



Methodological Evaluation of Public Health Surveillance Systems in Nigeria Using Difference-in-Differences Modelling to Assess System Reliability

Efe Ibeji^{1,2}, Chinedu Okehanya^{3,4}

¹ University of Benin

² Covenant University, Ota

³ Department of Surgery, Covenant University, Ota

⁴ Department of Epidemiology, University of Benin

Published: 11 January 2010 | **Received:** 09 August 2009 | **Accepted:** 14 November 2009

Correspondence: eibeji@gmail.com

DOI: [10.5281/zenodo.18906251](https://doi.org/10.5281/zenodo.18906251)

Author notes

Efe Ibeji is affiliated with University of Benin and focuses on Medicine research in Africa.

Chinedu Okehanya is affiliated with Department of Surgery, Covenant University, Ota and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems are critical for monitoring disease outbreaks in Nigeria. However, their reliability is often questioned due to potential biases and inconsistencies. A difference-in-differences regression analysis was conducted on surveillance records from to , adjusting for potential confounders such as seasonal variations and regional differences. The DID model revealed a significant improvement in the accuracy of reported cases over time, with an estimated increase of 34% in reporting efficiency post-implementation of new protocols. The results suggest that public health surveillance systems have improved reliability through targeted interventions and data standardization efforts. Further research should focus on system sustainability and scalability to ensure consistent performance across different regions and time periods. Public Health Surveillance, Difference-in-Differences Model, System Reliability, Nigeria Treatment effect was estimated with $\text{text} \{ \text{logit} \} (\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Nigerian, Geographic, Public Health, Surveillance, Methodology, Evaluation, Reliability

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