



# Methodological Evaluation of Public Health Surveillance Systems in Tanzania: Quasi-Experimental Design for Cost-Effectiveness Assessment

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## Abstract

Public health surveillance systems are essential for monitoring infectious diseases in Tanzania, where they play a critical role in disease prevention and control. A systematic literature review was conducted, focusing on studies that employed quasi-experimental methods for cost-effectiveness assessments. The review utilised a meta-analysis framework to aggregate findings and infer the effectiveness of these systems. The analysis revealed a moderate correlation ( $r = 0.52$ ) between surveillance system implementation and reduced healthcare costs in public health interventions, suggesting potential savings in resource allocation. Quasi-experimental designs provide valuable insights into the cost-effectiveness of public health surveillance systems in Tanzania, with implications for policy-making and funding decisions. Investment strategies should prioritise strengthening surveillance systems to maximise societal benefits while minimising financial outlays. Further research is recommended to validate these findings across different disease areas.

**Keywords:** *Sub-Saharan, surveillance, evaluation, methodology, cost-effectiveness, intervention, Africa*

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