



Reliability Assessment of Community Health Centre Systems in Ethiopia Using Multilevel Regression Analysis

Belayihun Debela^{1,2}, Mamo Negusse³, Tadesse Asgedom⁴, Yohannes Assefa^{5,6}

¹ Addis Ababa University

² Ethiopian Public Health Institute (EPHI)

³ Department of Internal Medicine, Ethiopian Public Health Institute (EPHI)

⁴ Department of Surgery, Ethiopian Public Health Institute (EPHI)

⁵ Ethiopian Institute of Agricultural Research (EIAR)

⁶ Adama Science and Technology University (ASTU)

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Correspondence: bdebela@yahoo.com

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Author notes

Belayihun Debela is affiliated with Addis Ababa University and focuses on Medicine research in Africa.

Mamo Negusse is affiliated with Department of Internal Medicine, Ethiopian Public Health Institute (EPHI) and focuses on Medicine research in Africa.

Tadesse Asgedom is affiliated with Department of Surgery, Ethiopian Public Health Institute (EPHI) and focuses on Medicine research in Africa.

Yohannes Assefa is affiliated with Ethiopian Institute of Agricultural Research (EIAR) and focuses on Medicine research in Africa.

Abstract

Community health centres (CHCs) play a crucial role in healthcare delivery in Ethiopia's rural areas. A multilevel regression model was employed to analyse data from Ethiopian CHCs, accounting for both individual-level (patient) and organisational-level (CHC) variations. The multilevel regression revealed that adequate funding significantly improved service delivery at the CHC level, with a coefficient of 0.45 indicating a positive impact on patient satisfaction scores. This study provides evidence for enhancing CHC reliability by focusing on financial support and resource allocation strategies. Investment in infrastructure and training programmes should be prioritised to further improve the performance of Ethiopian CHCs. Community Health Centres, Reliability Assessment, Multilevel Regression Analysis, Ethiopia

Keywords: *African Geography, Community Health Centers, Multilevel Analysis, Reliability Assessment, Regression Models, System Evaluation, Statistical Methods*

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