African Cardiology Review

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

Mwakwere Malama[1], **Chacha Masanja**[2,3], **Frida Mbabwe**[3,4], **Kamanda Nkatha**[2]

[1] Catholic University of Health and Allied Sciences (CUHAS)

[2] Department of Public Health, Tanzania Wildlife Research Institute (TAWIRI)

[3] Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha

[4] Tanzania Wildlife Research Institute (TAWIRI)

Published: 20 May 2002 | **Received:** 19 December 2001 | **Accepted:** 21 March 2002

Correspondence: mmalama@yahoo.com

DOI: 10.5281/zenodo.18738016

Author notes

Mwakwere Malama is affiliated with Catholic University of Health and Allied Sciences (CUHAS) and focuses on Medicine research in Africa.

Chacha Masanja is affiliated with Department of Public Health, Tanzania Wildlife Research Institute (TAWIRI) and focuses on Medicine research in Africa.

Frida Mbabwe is affiliated with Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha and focuses on Medicine research in Africa.

Kamanda Nkatha is affiliated with Department of Public Health, Tanzania Wildlife Research Institute (TAWIRI) and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in Tanzania are crucial for monitoring and responding to infectious diseases such as malaria and tuberculosis (TB). A systematic review of studies applying difference-in-differences models to evaluate public health surveillance effectiveness in Tanzania. Studies were selected based on specific criteria related to data availability and study design quality. The application of difference-in-differences models revealed mixed results, with some studies showing significant efficiency gains in disease reporting times but others indicating persistent inefficiencies due to logistical challenges. Despite methodological variations, the majority of reviewed studies used difference-in-differences effectively as a tool for assessing surveillance system performance and identifying areas needing improvement. Future research should prioritise robust data collection methods and continuous evaluation to ensure consistent application of difference-in-differences models in public health surveillance systems. Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Tanzania, Public Health Surveillance, Methodology, Difference-in-Differences, Evaluation, Epidemiology, Quantitative Analysis*

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