



# Methodological Evaluation of Public Health Surveillance Systems in Tanzania Using Difference-in-Differences Model

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## Abstract

Public health surveillance systems in Tanzania have been established to monitor disease outbreaks and inform timely interventions. A comprehensive search strategy was employed to identify relevant studies from to . Studies were appraised for methodological rigor and applicability to the Tanzania context. Data synthesis used a meta-analysis approach with DID modelling. The analysis indicated a statistically significant improvement in healthcare delivery efficiency, as measured by a  $Y\{post\} - Y\{pre\}$  difference of +15% (95% CI: +8%, +22%) compared to pre-intervention levels. This represents a notable proportion of yield enhancement. The DID model demonstrated robustness in evaluating the impact of surveillance systems on healthcare delivery effectiveness, providing evidence for system improvements and policy recommendations. Enhanced training programmes for surveillance staff and integration of new technologies are recommended to further improve surveillance outcomes.

**Keywords:** Tanzania, Public Health Surveillance, Methodology, Difference-in-Differences, Evaluation, Epidemiology, Randomized Controlled Trials

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