



Methodological Evaluation and Risk Reduction in Ethiopian Community Health Centres

A Multilevel Regression Analysis

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ABSTRACT

Background: Community health centres are critical nodes in Ethiopia's primary healthcare system, yet systematic evaluations of their operational methodologies for measuring health risk reduction are lacking. Existing assessments often fail to account for the hierarchical structure of health data, which can obscure true intervention effects.

Purpose and objectives: This brief report aims to methodologically evaluate the systems of community health centres by applying a multilevel modelling approach to quantify the reduction in key health risks. The objective is to demonstrate a robust analytical framework for measuring centre-level performance.

Keywords: *Community health centres, Primary healthcare, Sub-Saharan Africa, Multilevel modelling, Risk reduction, Health systems evaluation, Ethiopia*

Article Highlights

- Centre-level variation in outcomes is significant, highlighting the need for hierarchical analysis.
- Integrated reporting protocols are associated with measurably lower odds of severe patient referrals.
- The methodological framework accounts for data clustering

Analytical Note

The study employs a two-level random intercept logistic regression model to partition variance between patient and centre levels, providing a more valid assessment of intervention effects.

This brief report presents a methodological evaluation with direct

<p>inherent in community health systems.</p> <ul style="list-style-type: none">• Findings advocate for specific operational changes to standardise performance improvement.	<p><i>implications for performance assessment frameworks.</i></p>
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ABSTRACT-ONLY PUBLICATION

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