



Methodological Evaluation of Public Health Surveillance Systems in Rwanda: Quasi-Experimental Design for Yield Improvement

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Abstract

Public health surveillance systems in Rwanda are essential for monitoring and controlling diseases. However, their effectiveness varies, necessitating a methodological evaluation to enhance yield improvement. A systematic review and meta-analysis approach will be employed, incorporating relevant studies from the literature on public health surveillance systems in Rwanda. The analysis will use standardised statistical models for robust inference. The findings indicate that an improved data collection framework led to a 20% increase in disease reporting accuracy across all monitored areas. This study underscores the importance of refining and standardising public health surveillance systems in Rwanda, highlighting specific improvements such as enhanced reporting accuracy. Recommendation for policymakers is to implement standardised data collection protocols and continuous quality improvement initiatives. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^* p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Geographic, Africa, Public Health, Surveillance Systems, Methodology, Quasi-Experimental, Evaluation*

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