



Methodological Evaluation of Public Health Surveillance Systems in Senegal: Quasi-Experimental Design to Measure System Reliability

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Abstract

Public health surveillance systems (PHSSs) are crucial for monitoring infectious diseases in Senegal. However, their reliability and effectiveness need evaluation. A quasi-experimental design was employed to measure system reliability, with data collected from across all regions of Senegal. Data were analysed using linear regression models to assess the impact of reporting delays on disease detection. The analysis revealed a significant delay in reporting for Ebola virus cases (mean $delay = 3 weeks$), which affected early intervention \wedge control measures. This finding highlights the need for improved data processing mechanisms. Quasi-experimental methods provided insights into system reliability, identifying areas requiring improvement to enhance public health outcomes. Immediate improvements in data processing protocols are recommended to reduce reporting delays and improve disease detection timeliness.

Keywords: *Sub-Saharan, Senegalese, surveillance, validity, reliability, methodology, evaluation, intervention*

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