Cost-Effectiveness Analysis of District Hospitals Systems in Ethiopia Using Multilevel Regression Models

Alemayehu Wolde[1], Yared Teklehaymanot[1,2], Berhanu Mekonnen[2,3]

[1] Mekelle University

[2] Addis Ababa University

[3] Department of Pediatrics, Mekelle University

Author notes

Alemayehu Wolde is affiliated with Mekelle University and focuses on Medicine research in Africa.
Yared Teklehaymanot is affiliated with Addis Ababa University and focuses on Medicine research in Africa.
Berhanu Mekonnen is affiliated with Department of Pediatrics, Mekelle University and focuses on Medicine research in Africa.

Abstract

District hospitals in Ethiopia play a crucial role in healthcare delivery, yet their cost-effectiveness remains underexplored. A comprehensive analysis was conducted on data from multiple districts across Ethiopia. Multilevel regression models were applied to assess the impact of various factors such as geographical location, patient demographics, and healthcare service delivery on cost-effectiveness metrics. The multilevel regression analysis revealed significant variations in cost-effectiveness among different regions with a notable proportion (25%) of districts showing underutilization of available resources despite high expenditure. Our findings underscore the need for targeted interventions to optimise resource allocation and improve service delivery efficiency within district hospitals. Policy makers should prioritise investment in infrastructure and human capital, particularly in underserved regions where cost-effectiveness is compromised. district hospitals, Ethiopia, multilevel regression, cost-effectiveness, healthcare systems Treatment effect was estimated with $text\{logit\}(\pi)=beta\,0+\beta^\rightarrow p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Hospital, Systems, Economics, Multilevel, Regression, Healthcare*

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