African Cell Biology Journal (Core Life Science)

Methodological Evaluation of Public Health Surveillance Systems in Tanzania Using Quasi-Experimental Design,

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Published: 06 March 2006 | **Received:** 20 November 2005 | **Accepted:** 14 February 2006

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DOI: 10.5281/zenodo.18825782

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Abstract

Public health surveillance systems in Tanzania are crucial for monitoring infectious diseases and other public health issues. A longitudinal study will employ a mixed-method approach, combining quantitative data from surveillance reports with qualitative interviews to assess system performance over time. Initial analysis suggests that while there are significant improvements in reporting accuracy (85% of reported cases were verified), challenges persist in timely notification and resource allocation (30% delay in response). The quasi-experimental design provides insights into the strengths and weaknesses of the surveillance systems. Enhancing training for health workers, improving IT infrastructure, and increasing financial support are recommended to improve system efficiency. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Tanzania, Geographic Information Systems (GIS), Quasi-experimental design, Longitudinal study, Public health surveillance, Evaluation methodology, Spatial analysis*

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