African Animal Physiology (Agri/Animal Science)

Methodological Evaluation of Public Health Surveillance Systems in Nigeria: A Randomized Field Trial for System Reliability Assessment

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Abstract

Public health surveillance systems in Nigeria are crucial for monitoring infectious diseases and managing public health emergencies. A randomized field trial was conducted across three states in Nigeria. System performance was assessed using a mixed-effects logistic regression model with robust standard errors to account for potential biases. In the trial, the median response time from outbreak notification to public health intervention was reduced by 25% compared to baseline data, indicating improved system reliability. The randomized field trial demonstrated enhanced system performance in terms of response times and accuracy, providing evidence for improving public health surveillance mechanisms in Nigeria. Implementing the findings from this study can lead to more effective detection and control of infectious diseases within Nigerian public health 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: *Nigerian, Sub-Saharan, Surveillance, Epidemiology, Randomization, Data, Quality*

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