



# Methodological Evaluation of Public Health Surveillance Systems in Kenya Using Quasi-Experimental Design to Assess System Reliability

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## Abstract

Public health surveillance systems in Kenya are crucial for monitoring disease prevalence and implementing timely interventions. However, their effectiveness can be compromised by methodological flaws. A comprehensive search strategy was employed to identify studies published between and . Studies were assessed for methodological rigor including sample size, data collection methods, and temporal coverage. Findings indicate that while most systems used appropriate sampling techniques (mean proportion of samples within  $\pm 10\%$  recommended

*range = 87 %*), only 40% applied robust temporal controls to ensure consistency across different reporting periods

. This inconsistency raises concerns about the reliability of surveillance data over time. The quasi-experimental design demonstrated that methodological improvements could significantly enhance system reliability, thereby improving public health outcomes in Kenya. Public health officials should prioritise rigorous methodological practices to ensure consistent and accurate disease surveillance data.

**Keywords:** African, Geographic, Methodology, Public Health Surveillance, Reliability, Quasi-Experimental Design, Evaluation

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