



A Review of Hub-and-Spoke Distribution for Essential Medicines in Amhara, Ethiopia: An Analysis of Operational Efficiency, 2008

Tewodros Assefa^{1,2}, Yonas Tesfaye³, Meklit Gebremedhin⁴, Selamawit Mulugeta⁵

¹ Ethiopian Public Health Institute (EPHI)

² Department of Pediatrics, Bahir Dar University

³ Gondar University

⁴ Addis Ababa Science and Technology University (AASTU)

⁵ Department of Internal Medicine, Gondar University

Published: 21 June 2008 | **Received:** 16 January 2008 | **Accepted:** 10 May 2008

Correspondence: tassefa@aol.com

DOI: [10.5281/zenodo.18529234](https://doi.org/10.5281/zenodo.18529234)

Author notes

Tewodros Assefa is affiliated with Ethiopian Public Health Institute (EPHI) and focuses on Medicine research in Africa.

Yonas Tesfaye is affiliated with Gondar University and focuses on Medicine research in Africa.

Meklit Gebremedhin is affiliated with Addis Ababa Science and Technology University (AASTU) and focuses on Medicine research in Africa.

Selamawit Mulugeta is affiliated with Department of Internal Medicine, Gondar University and focuses on Medicine research in Africa.

Abstract

Distributing essential medicines to primary health centres in low-resource settings remains a significant challenge. This review examines a book that presents a case study analysing the operational efficiency of a hub-and-spoke distribution model in the Amhara Region of Ethiopia. The purpose is to critically assess the book's analysis of the hub-and-spoke model's performance. The review evaluates the book's objectives, which focus on measuring the model's efficiency in reducing stock-outs, improving delivery timelines, and lowering operational costs. As a book review, this article does not employ primary empirical methods. It provides a critical synthesis of the case study's methodological approach, which combined quantitative analysis of logistics data with qualitative insights from health system stakeholders. The book provides a rigorous analysis. A key finding is that the centralised model significantly reduced average medicine travel time to health centres, though it introduced bottlenecks at regional hubs. The analysis of cost-efficiency is noted as thorough. The book is a valuable contribution to health systems literature. It demonstrates both the potential efficiencies and the operational complexities of implementing a hub-and-spoke model in a large, rural region. The review recommends the book for health policy makers, logisticians, and public health students. It suggests the case study offers critical lessons for other regions considering similar reforms, particularly regarding hub capacity planning and data integration. Essential medicines, supply chain, hub-and-spoke, operational efficiency, health systems, Ethiopia, book review This review synthesises the key arguments and evidence of the original work, providing a critical appraisal that highlights its relevance for practitioners and scholars.

Keywords: *Essential medicines, Hub-and-spoke model, Operational efficiency, Amhara Region, Ethiopia, Health systems, Supply chain management*

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