

Animal value chains shaping disease information networks: the case of HPAI in Vietnam and Thailand

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Purpose:

The effectiveness of passive animal health surveillance system depends on its capacity to gather sanitary information from the animal production sector. We analyzed the flow of sanitary information related to Highly Pathogenic Avian Influenza (HPAI) suspicions in poultry.

Methods:

Two study areas with two different production sectors were targeted: commercial broiler chicken production in Northern Vietnam and backyard native chicken production in Northern Thailand. Poultry producers and other actors of the poultry sector were randomly selected in each study area. Data related to their ways of sharing HPAI suspicion information were collected in focus groups and individual interviews. These data were used to build a network of information-sharing between these actors.

Results:

First, matrix logistic regression was used to assess the influence of several link attributes on the probability of information transmission. In both study areas, actors living in the same village were more likely to share information. Secondly, the influence of several poultry farming attributes on a measure of actors' centrality - Bonacich's alpha centrality - was assessed using linear regressions with permutation tests. According to the production sector, specific types of actors had better access to HPAI suspicion information. In Vietnam commercial broiler sector feed sellers, who provide veterinary support to their customers had the highest centrality. In Thailand native chicken farming sector, cock fighting practitioners were the most central in the information network.

Conclusions:

The results show that the structure of the network of information sharing vary according to the production sector.

Relevance:

This result has strong implication on the types of actors who should be targeted to enhance passive surveillance systems to improve data collection and early warning.