

**Cost effectiveness analysis of participatory disease surveillance in Kenya**

*Hannah, H., Kimani, T., Grace, D. and Randolph, T., International Livestock Research Institute, Kenya; vetepi@gmail.com*

Effective surveillance for infectious diseases is an essential and resource-consuming activity for mitigating unwanted consequences for animal and public health. Allocation of scarce resources for surveillance must be considered against alternative prevention and control measures and regularly reviewed. Few studies estimate cost-effectiveness and benefits of different animal disease surveillance approaches and systems. In this study, we considered the benefits and resource costs of participatory epidemiology (PE) surveys and participatory disease surveillance (PDS) compared with routine passive surveillance. Focusing on a 6-month interval in a primarily pastoralist district in Kenya, basic performance indicators for surveillance measured were (1) number of outbreaks; (2) number of samples generated from suspected outbreaks; (3) number of positive laboratory confirmations. Costs of passive surveillance and interventions mounted were determined for the 6-month interval. In the same district, PE surveys were conducted in randomly selected communities to determine the number of outbreaks of notifiable cattle diseases in the same 6-month interval. Additional information was collected on the scale of morbidity and mortality for historical outbreaks (numbers and duration), the value of individual animals and the number of active outbreaks. Costs associated with mounting PE visits were ascertained and extrapolated to district level. One month after completion of PE visits, district level stakeholders were interviewed to determine the response, if any, to outbreaks detected during the visits. The study provides cost effectiveness estimates at a district level for the 6-month interval, including losses which occurred from outbreaks missed by passive surveillance and costs if PE were applied at regular intervals. In addition, the findings consider available prevention and control responses and provide decision-makers with evidence to inform future application of participatory approaches in animal disease surveillance.