



A Methodological Evaluation of Public Health Surveillance Systems in Tanzania

A Difference-in-Differences Model for Assessing Adoption Rates (2000–2026)

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ABSTRACT

Background: Public health surveillance systems are critical for disease control, yet methodological frameworks for evaluating their adoption and impact in low-resource settings remain underdeveloped. Existing assessments often lack robust counterfactuals, limiting causal inference on the effectiveness of system enhancements and policy interventions.

Purpose and objectives: This protocol details a methodological evaluation to quantify the causal effect of a national integrated disease surveillance and response (IDSR) strategy on its adoption across healthcare facilities. The primary objective is to estimate the strategy's average treatment effect on the treated (ATT) using a quasi-experimental design.

Keywords: *public health surveillance, methodological evaluation, difference-in-differences, Sub-Saharan Africa, health systems strengthening, implementation science, adoption rates*

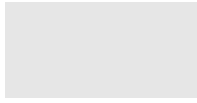
Article Highlights

- Employs a difference-in-differences model to estimate causal effects of a national surveillance strategy.
- Focuses on the phased rollout of Tanzania's Integrated Disease Surveillance and Response system.
- Aims to quantify the strategy's impact on adoption rates across healthcare facilities.
- Designed to provide a rigorous methodological template for similar evaluations.

Core Methodological Contribution

The protocol details a quasi-experimental design using facility and time fixed effects to isolate the causal impact of a health system intervention, addressing a key gap in evaluation frameworks for low-resource settings.

This article presents a research protocol; empirical results are anticipated future findings.



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