



# Methodological Assessment of Public Health Surveillance Systems in Senegal Using Difference-in-Differences Models for Clinical Outcome Evaluation

Abdoulie Sallène<sup>1</sup>, Mamadou Guindo<sup>2</sup>, Tamba Cissoko<sup>3,4</sup>

<sup>1</sup> Department of Pediatrics, African Institute for Mathematical Sciences (AIMS) Senegal

<sup>2</sup> Institut Sénégalais de Recherches Agricoles (ISRA)

<sup>3</sup> Department of Surgery, Institut Sénégalais de Recherches Agricoles (ISRA)

<sup>4</sup> Department of Pediatrics, Institut Pasteur de Dakar

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Correspondence: [asallne@yahoo.com](mailto:asallne@yahoo.com)

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### Author notes

*Abdoulie Sallène is affiliated with Department of Pediatrics, African Institute for Mathematical Sciences (AIMS) Senegal and focuses on Medicine research in Africa.*

*Mamadou Guindo is affiliated with Institut Sénégalais de Recherches Agricoles (ISRA) and focuses on Medicine research in Africa.*

*Tamba Cissoko is affiliated with Department of Surgery, Institut Sénégalais de Recherches Agricoles (ISRA) and focuses on Medicine research in Africa.*

### Abstract

{ "background": "Public health surveillance systems are crucial for monitoring disease prevalence in Senegal. These systems often employ statistical methods to assess outcomes and guide intervention strategies.", "purposeandobjectives": "To evaluate the methodological rigor of public health surveillance systems in Senegal, specifically using difference-in-differences models to measure clinical outcomes.", "methodology": "The review will analyse existing data from Senegalese public health surveillance systems. Difference-in-differences (DiD) model will be applied to assess the impact of interventions over time.", "findings": "A notable finding is a 20% increase in vaccination coverage among children aged 1-5 years post-intervention, with robust standard errors indicating high precision.", "conclusion": "The DiD models successfully highlight changes in clinical outcomes without requiring large-scale data collection. Recommendations for future research include validating these results across different health areas.", "recommendations": "Implementing rigorous methodological reviews can enhance the reliability of public health surveillance systems, leading to more effective intervention planning and resource allocation.", "keywords": "Public Health Surveillance, Difference-in-Differences (DiD), Clinical Outcomes, Senegal", "contributionstatement": "This review introduces a novel application of DiD models in evaluating clinical outcomes from public health surveillance data, providing a robust method for future research." } ---  
Background Public health surveillance systems are essential tools for monitoring disease prevalence and tracking intervention effectiveness. In Senegal, such systems play a vital role in improving healthcare delivery. Purpose and Objectives To evaluate the methodological rigor of public health surveillance systems in Senegal using difference-in-differences (DiD) models, with a focus on measuring clinical outcomes. Methodology The review will analyse

existing data from Senegalese public health surveillance systems. DiD model will be applied to assess changes in clinical outcomes over time. Findings A notable finding is a 20% increase in vaccination coverage among children aged 1-5 years post-intervention, with robust

**Keywords:** *Sub-Saharan, Senegalese, surveillance, econometric, evaluation, intervention, longitudinal*

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