African Animal Nutrition (Agri/Animal Science)

Reliability Assessment of Public Health Surveillance Systems in Ethiopia through Randomized Field Trial

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Abstract

Public health surveillance systems in Ethiopia are crucial for monitoring infectious diseases such as malaria and tuberculosis (TB). However, their reliability remains unverified. A randomized field trial was conducted in selected regions to evaluate the performance of surveillance systems. Data were collected from health centers and analysed using logistic regression models for system reliability assessment. The proportion of reported cases that matched actual incidence varied significantly between regions, indicating variability in system reliability. While initial results suggest systematic biases, further analysis is necessary to understand the underlying causes and improve system performance. Immediate data quality checks are recommended followed by targeted training for health centre staff to enhance reporting accuracy. Public Health Surveillance, Reliability Assessment, Randomized Field Trial, Ethiopia Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \vec{\beta}\ p\ X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Ethiopia, Geographic Information Systems, Surveillance, Randomized Controlled Trials, Public Health, Quality Assurance, Spatial Analysis*

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