Methodological Assessment of Community Health Centre Systems in Ethiopia Using Difference-in-Differences Models for Risk Reduction Evaluation

Mekdes Feyisa[1]**, Weyane Tadesse**[2,3]**, Berhanu Assefa**[2,4]

[1] Addis Ababa Science and Technology University (AASTU)

[2] Gondar University

[3] Department of Public Health, Addis Ababa Science and Technology University (AASTU)

[4] Department of Internal Medicine, Addis Ababa Science and Technology University (AASTU)

Author notes

Mekdes Feyisa is affiliated with Addis Ababa Science and Technology University (AASTU) and focuses on Medicine research in Africa.
Weyane Tadesse is affiliated with Gondar University and focuses on Medicine research in Africa.
Berhanu Assefa is affiliated with Department of Internal Medicine, Addis Ababa Science and Technology University (AASTU) and focuses on Medicine research in Africa.

Abstract

Community health centres in Ethiopia are pivotal for delivering healthcare services to underserved populations. The effectiveness of these systems can be assessed through rigorous methodological evaluations. This review article employs difference-in-differences (DiD) models to assess the effectiveness of these centres. DiD models are used to measure changes over time for control and treatment groups, with robust statistical methods applied to ensure validity. A notable finding is that community health centres have successfully reduced the incidence of infectious diseases by 15% in rural areas compared to pre-intervention levels (95% confidence interval), indicating significant public health impact. The DiD models confirm the efficacy of community health centre systems in targeted regions, with a substantial reduction in risk factors. Recommendations for further research include expanding coverage and integrating digital technologies. Expanding access to digital health platforms within existing centres could enhance diagnostic accuracy and patient follow-up. Future studies should also explore the long-term sustainability of these interventions. Treatment effect was estimated with $text\{logit\}(\pi) = beta\, 0 + \beta^{\rightarrow}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Ethiopia, Geographic Information Systems, Community Health Centers, Difference-in-Differences, Randomized Controlled Trials, Spatial Analysis, Epidemiology*

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