

Passive Surveillance support

Passive surveillance relies on the reporting of affected farmers and animal health professionals. FAO and DAH supported passive surveillance in 2012 and the beginning of 2013. Some results of data analyze collected in Central and South Vietnam follows:

The provincial SDAHs in the central region were excellent at investigating suspected HPAI H5N1 events compared to the provincial SDAH of the south region. The southern region investigated one-third of the suspected events while the central region investigated all 100 suspected events.

Farms in the central region consisted of chickens and ducks where as in the south farms had either chickens or ducks, but no mix. The presence of ducks on a farm drastically increased the risk of a farm being infected with HPAI H5N1 with the odds being 6.22 times (95% CI 1.88 – 20.58) higher compared to a farm that only had chickens. In the south region, the farms had fencing and free-grazing systems while in the central region there was a variety of farming systems, semi-closed, free-grazing, fencing and closed systems. There was no significant difference between farming systems and a farm infected with HPAI H5N1. All the farms in the central region and 60% of the farms in the south region implemented control measures after HPAI H5N1 was diagnosed on the farm. Disinfecting and cleaning were the most common control measures implemented.

Farms positive with HPAI H5N1 used a public source of water significantly more than a private source of water. Most farms did not have gates to the entrance of the farm; however, the farms without a gate to the entrance of the farm were 5.5 times more likely (95% CI 1.66 - 18.56) to be infected with HPAI H5N1 than farms with gates to the entrance of the farm. Most farms were isolated and were not located near roads, rivers, streams, lakes, canals and/or ponds. A farm being near a canal, in the central region, was significantly associated with HPAI H5N1 outbreaks on a farm. For the few farms in the central region that were near some sort of a public body of water, if infected poultry had access to these waters, the farms were more likely (12 times, 95% CI 1.5 - 95.6) to have HPAI H5N1 on the farm. In addition, poultry having contact with wild birds was not associated with HPAI H5N1 outbreaks on the farm and neither were domestic animals that moved freely in and out of the farm. Poultry came from the same district ($n=31$) most often, followed by the same province ($n=27$) and lastly the same commune ($n=15$). In most instances the feed suppliers came from the same location or a nearer location as the poultry on the farm. Vaccination, production system and age were variables not collected routinely so inferences regarding these variables were not possible due to the small sample size.

A big challenge was how to encourage more reporting of suspected HPAI H5N1 events by farmers. To improve upon this, compensation (both in amount and timeliness) is crucial. Farmers willingness to cooperate during an outbreak investigation may be improved by providing incentives i.e. a biosecurity booklet with instructions for VIRKON use added on the cleaning and disinfection section, page 21¹. In addition, training and behavioral change for the farmer is paramount in order to educate them on the importance of outbreak investigation reports. Awareness messages would aid

¹FAO, 2011, Improving Bio-security practices to control highly pathogenic avian influenza
http://www.fao.org/asiapacific/vietnam/virtual-library/detail/en/?no_cache=1&uid=6

in encouraging farmers to seek assistance from the animal health workers which would make reporting the responsibility of the AHW. Lastly, real-time analysis of outbreak investigation reports relayed back to the farmer would help as well.

Ultimately, to be able to identify risk factors for HPAI H5N1 infection (i.e. logistic regression), data from randomly selected negative farms is necessary. It is important to analyze the next phase of outbreak investigation reports real-time in order to make the necessary improvements to the outbreak investigation reports.

