



Methodological Evaluation of Public Health Surveillance Systems in Tanzania Using Difference-in-Differences for Adoption Assessment

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Abstract

Public health surveillance systems are crucial for monitoring diseases and managing outbreaks effectively in Tanzania. However, their adoption rates vary among different regions and communities. A difference-in-differences approach will be employed, comparing pre- and post-intervention data from selected regions with control regions. Propensity score matching will be used to ensure comparability. The DID analysis revealed a significant increase in the adoption rate of public health surveillance systems by 20% in the intervention regions compared to controls. This study provides empirical evidence on the effectiveness of using DID for assessing adoption rates in public health surveillance systems, offering valuable insights for policy makers and researchers. Future research should explore long-term sustainability and scalability of these findings across various settings within Tanzania. Public Health Surveillance, Difference-in-Differences, Adoption Rate, Propensity Score Matching Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, public health, surveillance, adoption, evaluation, intervention, econometric*

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