African Materials Engineering Research (Applied Science/Tech)

Methodological Evaluation of Public Health Surveillance Systems in Nigeria Using Panel Data for System Reliability Assessment

Temitope Ajayi Oludotun[1], **Sunday Adesina Oluwatobiloba**[2], **Chidera Ifeyinfa Onyekachi**[3,4]

[1] Department of Clinical Research, University of Calabar

[2] University of Calabar

[3] Department of Epidemiology, University of Nigeria, Nsukka

[4] Obafemi Awolowo University, Ile-Ife

Published: 11 October 2000 | **Received:** 16 June 2000 | **Accepted:** 06 September 2000

Correspondence: toludotun@aol.com

DOI: 10.5281/zenodo.18717012

Author notes

Temitope Ajayi Oludotun is affiliated with Department of Clinical Research, University of Calabar and focuses on Medicine research in Africa.

Sunday Adesina Oluwatobiloba is affiliated with University of Calabar and focuses on Medicine research in Africa.

Chidera Ifeyinfa Onyekachi is affiliated with Department of Epidemiology, University of Nigeria, Nsukka and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems are crucial for monitoring disease outbreaks in Nigeria. However, their reliability and effectiveness vary significantly across different regions. A meta-analysis approach was employed to synthesize existing studies on public health surveillance systems. Panel data estimation techniques were used to assess system reliability and identify key factors affecting their performance. The analysis revealed that the proportion of systems with high reliability ranged from 20% to 35%, indicating a moderate level of effectiveness in monitoring disease outbreaks across Nigeria's regions. This study provides insights into the current state and reliability of public health surveillance systems in Nigeria, highlighting areas for improvement. Policy makers should prioritise investment in infrastructure upgrades and training programmes to enhance system reliability and efficiency. Public Health Surveillance Systems, Panel Data Analysis, System Reliability, Nigeria Treatment effect was estimated with $text\{logit\}(\pi)=beta0+\vec{\beta}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, public health surveillance, panel data analysis, system reliability, epidemiological methods, spatial-temporal modelling, systematic review techniques*

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