



Methodological Evaluation of Public Health Surveillance Systems in Nigeria: Randomised Field Trial for Efficiency Gains

Emeka Nwosu¹, Chukwuka Obiora^{2,3}, Chinedu Ezeanolue^{4,5}, Obinna Anyiam^{1,6}

¹ University of Calabar

² American University of Nigeria (AUN)

³ Obafemi Awolowo University, Ile-Ife

⁴ Department of Pediatrics, University of Port Harcourt

⁵ Department of Pediatrics, Obafemi Awolowo University, Ile-Ife

⁶ Department of Internal Medicine, Obafemi Awolowo University, Ile-Ife

Published: 11 December 2007 | **Received:** 24 August 2007 | **Accepted:** 29 October 2007

Correspondence: enwosu@yahoo.com

DOI: [10.5281/zenodo.18843389](https://doi.org/10.5281/zenodo.18843389)

Author notes

Emeka Nwosu is affiliated with University of Calabar and focuses on Medicine research in Africa.

Chukwuka Obiora is affiliated with American University of Nigeria (AUN) and focuses on Medicine research in Africa.

Chinedu Ezeanolue is affiliated with Department of Pediatrics, University of Port Harcourt and focuses on Medicine research in Africa.

Obinna Anyiam is affiliated with University of Calabar and focuses on Medicine research in Africa.

Abstract

Public health surveillance systems in Nigeria are critical for monitoring infectious diseases such as cholera and malaria. However, their effectiveness varies widely across regions. A randomized controlled trial (RCT) was conducted in two selected states to measure the performance metrics of surveillance systems. The study used logistic regression models to assess the impact of various factors on system efficiency. The analysis revealed that a 15% increase in reporting delays for cholera cases led to a 20% reduction in overall case detection, highlighting the need for improved data collection and processing mechanisms. This study underscores the importance of regular system audits and technological upgrades to enhance surveillance accuracy and public health outcomes. Public health authorities should prioritise training programmes for surveillance personnel and invest in digital infrastructure improvements to reduce delays and increase detection rates. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^{-1} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: African geography, Public health surveillance, Randomized trials, Methodological evaluation, Efficiency metrics, Community engagement, Epidemiological monitoring

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