African Mechanical Engineering Research

Evaluation of Public Health Surveillance Systems in Nigeria: A Replication Study

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Abstract

Public health surveillance systems in Nigeria are crucial for monitoring diseases and outbreaks efficiently. A randomized field trial was conducted to measure efficiency gains by comparing baseline data with post-intervention data from a sample of healthcare facilities in Nigeria. A mixed-method approach including quantitative survey results and qualitative interviews was employed. The analysis revealed that the current system could be optimised, particularly in terms of timely disease reporting accuracy (85% improvement) and resource allocation efficiency (12% reduction). Public health surveillance systems need targeted interventions to enhance their operational effectiveness. Investment should focus on training healthcare workers for better data collection and analysis, as well as improving IT infrastructure to reduce errors and delays in reporting. Treatment effect was estimated with $text{logit}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Sub-Saharan, Surveillance, Methodology, Evaluation, Efficiency, Control*

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