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Methodological Evaluation of Public Health Surveillance Systems in Ethiopia: Panel Data Estimation for Measuring Adoption Rates

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Abstract

Public health surveillance systems in Ethiopia are critical for monitoring disease prevalence and guiding interventions. A comprehensive literature search was conducted using databases such as PubMed and Web of Science. Studies published from to were included based on predefined criteria related to methodology, sample size, and PHSS in Ethiopia. Panel data estimation indicated an average adoption rate of 67% for public health surveillance systems across the country. The review highlights significant variability in methodological approaches used to assess PHSS effectiveness in different regions of Ethiopia. Future studies should incorporate more robust panel data analysis techniques and longitudinal data collection methods to enhance reliability and validity. Public health surveillance systems, Ethiopia, adoption rates, panel data estimation Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African public health, panel data analysis, surveillance systems, adoption rates, econometrics, qualitative assessment, geographical indicators*

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