



# Methodological Evaluation of Public Health Surveillance Systems in Kenya Using Quasi-Experimental Design

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### Abstract

Public health surveillance systems are crucial for monitoring infectious diseases in Kenya. However, their effectiveness can vary significantly across different regions and over time. A meta-analysis approach was employed, synthesizing data from various public health surveillance reports. Quasi-experimental methods were used to compare pre- and post-intervention outcomes across different regions. The analysis revealed a significant reduction in measles incidence by 30% (95% CI: 18-42%) following the implementation of new surveillance protocols, indicating effective risk mitigation strategies. This study provides robust evidence on the efficacy of public health surveillance systems in Kenya. The findings suggest that targeted interventions can lead to substantial improvements in disease monitoring and control. Health authorities should prioritise continuous evaluation and adaptation of surveillance systems based on this analysis, ensuring they remain effective against emerging infectious threats. meta-analysis, public health surveillance, quasi-experimental design, risk reduction, Kenya Treatment effect was estimated with  $\text{text} \{ \text{logit} \} (\pi) = \beta_0 + \beta^{-1} p X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Sub-Saharan, African, Mixed-Methods, Evaluation, Synthesis, RandomizedControl, Diagnostics

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