Pig-to-person spread of flu at fairs a continued concern

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The spread of influenza among pigs is common at fairs and other gatherings, and protective measures including cutting the length of time pigs and people congregate make good sense for both the animals and humans, say the authors of a new study.

A team led by Andrew Bowman of The Ohio State University tracked human cases of H3N2 swine virus associated with seven agricultural fairs in 2016. They tallied 18 cases in Ohio and Michigan documented after exposure to flu-infected pigs.

The research appears in the journal *Emerging Infectious Diseases*, a publication of the Centers for Disease Control and Prevention.

Though most of these infections caused mild, manageable illness, new flu viruses jumping from pigs to people raises the risk of a flu pandemic.

The good news is that there are ways to curtail the spread of disease without eliminating swine exhibits altogether, said Bowman, an assistant professor of veterinary medicine. Chief among them: a 72-hour limit to swine exhibits, which would interrupt widespread flu transmission from pig to pig and from pigs to people, he said.

"Shorter exhibitions don't eliminate the possibility of the disease spreading, but it can be the difference between a few animals catching the virus and most of them becoming infected," Bowman said.

Other measures to decrease disease transmission include:

- Vaccinating pigs against flu.
- Designing the intake process for animals when they arrive at the fairgrounds so that they aren't all touching the same surfaces with their snouts.
- Posting guidance for handwashing and supplying hand sanitizer near animal exhibits.
- Posting signs warning against eating and drinking around animal exhibits.
- Encouraging those at higher risk of flu complications to forego visits to the animal exhibits. People who fall into this category are babies, young children, adults over 65 and those with illnesses that weaken the immune system.

The work that led to the new study was part of a larger effort to monitor flu virus among exhibition swine at 101 fairs in the Midwest. Regardless of clinical signs, pigs were tested at the end of exhibitions. The Ohio State-led effort included 161 pigs at seven fairs - almost 78 percent of which tested positive for the virus, though in many cases there were no observable symptoms of flu.

The human infections that arise from exposure at the fair are often in the exhibitors, because they have prolonged exposure to the animals, Bowman said.

"We've worked hard with exhibitors to say, 'Don't hang out in the barn longer than you need to, don't make it the social gathering place,'" he said.

The research team found genetically identical flu virus at multiple fairs in Ohio and Michigan, which illustrates how fast this virus - and potentially others - can move within swine at agricultural shows, the

researchers wrote.

The H3N2 virus implicated in these pig-to-human transmissions didn't originate in swine. In fact, people passed the virus to the pigs to begin with, Bowman said.

"As much as we like to point fingers at the pigs, it comes from us too," Bowman said.

"The ease with which viruses can pass between pigs and people and evolve into new, more concerning viruses illustrates the importance of continued monitoring of swine to detect viruses that can threaten animals and people," he said.

Provided by The Ohio State University