African Livestock Production Science (Health focus)

Methodological Evaluation of Public Health Surveillance Systems in Ethiopia: A Randomized Field Trial for Risk Reduction Assessment

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Abstract

Public health surveillance systems are crucial for early detection of diseases and outbreaks in Ethiopia's livestock sector. A randomized controlled trial was conducted to assess the performance of surveillance systems. A stratified sampling method was used to ensure representation across different regions and types of livestock facilities. The analysis revealed that the new system had a 20% reduction in disease detection time compared to the current system, with an estimated standard error of ±5%. The randomized field trial demonstrated significant improvements in surveillance efficiency, reducing response times by more than anticipated. Public health authorities should implement these findings and further refine the surveillance systems to enhance early disease detection and control measures. public health surveillance, Ethiopia, livestock, randomized controlled trial, risk reduction Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African, surveillance, intervention, evaluation, methodology, randomized, control*

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