

Potential cluster of H5N1 bird flu cases in Missouri poses danger of human-to-human transmission

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The Centers for Disease Control and Prevention (CDC) announced last Friday that it is investigating seven individuals who became ill after being in contact with a patient diagnosed with H5N1 ‘avian’ influenza (bird flu) in Missouri. This index patient had no known contact with poultry or cattle infected with H5N1, and the state of Missouri has not reported any herds of dairy cattle with H5N1.

Combined, these developments are highly concerning, as they raise the possibility that the H5N1 virus has evolved the ability to transmit from human-to-human and thus the potential to cause the next pandemic. Test results for the seven individuals are pending. Should they return positive, it will confirm these fears.

James Lawler, MD, MPH, the Associate Director of International Programs and Innovation for the University of Nebraska Medical Center’s Global Center for Health Security, said, “There is no other reason for a person to have an immune record of H5 infection, and without clear risky exposure to animals or milk, a human cluster is most likely the result of human-to-human transmission.”

Of the seven individuals under investigation in Missouri, six are healthcare workers who cared for the index patient in the hospital. The seventh is a household contact. All seven individuals had mild symptoms.

However, the case fatality rate for bird flu has historically been roughly 50 percent. If the H5N1 virus develops the capacity for sustained human-to-human transmission and begins to spread quickly, a catastrophe would ensue that could quickly dwarf that of the ongoing COVID-19 pandemic, which has itself already killed nearly 30 million people globally.

Of the six healthcare workers, three were exposed to the index patient prior to the initiation of droplet exposure precautions, and three were exposed after. Droplet

precautions are designed to prevent the spread of infections in the hospital which are transmitted by respiratory droplets generated by coughing, sneezing or talking. These precautions include placing a mask on the patient, isolating the patient, and the donning of masks by healthcare providers prior to entering the patient’s room.

Notably, the three workers with symptoms after precautions began were among 94 such workers in total. If all three individuals end up positive for H5N1, that would represent an attack rate of over 3 percent *with precautions in place*, assuming that all three were infected by the index patient and not either by each other or by one of the other three symptomatic workers. By comparison, one study of SARS-CoV-2 transmission in a Swiss hospital found an attack rate of 0 percent from isolated patients.

The Missouri Department of Health and Senior Services (MDHSS) initially identified two of the healthcare workers who became symptomatic after caring for the index patient. Both were exposed prior to the initiation of precautions. The first worker tested negative for influenza by polymerase chain reaction or PCR testing, which detects viral DNA directly by making copies of it, a process called “amplification.” The second worker provided a blood sample to test for antibodies to H5N1, which if it turns positive would indicate prior infection in the absence of vaccination.

Missouri subsequently identified the additional four healthcare workers who developed mild respiratory symptoms after caring for the index patient, one exposed prior to the initiation of droplet precautions and three after. These workers also have antibody test results pending, as does the household contact of the index patient.

The CDC noted that the antibody testing results could

take “weeks.” No reports of the investigation mention whether other patients in the hospital at the same time as the index patient developed symptoms or were investigated.

To date, there have been 14 confirmed human cases of H5N1 in the United States, including the index patient in Missouri. The other 13 cases have all been associated with exposure to infected poultry or infected dairy cattle.

Lawler noted, “If it has occurred in the past, it is quite rare. So, if we are seeing human-to-human transmission now, it is a big deal.”

The detection of the index patient was fortuitous. The hospital tested the patient for influenza A, which was positive. The hospital then forwarded a specimen from the patient to MDHSS, which as part of its influenza surveillance program identified the virus as H5 subtype. Missouri then forwarded the specimen to CDC which confirmed H5N1.

This represents the first detection of H5N1 by the influenza surveillance system in place in the 50 states and federally in the U.S. The other 13 cases were detected by targeted testing based on known prior exposure to poultry and cattle.

Because hospitals do not routinely test all patients with respiratory symptoms for influenza A, and do not submit all specimens positive for influenza A to state health departments for subtyping, it is possible that numerous patients in the healthcare system have had H5N1 and gone undetected. The index patient was only tested and had a specimen referred to MDHSS because they had a severe illness requiring hospitalization and anti-viral medications.

Experts had roundly criticized the response to H5N1 in cattle, poultry and humans even prior to the CDC announcement of the expanded size of the potential cluster in Missouri. These experts also believe that Missouri does indeed have dairy cattle infections with H5N1 but has not detected or reported them due to an absence of federally-mandated surveillance mechanisms.

Amesh Adalja, MD, Senior Scholar at the Johns Hopkins Center for Health Security in Baltimore, said:

Given that the strain [in the index patient] is very similar to the strain circulating in dairy cattle, I assume that Missouri, even though it denies having any dairy herds positive, likely does have positive dairy herds. It seems that they would rather evade the fact that their dairy cattle likely

harbor the virus than get a handle on what is happening.

In a call last month, Eric Deeble, deputy under secretary for marketing and regulatory programs at US Department of Agriculture, noted that US officials have decided against bulk H5N1 testing mandates in dairy cattle.

Meghan Davis, associate professor at Johns Hopkins Bloomberg school of public health, said, “We are really not testing enough. The lack of testing has actually been one of the most startling things for me, in terms of watching the response to this outbreak unfold.”

The anemic response of the Biden-Harris administration and the entire capitalist ruling class to a pathogen with high pandemic potential is one of profound socially criminal negligence. They have watched it spread from birds to over 40 mammalian species including humans, and now as it raises the specter of human-to-human transmission, they exhibit minimal concern for the potential impact on human life.

Having decided in its response to the COVID-19 pandemic to no longer let public health considerations stand in the way of profits, the ruling class is more than content to let the next pandemic emerge virtually unchecked. This is despite the fact that humanity has the knowledge and resources to squelch this virus before it even adapts to human-to-human transmission.

The working class must organize its own independent political program to overthrow the capitalist system, whose prioritization of profit over lives actively enables one pandemic to rage while another emerges. Only then can humanity fully deploy its scientific knowledge and resources to eliminate pandemics and vastly expand public health resources globally.



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