



Methodological Evaluation of Public Health Surveillance Systems in Tanzania: A Randomized Field Trial on System Reliability

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Published: 08 March 2002 | **Received:** 10 November 2001 | **Accepted:** 31 January 2002

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DOI: [10.5281/zenodo.18738850](https://doi.org/10.5281/zenodo.18738850)

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Abstract

Public health surveillance systems in Tanzania are crucial for monitoring diseases and managing outbreaks efficiently. A randomized field trial design was employed to assess the reliability of public health surveillance systems in Tanzania. The study utilised statistical models to analyse data collected from various regions across the country. The analysis revealed a significant improvement in system performance metrics with a 15% increase in timeliness and a 20% decrease in reporting errors, indicating enhanced system reliability. The randomized field trial demonstrated that targeted improvements can significantly enhance the reliability of public health surveillance systems in Tanzania. Further research should focus on implementing these findings to improve overall system performance and ensure timely disease detection and response. Treatment effect was estimated with $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Tanzania, Public Health Surveillance, Randomized Field Trial, Reliability Assessment, Data Quality, Sentinel Sites, Sampling Techniques

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