



Methodological Evaluation of Maternal Care Facilities in Ethiopia: A Panel Data Study on Clinical Outcomes,

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Abstract

Maternal care facilities in Ethiopia have been pivotal for improving maternal health outcomes. However, their effectiveness varies significantly across different regions and over time. A mixed-method approach was employed, integrating quantitative panel-data analysis with qualitative assessments. The study utilised a generalized estimating equation (GEE) model for analysing the longitudinal clinical outcomes across facilities. There is a notable trend towards an improvement in maternal mortality rates by 15% within the studied period, but variability remains significant among different regions and types of care providers. The findings suggest that while some improvements have been made, there are still substantial disparities in clinical outcomes which need further targeted interventions. Further research should focus on understanding specific factors contributing to regional variations and the implementation of more consistent quality control measures across all facilities. Maternal care; Ethiopia; Clinical outcomes; Panel data; Generalized estimating equation (GEE); Quality improvement Treatment effect was estimated with $\text{text}\{logit\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Africa, MaternalHealth, Systems, Evaluation, PanelData, Outcomes, Methodology*

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