pediatrics, Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa and focuses on Medicine research in Africa.

Yared Girma is affiliated with Department of Clinical Research, Africa Centers for Disease Control and Prevention (Africa CDC), Addis Ababa and focuses on Medicine research in Africa.

Abstract

Rural clinics in Ethiopia face challenges related to resource availability and healthcare delivery efficiency. A multilevel regression model was employed to analyse data from 100 rural clinics across Ethiopia. The model accounts for both within-clinic (patient-level) and clinic (clinic-level) variability. The analysis revealed that patient satisfaction scores increased by 5% with every $10 \, increase \in clinic \, funding, indicating \, a \, positive \, correlation \, between \, resource \, allocation \wedge service \, quality. The n$ $\text{logit}(pi)=\beta0+\beta^\top X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Ethiopia, Multilevel Regression, Rural Clinics, Methodology, Health Systems, Clinical Outcomes, Quality Assessment*

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