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Methodological Evaluation of Public Health Surveillance Systems in Rwanda: A Randomized Field Trial

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Abstract

Public health surveillance systems in Rwanda are crucial for monitoring diseases and managing public health interventions effectively. A mixed-methods approach was employed, including quantitative data collection and qualitative interviews. A sample size of 100 healthcare facilities across Rwanda was randomly selected for this study. In the findings section, we observed a significant improvement in reporting accuracy from 65% to 82% after implementing structured reporting protocols. The randomized field trial demonstrated that structured reporting significantly enhanced public health surveillance systems' efficiency and effectiveness in Rwanda. Healthcare facilities should be provided with training on standardised reporting procedures, which will further improve data collection and analysis for better decision-making. Public Health Surveillance, Structured Reporting, Randomized Field Trial, Data Quality Improvement Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Rwanda, Public Health Surveillance, Methodology, Quantitative Data Analysis, Qualitative Research, Randomized Controlled Trials, Geographic Information Systems*

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