



Methodological Evaluation of Public Health Surveillance Systems in Ethiopia Using Difference-in-Differences Models

Feyissa Tekleab¹, Abraham Asfawamde^{2,3}, Endalkachew Mekonnen^{2,4}

¹ Department of Surgery, Jimma University

² Jimma University

³ Department of Internal Medicine, Ethiopian Public Health Institute (EPHI)

⁴ Department of Clinical Research, Ethiopian Public Health Institute (EPHI)

Published: 13 November 2005 | **Received:** 15 July 2005 | **Accepted:** 03 October 2005

Correspondence: ftekleab@outlook.com

DOI: [10.5281/zenodo.18808201](https://doi.org/10.5281/zenodo.18808201)

Author notes

Feyissa Tekleab is affiliated with Department of Surgery, Jimma University and focuses on Medicine research in Africa.

Abraham Asfawamde is affiliated with Jimma University and focuses on Medicine research in Africa.

Endalkachew Mekonnen is affiliated with Jimma University and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems play a crucial role in monitoring infectious diseases such as tuberculosis (TB). In Ethiopia, these systems have been established to improve early detection and control of TB cases. A difference-in-differences (DD) model was employed to analyse changes in TB notification rates before and after implementing new surveillance tools, comparing them with a control group from previous years. The DD model indicated an increase in the proportion of notified cases by approximately 20% post-intervention, suggesting improved detection efficiency. New surveillance methods have led to a significant improvement in TB case notifications, enhancing public health outcomes. Further research should explore scalability and sustainability of these surveillance systems across different regions in Ethiopia. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, tuberculosis, surveillance, econometric, intervention, analytical*

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