



NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**

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Division of Public Health

To: All North Carolina Clinicians and Laboratorians  
From: Zack Moore, MD, MPH, State Epidemiologist  
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Subject: Management of People Exposed to Novel and Variant Influenza (3 pages)  
Date: April 11, 2024

This memo provides guidance to providers for testing and managing people who are potentially exposed to novel influenza A(H5N1) or other novel or variant influenza viruses\*.

### Background

On April 1, 2024, the [United States Department of Agriculture's \(USDA\) Animal and Plant Health Inspection Services \(APHIS\)](#) confirmed detection of a novel influenza A(H5N1) highly pathogenic avian influenza (HPAI)\*\* in dairy cows in Texas and New Mexico. Novel influenza A(H5N1) has subsequently been detected in dairy cows from multiple other states. On April 1, 2024, the [Centers for Disease Control and Prevention \(CDC\)](#) reported the first case of novel influenza A(H5N1) in a human in Texas and released a [Health Alert Network \(HAN\) Health Advisory](#) on April 5, 2024. The patient reported conjunctivitis with no other symptoms and did not require hospitalization. No additional cases of human infection with novel influenza A(H5N1) virus associated with the current infections in dairy cattle have been identified and no human-to-human transmission of novel influenza A(H5N1) virus has been documented.

One dairy herd has [tested positive for novel influenza A\(H5N1\)](#) in North Carolina. The NC Division of Public Health (NC DPH) is working with the NC Department of Agriculture and Consumer Services (NCDA&CS) to protect workers and monitor for human infection.

Novel influenza A(H5N1) viruses continue to circulate among wild birds, with associated outbreaks among poultry and backyard flocks. Since 2022 novel influenza A(H5N1) has also been identified in [19 species of mammal](#). [NCDA&CS](#) provides regular updates on HPAI virus detections in North Carolina.

### Monitoring of Exposed Persons

[The Centers for Disease Control and Prevention \(CDC\)](#) considers the risk to the U.S. public's health from novel influenza A(H5N1) to be low. However, people with job-related or recreational exposures to infected birds, cattle or other animals are at higher risk of infection. People with exposure to unpasteurized milk from infected cows may also be at increased risk based on detection of novel influenza A(H5N1) in unpasteurized milk. It is recommended that people exposed to infected cows, birds or other animals, or exposed to unpasteurized milk from infected cows, should monitor for signs and symptoms of respiratory illness, including conjunctivitis, for 10 days after their last exposure.

Any exposed person who has any new symptoms, particularly fever or feeling feverish, any respiratory symptoms or conjunctivitis should be referred for prompt medical evaluation, potential [antiviral treatment](#) and [testing for novel and variant influenza A virus infection](#).

#### NC DEPARTMENT OF HEALTH AND HUMAN SERVICES • DIVISION OF PUBLIC HEALTH

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## Clinical Presentation

While there have only been rare, sporadic cases of infection in people, the clinical presentation of human infection with novel and variant influenza A viruses varies considerably, from mild illness, including fever, cough and conjunctivitis; to severe illness, including pneumonia and acute respiratory distress syndrome (ARDS).

Clinicians caring for patients who develop fever or signs or symptoms of respiratory illness, including conjunctivitis, within 10 days after their last exposure to cows, birds, swine or other potentially infected animals, or to unpasteurized milk from a potentially infected cow, should immediately contact their local health department or the state Communicable Disease Branch (919-733-3419; available 24/7) to discuss control measures, testing and treatment.

## Laboratory Testing

Specimens should be obtained for HPAI virus testing as soon as possible after illness onset.

- Follow the CDC provided [guidance](#) on testing, specimen collection, and processing for patients with suspected infection with HPAI virus. All swab specimens collected should be placed in viral transport media (VTM).
  - Patient with respiratory symptoms only:
    - VTM vial 1: Nasopharyngeal (NP) swab
    - VTM vial 2: Oropharyngeal swab AND nasal swab
  - Patient with conjunctivitis:
    - VTM vial 1: Conjunctival swab 1
    - VTM vial 2: Conjunctival swab 2
    - VTM vial 3: NP swab
- Specimens should be stored at 2-8°C for immediate shipment to the North Carolina State Laboratory of Public Health (SLPH). Freeze specimens at ≤-70°C for storage longer than 48 hours.
- Specimens received <72 hours after collection must be shipped on frozen ice packs and received cold (2-8°C). Specimens received >72 hours after collection must be shipped frozen on dry ice. Call SLPH BTEP Duty Phone to coordinate sample shipment at 919-807-8600.
- Clinical specimen [storage](#) and [submission](#) guides should be followed.
- Results from antigen detection tests should not be used to diagnose HPAI. Specimens for HPAI testing should be sent to SLPH.
- All un-typable influenza A specimens should be sent to SLPH for typing and confirmation.

## Infection Prevention

Clinicians seeing patients with suspected, probable or confirmed infection with novel or variant influenza A viruses should adhere to [recommended infection control practices](#) including standard, contact, airborne precautions and the use of eye protection. Providers should recommend patients isolate until novel or variant influenza has been ruled out or, if a confirmed case of novel or variant influenza, until symptoms are improving (afebrile for at least 24 hours) and are no longer determined to pose an infectious risk based on consultation with the state Communicable Disease Branch (919-733-3419; available 24/7).

Information on biosecurity practices to prevent potential disease spread should be shared with persons at risk for novel influenza infection. [USDA/APHIS](#) and [NCDA&CS](#) websites provide guidance for hunters, backyard flocks and poultry facilities workers.

### **Antiviral Chemoprophylaxis and Treatment**

- Clinicians should follow [guidance](#) on antiviral [treatment](#), [chemoprophylaxis of persons exposed to cattle, poultry or other animals](#) with novel influenza, and [chemoprophylaxis of close contacts](#).
- Starting empiric antiviral treatment with oral or enterically administered oseltamivir (twice daily for five days) is recommended regardless of time since onset of symptoms.
- For patients with symptoms of influenza and exposure to infected cows, birds or other animals, or unpasteurized milk, antiviral treatment should not be delayed pending collection of specimen or laboratory confirmation.
- Decisions to initiate antiviral chemoprophylaxis should be based on clinical judgement, with consideration given to the type of exposure and to whether the exposed person is at high risk for complications from influenza.

### **When to contact the NC Division of Public Health**

Clinicians caring for patients with suspected novel or variant influenza infection should immediately contact their local health department or the Communicable Disease Branch at the Division of Public Health (919-733-3419; available 24/7)

\*Novel and variant influenza viruses refer to influenza viruses that normally circulate in animals, primarily birds (novel) and swine (variant), and which are different from currently circulating seasonal human influenza viruses. While most novel and variant influenza viruses do not transmit easily from animal to human or between humans, genetic mutation or reassortment can lead to transmission between humans as happened with the influenza A(H1N1) virus in 2009. For this reason, early detection of novel and variant viruses that infect humans is important.

\*\*Highly pathogenic avian influenza (HPAI) refers to influenza viruses that result in severe illness in birds.

### **Additional Resources**

- [Highly Pathogenic Avian Influenza A\(H5N1\) Virus in Animals: Interim Recommendations for Prevention, Monitoring, and Public Health Investigations](#)
- [Technical Update: Summary Analysis of Genetic Sequences of Highly Pathogenic Avian Influenza A\(H5N1\) Viruses in Texas](#)
- [Brief Summary for Clinicians: Evaluating and Managing Patients Exposed to Birds Infected with Avian Influenza A Viruses of Public Health Concern](#)
- [H5N1 Bird Flu: Current Situation Summary](#)