LOUISIANA DEPARTMENT OF HEALTH Public Health	**Health Alert Network Message 22-16: Highly Pathogenic Avian Influenza A(H5N1) Virus: Recommendations for Clinicians**
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Highly Pathogenic Avian Influenza A(H5N1) Virus: Recommendations for Clinicians

Summary

A Colorado resident has tested positive for avian influenza A(H5) virus (H5 bird flu) in the U.S., as confirmed by the Centers for Disease Control and Prevention (CDC) and reported by the Colorado Department of Public Health and Environment on April 28, 2022. This case occurred in a person who had direct exposure to poultry and who was involved in the culling (depopulating) of poultry with presumptive H5N1 bird flu.

Starting in January, the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) detected highly pathogenic avian influenza (HPAI) A(H5N1) virus in wild birds in the United States followed by multiple detections in U.S. commercial poultry and backyard bird flocks [1,2]. Detection of A(H5) virus in one person who was involved in culling of poultry does not change the human health risk assessment, which remains low for the general public. People with work or recreational exposures to infected birds are at greater risk of infection and should follow recommended precautions. **The purpose of this HAN Health Advisory is to notify public health workers, clinicians, and the public of the potential for human infection with this virus and to describe the CDC's recommendations for patient investigation and testing, infection control including the use of personal protective equipment, and antiviral treatment and prophylaxis.**

Background

During January 13, 2022, through April 27, 2022, USDA APHIS reported more than 899 detections of wild birds infected with HPAI A(H5N1) virus in 33 states [1]. On February 9, 2022, USDA APHIS confirmed the first outbreak of HPAI A(H5N1) virus in a commercial turkey flock in Indiana [2]. Since then, APHIS has identified 247 HPAI A(H5N1) outbreaks among commercial poultry or backyard bird flocks in 29 states involving more than 35 million birds.

Ancestors of HPAI A(H5N1) viruses first emerged in southern China and led to large poultry outbreaks in Hong Kong in 1997, which resulted in 18 human infections. These poultry outbreaks were controlled, but HPAI A(H5N1) viruses were not eradicated in birds, and the virus reassorted and reemerged in 2003 to spread widely in birds throughout Asia, and later in Africa, Europe, and the Middle East, causing sporadic human infections. HPAI A(H5) viruses were detected in North America from 2014 to 2016 where they caused widespread poultry outbreaks and detections among wild birds in Canada and the United States.

Since 2003, 19 countries have reported 864 human infections and 456 deaths with HPAI A(H5N1) virus to the World Health Organization (WHO) as of March 1, 2022 [3]. However, contemporary HPAI A(H5) viruses circulating globally and causing outbreaks in U.S. wild birds and poultry are different from earlier HPAI A(H5N1) viruses. Prior to the human case of A(H5)

virus in the United States reported here, the only other human infection with this HPAI A(H5N1) virus was an asymptomatic case reported in the United Kingdom in January 2022 in association with exposure to domestically kept infected ducks. The case reported by Colorado is the first human detection of any influenza A(H5) virus in the United States. At this time, there is no evidence of sustained human-to-human transmission of HPAI A(H5N1) virus in the U.S.

Influenza A viruses infect the respiratory and gastrointestinal tracts of birds causing birds to shed the virus in their saliva, mucous, and feces. Human infections with avian influenza A viruses can happen when enough virus gets into a person's eyes, nose, or mouth or is inhaled. People with close or prolonged unprotected contact with infected birds or contaminated environments are at greater risk of infection. Illnesses in humans from avian influenza A virus infections have ranged from mild (e.g., eye infection, upper respiratory symptoms) to severe illness (e.g., pneumonia) resulting in death. The spread of avian influenza A viruses from one infected person to another has been reported in other countries, but is very rare, and when it has happened, it has not led to sustained spread among people.

At this time, CDC considers the human health risk to the U.S. public from these newly identified HPAI A(H5N1) viruses to be low; however, people with close or prolonged, unprotected contact with infected birds or contaminated environments are at greater risk of infection. While there is little information about the spectrum of illness that could result from human infections with current H5N1 bird flu viruses, currently, CDC considers this virus as having the potential to cause severe disease in humans and recommends the following:

Recommendations for Clinicians

Clinicians should consider the possibility of HPAI A(H5N1) virus infection in persons showing signs or symptoms of respiratory illness who have relevant exposure history. This includes persons who have had contact with potentially infected birds (e.g., handling, slaughtering, defeathering, butchering, culling, preparation for consumption); direct contact with water or surfaces contaminated with feces or parts (carcasses, internal organs, etc.) of potentially infected birds; and persons who have had prolonged exposure to potentially infected birds in a confined space. Clinicians should contact the state public health department to arrange testing for influenza A(H5N1) virus, collect respiratory specimens using personal protective equipment (PPE), consider starting empiric antiviral treatment (see below), and encourage the patient to isolate at home away from their household members and not go to work or school until it is determined they do not have avian influenza A virus infection. Testing for other potential causes of acute respiratory illness should also be considered depending upon the local epidemiology of circulating respiratory viruses, including SARS-CoV-2.

Reporting Suspected Cases in Louisiana

Clinicians should report persons showing signs or symptoms of respiratory illness who have relevant exposure history to the Infectious Disease Epidemiology Section (IDEpi) of the Louisiana Office of Public Health. Epidemiologists are available 24/7 to provide testing and isolation guidance through **IDEpi's clinician hotline: 800-256-2748.**

Recommendations for Infection Control

Standard, contact, and airborne precautions are recommended for patients presenting for medical care or evaluation who have illness consistent with influenza and recent exposure to potentially infected birds. For additional guidance on infection control precautions for patients

who might be infected with HPAI A(H5N1) virus, please refer to guidance for infections with novel influenza A viruses associated with severe disease.

Recommendations for Influenza Antiviral Treatment and Chemoprophylaxis
Chemoprophylaxis of Persons with Bird Exposure : Chemoprophylaxis with influenza antiviral medications can be considered for any person meeting exposure criteria. Decisions to initiate post-exposure antiviral chemoprophylaxis should be based on clinical judgment, with consideration given to the type of exposure, duration of exposure, time since exposure, known infection status of the birds the person was exposed to, and to whether the exposed person is at higher risk for complications from seasonal influenza (https://www.cdc.gov/flu/avianflu/guidance-exposed-persons.htm).

Chemoprophylaxis is not routinely recommended for personnel who used proper PPE while handling sick or potentially infected birds or decontaminating infected environments (including animal disposal).

If antiviral chemoprophylaxis is initiated, treatment dosing for the neuraminidase inhibitors oseltamivir or zanamivir (one dose twice daily) is recommended instead of the typical antiviral chemoprophylaxis regimen. For specific dosage recommendations for treatment by age group, please see Influenza Antiviral Medications: Summary for Clinicians. Physicians should consult the manufacturer's package insert for dosing, limitations of populations studied, contraindications, and adverse effects. If exposure was time-limited and not ongoing, five days of medication (one dose twice daily) from the last known exposure is recommended.

Treating Symptomatic Persons with Bird Exposure
Outpatients with exposure to HPAI (H5N1) virus infected birds who develop signs and symptoms compatible with influenza should be referred for prompt medical evaluation and empiric initiation of influenza antiviral treatment with a neuraminidase inhibitor, oseltamivir or zanamivir, or the cap-dependent endonuclease inhibitor, baloxavir, as soon as possible. Clinical benefit is greatest when antiviral treatment is administered early, especially within 48 hours of illness onset.

Hospitalized patients who are confirmed, probable, or suspected cases of human infection with HPAI A(H5N1) virus, regardless of time since illness onset are recommended to initiate antiviral treatment with oral or enterically administered oseltamivir as soon as possible. Antiviral treatment should not be delayed while waiting for laboratory testing results.

For detailed guidance on dosing and treatment duration, please see Interim Guidance of the Use of Antiviral Medications for the Treatment of Human Infection with Novel Influenza A Viruses Associated with Severe Human Disease (http://www.cdc.gov/flu/avianflu/novel-av-treatment-guidance.htm).

Vaccination
No human vaccines for HPAI A(H5N1) are currently available in the United States. Seasonal influenza vaccines do not provide any protection against human infection with HPAI A(H5N1) viruses.

For More Information

- General information about avian influenza viruses and how they spread
- Past Outbreaks of Avian Influenza in North America
- Transmission of Avian Influenza A Viruses Between Animals and People
- H5 Viruses in the United States
- General information about Avian Influenza viruses in birds
- Avian Influenza: Information for Health Professionals and Laboratorians
- Reported Human Infections with Avian Influenza A Viruses
- Guidance on Testing and Specimen Collection for Patients with Suspected Infection with Novel Influenza A Viruses with the Potential to Cause Severe Disease in Humans
- Recommendations for Worker Protection and Use of Personal Protective Equipment (PPE) to Reduce Exposure to Novel Influenza A Viruses Associated with Severe Disease in Humans

References

1. United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). (2022, January 14). *USDA Confirms Highly Pathogenic Avian Influenza in a Wild Bird in South Carolina*. United States Department of Agriculture. Retrieved April 20, 2022, from https://www.aphis.usda.gov/aphis/newsroom/stakeholder-info/sa_by_date/sa-2022/hpai-sc
2. United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). (2022, February 9). *USDA APHIS | USDA Confirms Highly Pathogenic Avian Influenza in a Commercial Turkey Flock in Dubois County, Indiana*. United States Department of Agriculture. Retrieved April 22, 2022, from https://www.aphis.usda.gov/aphis/newsroom/stakeholder-info/sa_by_date/sa-2022/hpai-indiana
3. World Health Organization. (2021, April 15). *Cumulative number of confirmed human cases for avian influenza A(H5N1) reported to WHO, 2003–2021, 15 April 2021*. Retrieved April 22, 2022, from https://www.who.int/publications/m/item/cumulative-number-of-confirmed-human-cases-for-avian-influenza-a(h5n1)-reported-to-who-2003-2021-15-april-2021