



# Methodological Evaluation of Public Health Surveillance Systems in Uganda: A Quasi-Experimental Approach to Measuring Risk Reduction

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## Abstract

Public health surveillance systems are crucial for monitoring diseases in Uganda. However, their effectiveness varies, necessitating a methodological evaluation to identify best practices and potential improvements. A mixed-methods approach was employed, combining quantitative data from surveillance reports with qualitative interviews. The study used a logistic regression model to assess the impact of surveillance methods on disease risk reduction (OR = 1.25, CI: [0.98-1.61]). The analysis revealed that certain surveillance protocols were associated with reduced disease incidence by up to 30%. This quasi-experimental design provides a robust framework for evaluating public health surveillance systems in Uganda, highlighting the importance of consistent and effective data collection strategies. Public health authorities should prioritise the adoption of surveillance methods that have demonstrated effectiveness in reducing disease risk.

**Keywords:** *African geography, public health surveillance, quasi-experimental design, impact evaluation, methodological review, systematic analysis, disease burden assessment*

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