Methodological Evaluation of Public Health Surveillance Systems in Kenya: Quasi-Experimental Design for Yield Assessment

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Abstract

Public health surveillance systems in Kenya have been established to monitor diseases and track their prevalence over time. A mixed-method approach combining quantitative data analysis with qualitative interviews will be employed. The study will use logistic regression models to estimate the impact of system improvements on disease detection rates. The preliminary results indicate a 15% increase in reported infectious diseases cases compared to baseline, though variance exists across different surveillance units. The quasi-experimental design provides robust evidence for yield assessment and highlights areas needing further refinement in public health surveillance systems. Enhancements should focus on improving data collection efficiency and training healthcare workers in reporting protocols. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African Geography, Public Health Surveillance, Quasi-Experimental Design, Longitudinal Study, Data Analysis, Qualitative Research, Geographic Information Systems*

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