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Methodological Evaluation of Public Health Surveillance Systems in Kenya: A Randomized Field Trial for Yield Improvement Analysis

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Abstract

Public health surveillance systems in Kenya play a crucial role in monitoring disease prevalence and guiding public health interventions. However, their effectiveness can vary significantly across different regions and at various points of time. A randomized field trial was conducted among four regions, with each region randomly assigned to either an intervention group or a control group. The intervention focused on enhancing data collection and analysis methods compared to existing practices. An improvement in the yield of surveillance data was observed, with an increase of 20% in the accuracy of reported cases across all regions post-intervention. The randomized field trial demonstrated that enhanced methodological approaches can significantly improve the quality and reliability of public health surveillance systems in Kenya. Public health officials should prioritise continuous training and support for data collection teams to maintain high standards of accuracy and consistency in future surveillance efforts. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Kenya, Geographic Information Systems (GIS), Public Health Surveillance, Randomized Controlled Trials, Outcome Evaluation, Data Quality Assessment, Spatial Analysis*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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