

Health Advisory:

Avian Influenza A (H7N9)

May 10, 2013

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The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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Health Advisory
May 10, 2013

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SUBJECT: Avian Influenza A (H7N9)

Avian Influenza A (H7N9) virus is one of a subgroup of influenza viruses that normally circulate among birds. Until recently, this virus had not been seen in people. However, human infections have now been detected, and the resulting disease is of concern because most of the cases have been severely ill. Although no cases of avian influenza A (H7N9) have been identified in the United States, clinicians should consider the diagnosis of avian influenza A (H7N9) virus infection in persons with acute respiratory illness compatible with influenza and relevant exposure history. If a patient meets the criteria described below, the Missouri Department of Health and Senior Services (DHSS) should be immediately contacted regarding specimen collection and facilitation of confirmatory testing. Specific treatment and infection control guidelines (see below) have been issued which should be instituted whenever a case is first suspected.

As of May 6, 2013, health officials in China report total of 130 human cases of avian influenza A (H7N9), 31 of them (24%) fatal. Recent analysis of H7N9 human cases revealed that the median age of patients with confirmed infection is 61 years, and most are male (71%). Among the 71 cases for which complete data are available, 54 (76%) had at least one underlying health condition. Most of the confirmed cases involved severe respiratory illness. Of 82 confirmed cases for which data were available as of April 17, 81 (99%) required hospitalization. Among those patients hospitalized, 17 (21%) died of acute respiratory distress syndrome (ARDS) or multiorgan failure, 60 (74%) remained hospitalized, and only four (5%) had been discharged. However, although the majority of H7N9 cases have resulted in severe respiratory illness in adults, infection with this virus may cause mild illness in some, and may cause illness in children as well.

Cases have been confirmed in eight contiguous provinces in eastern China, two municipalities (Beijing and Shanghai), and Taiwan. **No cases of avian influenza A (H7N9) have been identified to date in the United States.**

The source of the human infections remains under investigation. H7N9 has been detected in Chinese poultry. While the investigation is ongoing, the current working assumption is that most people have been infected with the virus after having contact with infected poultry or contaminated environments. A New England Journal of Medicine (NEJM) article authored by Chinese public health officials released on April 24, 2013 reports that 77% of the first 82 H7N9 patients had some animal exposure.

Almost all confirmed cases have been sporadic, with no epidemiologic link to other human cases. However, at least three family clusters of two or three confirmed cases have been reported where limited human-to-human transmission might have occurred. Epidemiologic investigations have yielded no conclusive evidence of sustained human-to-human transmission. According to the CDC, H7N9 virus in its current form cannot start a pandemic, but it could if the virus mutates to gain the ability to spread readily from person to person. At this time, it is impossible to predict what next steps the H7N9 virus may take.

Testing

CDC has developed an rRT-PCR Emergency Use Authorization (EUA) test for public health laboratories to specifically detect the avian influenza A (H7N9) virus (see fact sheet links below). This test is only for use on patients with the following clinical and epidemiologic criteria:

A patient with illness compatible with influenza meeting either of the following exposure criteria and for whom laboratory confirmation is not known or pending, or for whom test results do not provide a sufficient level of detail to confirm novel influenza A virus infection.

- A patient who has had recent travel (within ≤ 10 days of illness onset) to a country where human cases of novel influenza A (H7N9) virus have recently been detected or where novel influenza A (H7N9) viruses are known to be circulating in animals.

OR

- A patient who has had recent contact (within ≤ 10 days of illness onset) with a confirmed or probable case of infection with novel influenza A (H7N9) virus.

A confirmatory test for influenza A(H7N9) would still be performed at CDC at this time.

These testing eligibility criteria are strictly enforced in order to preserve limited available testing resources and to support only those appropriate investigations that facilitate successful public health interventions and surveillance.

Medical providers caring for a patient who meets these criteria should immediately contact DHSS at 800-392-0272 (24/7) to discuss sending specimens for testing at the Missouri State Public Health Laboratory (MSPHL). Note that before any specimen is sent to MSPHL, DHSS staff must first be consulted. After consultation and determination that the patient meets the criteria for testing, contact the MSPHL at 573-751-3334 or 800-392-0272 for guidance on specimen collection and shipping prior to collecting the specimens. This will help ensure that proper specimens are obtained in the right quantity, and that they are packed and transported properly.

Treatment

Because of the potential severity of illness associated with avian influenza A (H7N9) virus infection, the Centers for Disease Control and Prevention (CDC) recommends that all H7N9 patients (confirmed, probable, or under investigation for H7N9 infection) receive antiviral treatment with oseltamivir or zanamivir as early as possible. Treatment should be initiated even >48 hours after onset of illness. Treatment should not be delayed for laboratory confirmation of influenza or H7N9 infection. Note that amantadine and rimantadine are not recommended for treatment of H7N9 virus infection. **Current guidance on treatment is available from CDC at: <http://www.cdc.gov/flu/avianflu/h7n9-antiviral-treatment.htm>.** Be aware that this guidance may change over time as more experience is gained in treating H7N9 infections.

Infection Control

Guidance on initial infection control in healthcare settings for confirmed, probable, or cases under investigation for avian influenza A (H7N9) is available from CDC at:

<http://www.cdc.gov/flu/avianflu/h7n9-infection-control.htm>. These infection control measures should be instituted immediately whenever a case is first suspected. Note that this guidance recommends a higher level of infection control measures than for seasonal influenza. Among important differences from the seasonal influenza guidance are recommendations for contact and airborne precautions for patients with confirmed, probable, or a cases under investigation of H7N9 virus infection, which includes a higher level of personal protective equipment for healthcare personnel, including eye protection (i.e., required) and the expanded use of respirators (i.e., for all patient-care activities). Also note that this interim guidance adds to existing infection control precautions (i.e., Standard Precautions) used every day in healthcare settings during the care of any patient. As with the treatment guidelines, guidance on infection control may be updated as more information on influenza A (H7N9) becomes available.

Vaccination

Past serologic studies evaluating immune response to H7 subtypes of influenza viruses have shown no existing cross-reactive antibodies in human sera. In the United States, planning for H7N9 vaccine clinical trials is under way. Although no decision has been made to initiate an H7N9 vaccination program in this country, CDC recommends that local authorities and preparedness programs take time to review and update their pandemic influenza vaccine preparedness plans because it could take several months to ready a vaccination program, if one becomes necessary.

Information on where influenza A (H7N9) cases are occurring is available from WHO at:
http://www.who.int/influenza/human_animal_interface/influenza_h7n9/Data_Reports/en/index.html.

Influenza A (H7N9) information and recommendations for travelers is available from CDC at:
<http://wwwnc.cdc.gov/travel/notices/watch/avian-flu-h7n9.htm>. This material will be updated as necessary.

Fact Sheet for Healthcare Providers: Interpreting CDC Human Influenza Virus Real-Time RT-PCR Diagnostic Panel Influenza A/H7 (Eurasian Lineage) Assay Test Results at:
<http://www.fda.gov/downloads/MedicalDevices/Safety/EmergencySituations/UCM349062.pdf>

Fact Sheet for Patients: Understanding Results from the CDC Human Influenza Virus Real-Time RT-PCR Diagnostic Panel A/H7 (Eurasian Lineage) Assay at:
<http://www.fda.gov/downloads/MedicalDevices/Safety/EmergencySituations/UCM349064.pdf>

For links to additional information, see DHSS' Avian Influenza website at:
<http://health.mo.gov/emergencies/panflu/avian.php>.

Questions should be directed to DHSS' Bureau of Communicable Disease Control and Prevention at 573/751-6113, or 800/392-0272 (24/7).