



Methodological Evaluation of Community Health Centre Systems in Ethiopia: Panel Data Estimation for Cost-Effectiveness Measurements,

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Abstract

Community health centres in Ethiopia play a crucial role in providing healthcare services to underserved populations. Panel-data estimation techniques were employed using mixed-effects models to analyse the impact of various interventions over time. Robust standard errors were used to account for potential confounding factors. A significant reduction in healthcare costs per patient visit was observed, indicating improved efficiency with a 10 ± 2 decrease in cost per consultation. The mixed-effects model provided insights into the effectiveness of health interventions over time, highlighting areas for further improvement. Further research should focus on scalability and sustainability of these findings across different regions of Ethiopia.

Keywords: *African geography, longitudinal data analysis, mixed-effects models, panel studies, cost-effectiveness, randomized controlled trials, econometrics*

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