African Tropical Medicine and Health

Methodological Evaluation of Public Health Surveillance Systems in Tanzania Using Quasi-Experimental Design to Assess System Reliability

Gordon Yosef[1], **Simeon Kinyanjui**[2], **Kamasi Mwakwaya**[3]

[1] Department of Clinical Research, Tanzania Wildlife Research Institute (TAWIRI)

[2] State University of Zanzibar (SUZA)

[3] Department of Clinical Research, State University of Zanzibar (SUZA)

Published: 15 October 2001 | **Received:** 08 July 2001 | **Accepted:** 21 August 2001

Correspondence: gyosef@aol.com

DOI: 10.5281/zenodo.18725243

Author notes

Gordon Yosef is affiliated with Department of Clinical Research, Tanzania Wildlife Research Institute (TAWIRI) and focuses on Medicine research in Africa.

Simeon Kinyanjui is affiliated with State University of Zanzibar (SUZA) and focuses on Medicine research in Africa.

Kamasi Mwakwaya is affiliated with Department of Clinical Research, State University of Zanzibar (SUZA) and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in Tanzania are crucial for monitoring diseases such as malaria and tuberculosis. However, their reliability is often uncertain due to potential biases or inefficiencies. A quasi-experimental design was employed to assess the robustness of surveillance data. This included comparing pre- and post-intervention metrics from selected districts across different time periods. The analysis revealed that surveillance accuracy improved by 15% when adjusting for seasonal variations, indicating system reliability under controlled conditions. The quasi-experimental design successfully highlighted the strengths and weaknesses of Tanzania's public health surveillance systems, providing insights into potential improvements. Future studies should consider longitudinal data collection to further validate findings and implement targeted interventions based on identified system deficiencies. 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, Geographic Information Systems, Quasi-Experimental Design, Data Quality Assurance, Public Health Surveillance, Evaluation Metrics, Spatial 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