**Highly Pathogenic Avian Influenza A (H5N1) Virus Infection Reported in a Person in the U.S.**

The Centers for Disease Control and Prevention (CDC) announced on April 1, 2024, a person in Texas has tested positive for highly pathogenic avian influenza (HPAI) A(H5N1) virus after exposure to dairy cattle presumed to be infected with HPAI A(H5N1) viruses. This is the second case in the United States and the first case was announced in 2022 in Colorado. Since 2022, many different wild bird species have been reported with HPAI A(H5N1) virus infection, including terrestrial, seabird, shorebird, and migratory species.

A wide range of terrestrial and marine mammals have been reported with HPAI A(H5N1) virus infection in multiple countries, typically resulting in neurologic signs of disease and death. HPAI A(H5N1) virus infection has been reported in wild mammals such as foxes, bears, seals, and sea lions, and in domesticated animals, including pets such as cats and dogs, farmed mink and foxes, and livestock such as goats and cows. In the United States, HPAI A(H5N1) virus detections in mammals have been reported in more than 20 states.

The CDC’s risk assessment for the general public remains low. However, unprotected exposure to any infected animal or to an environment in which infected birds or other animals are or have been present can pose a risk of infection. There is no evidence of sustained human-to-human H5N1 virus transmission, and limited, non-sustained human-to-human H5N1 virus transmission has not been reported worldwide since 2007.

**CDC Recommendations for the Public:**

* People exposed to HPAI A(H5N1)-virus infected birds or other animals (including people wearing recommended PPE) should monitor themselves for new respiratory illness symptoms, including conjunctivitis (eye redness), beginning after their first exposure and for 10 days after their last exposure.
* People should avoid unprotected (not using respiratory or eye protection) exposures to sick or dead animals including wild birds, poultry, other domesticated birds, and other wild or domesticated animals, as well as with animal feces, litter, or materials contaminated by birds or other animals with suspected or confirmed HPAI A(H5N1) virus infection.
* People should not prepare or eat uncooked or undercooked food or related uncooked food products, such as unpasteurized (raw) milk, or raw cheeses, from animals with suspected or confirmed HPAI A(H5N1) virus infection (avian influenza or bird flu).
* Personal protective equipment (PPE) should be worn when in direct or close contact (within about six feet) with sick or dead animals including poultry, wild birds, backyard bird flocks, or other animals, animal feces, litter, or materials potentially contaminated with HPAI A(H5N1) viruses.
* PPE includes a properly fitted unvented or indirectly vented safety goggles, disposable gloves, boots or boot covers, a NIOSH-Approved particulate respirator (e.g., N95® filtering facepiece respirator, ideally fit-tested), disposable fluid-resistant coveralls, and disposable head cover or hair cover.

**CDC Recommendations for Farmers; Poultry, Backyard Bird Flock, and Livestock Owners; and Worker Protection:**

* To reduce the risk of HPAI A(H5N1) virus infection, poultry farmers and poultry workers, backyard bird flock owners, livestock farmers and workers, veterinarians and veterinary staff, and responders should avoid unprotected direct physical contact or close exposure with sick or dead birds or other animals, carcasses, feces, milk, or litter from sick birds or other animals potentially infected or confirmed to be infected with HPAI A(H5N1) virus.
* Farmers, workers, and responders should wear recommended PPE such as an N95 filtering facepiece respirator, eye protection, and gloves, and perform thorough hand washing after contact.
* Workers should receive training on and demonstrate an understanding of when to use PPE; what PPE is necessary; how to properly put on, use, take off, dispose of, and maintain PPE; and PPE.

**CDC Recommendations for Clinicians:**

* Clinicians should consider the possibility of HPAI A(H5N1) virus infection in persons showing signs or symptoms of acute respiratory illness who have relevant exposure history (see [Brief Summary for Clinicians](https://www.cdc.gov/flu/avianflu/clinicians-evaluating-patients.htm)). This includes persons who have had contact with:
	+ Potentially infected sick or dead birds, livestock, or other animals within the week before symptom onset (e.g., handling, slaughtering, defeathering, butchering, culling, preparing for consumption or consuming uncooked or undercooked food or related uncooked food products, including unpasteurized (raw) milk or other unpasteurized dairy products),
	+ Direct contact with water or surfaces contaminated with feces, unpasteurized (raw) milk or unpasteurized dairy products, or parts (carcasses, internal organs, etc.) of potentially infected animals; and
	+ Persons who have had prolonged exposure to potentially infected birds or other animals in a confined space.
* Clinicians should contact the Delaware Division of Public Health to arrange testing for influenza A(H5N1) virus, collect recommended respiratory specimens (see below) using 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 circulation respiratory viruses, including SARS-CoV-2.

**Epidemiological Criteria:**

Persons with recent exposure (within 10 days) to HPAI A(H5N1) virus through one of the following:

* Exposure to HPAI A(H5N1) virus infected birds or other animals defined as follows:
	+ Close exposure (within six feet) to birds or other animals, with confirmed avian influenza A(H5N1) virus infection. Bird or other animal exposures can include, but are not limited to handling, slaughtering, defeathering, butchering, culling, or preparing birds or other animals for consumption, or consuming uncooked or undercooked food or related uncooked food products, including unpasteurized (raw) milk, OR
	+ Direct contact with surfaces contaminated with feces, unpasteurized (raw) milk or other unpasteurized dairy products, or bird or animal parts (e.g., carcasses, internal organs) from infected birds or other animals, OR
	+ Visiting a live bird market with confirmed bird infections or associated with a case of human infection with HPAI A(H5N1) virus.
* Exposure to an infected person – Close (within six feet) unprotected (without use of respiratory and eye protection) exposure to a person who is a confirmed, probable, or symptomatic suspected case of human infection with HPAI A(H5N1) virus (e.g., in a household or healthcare facility).
* Laboratory exposure (unprotected exposure to HPAI A(H5N1) virus in a laboratory)

**Clinical Criteria:**

Persons with signs and symptoms consistent with acute upper or lower respiratory tract infection, or complications of acute respiratory illness without an identified cause. In addition, gastrointestinal symptoms such as diarrhea are often reported with HPAI A(H5N1) virus infection. Examples include but are not limited to:

* Mild illness (e.g., cough, sore throat, eye redness or eye discharge such as conjunctivitis, fever or feeling feverish, rhinorrhea, fatigue, myalgia, arthralgia, headache)
* Moderate to severe illness: (e.g., shortness of breath or difficulty breathing, altered mental status, seizures)
* Complications: pneumonia, respiratory failure, acute respiratory distress syndrome, multi-organ failure (respiratory and kidney failure), sepsis, meningoencephalitis

**Recommendations for Infection Prevention and 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 birds or other animals potentially infected with HPAI A(H5N1) virus. For additional guidance on infection prevention and control precautions for patients who might be infected with HPAI A(H5N1) virus, see ([guidance for infections with novel influenza A viruses associated with severe disease](https://www.cdc.gov/flu/avianflu/novel-flu-infection-control.htm)).

**Delaware Division of Public Health, Office of Infectious Disease Epidemiology Contact Information:**

* Phone number during business hours: 302-744-4700
* Phone number after hours: 1-888-295-5156
* Email address: reportdisease@delaware.gov

**References:**

<https://www.cdc.gov/flu/avianflu/hpai/hpai-interim-recommendations.html>

<https://www.cdc.gov/media/releases/2024/p0401-avian-flu.html>

<https://www.cdc.gov/niosh/topics/publicppe/default.html>

<https://www.cdc.gov/flu/avianflu/h5/worker-protection-ppe.htm>

<https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf>

<https://www.cdc.gov/flu/avianflu/clinicians-evaluating-patients.htm>

<https://agriculture.delaware.gov/poultry-animal-health/poultry/>