

# *epiTRENDS*

A Monthly Bulletin on Epidemiology and Public Health Practice in Washington

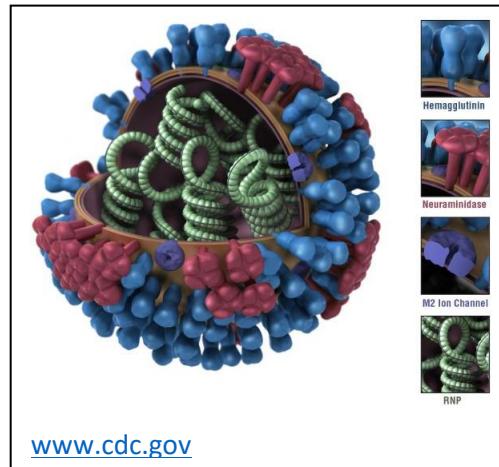
**December 2021 Volume 26, Number 12**

## **Avian Influenza**

Influenza pandemics occur when novel viruses enter human populations that have no existing immunity. Changes in influenza viruses can result in pandemics such as occurred in 1918 and most recently in 2009. One potential source of novel viruses is from avian influenza strains.

### **Background**

Avian influenza is the infection of birds with avian influenza Type A viruses. These viruses can infect wild birds as well as domestic poultry, and spillover events can occur to other animals and humans. Avian influenza outbreaks among domesticated birds can cause significant illness and death to poultry flocks, leading to economic impact and trade restrictions. Additionally, some avian influenza A viruses have the potential to be transmitted to humans and potentially cause significant morbidity and mortality.



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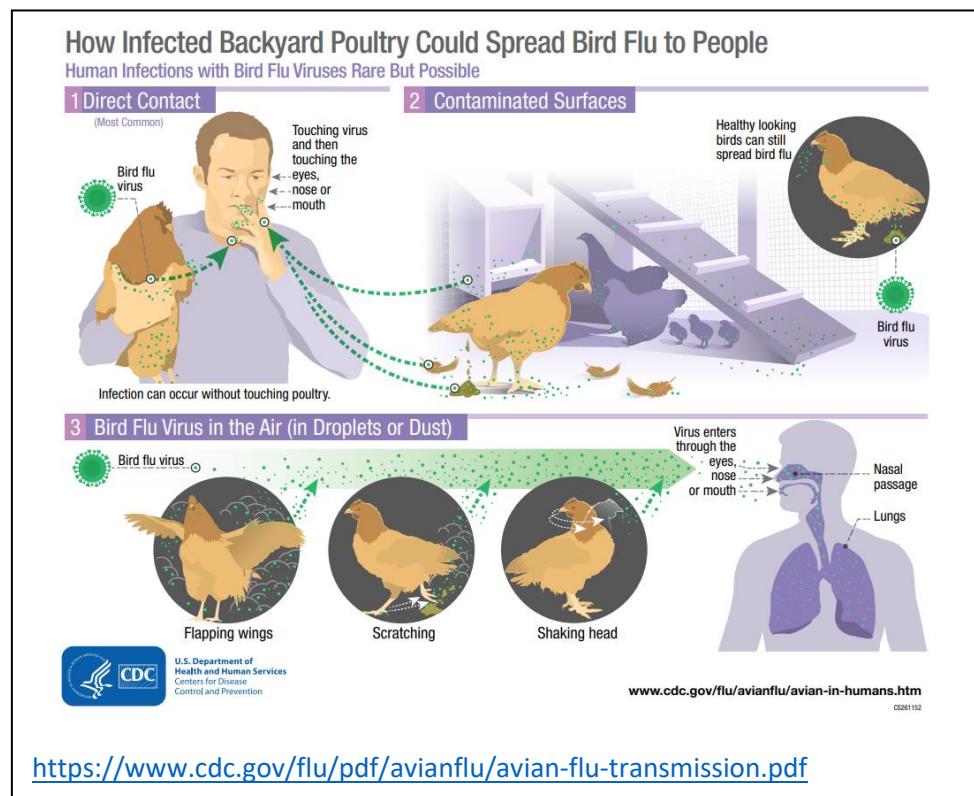
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Domesticated birds may become infected with avian influenza A viruses through direct contact with infected waterfowl or other infected poultry, or through environmental contamination with the viruses. Infection of poultry with low pathogenic avian influenza (LPAI) viruses may cause no illness or may only cause mild signs (such as ruffled feathers and a drop in egg production) and may not be detected. Infection of poultry with highly pathogenic avian influenza (HPAI) viruses can cause severe disease with high mortality. Both HPAI and LPAI viruses can spread rapidly through flocks of poultry, and both can sporadically and rarely cause infections in humans.



Influenza can spread from infected birds to humans through direct contact with birds, contaminated surfaces, or droplets and dust in the air. The reported signs and symptoms of avian influenza A virus infections in humans have ranged from mild to severe and included conjunctivitis, influenza-like illness (e.g., fever, cough, sore throat, muscle aches) sometimes accompanied by nausea, abdominal pain, diarrhea, and vomiting, severe respiratory illness, neurologic changes, and the involvement of other organ systems.

Recent avian influenza outbreaks in birds in the United States were caused when viruses carried by wild migratory birds spread to domestic flocks. In 2014 and 2015, avian influenza A H5 outbreaks in the United States led to the death or culling of over 50 million chickens and turkeys. Additionally, significant public health resources were required to follow-up on exposed persons.

During 2021, reported influenza A(H5N6) virus infections in people, most in China, have doubled the number of such cases detected since the virus was first found in people in 2014. These increasing detections raise concerns about the pandemic potential of this virus. Additionally, climate conditions this fall are similar to those that preceded the 2014-2015 outbreak events. These concurrent events raise concern for detection of avian influenza in persons or poultry in the United States and emphasize the need for public health system preparedness.

### **Avian Influenza in Washington State**

In December of 2014, the first detections of avian influenza in the United States was when H5N8 was found in captive falcons and wild birds in Washington State. Avian influenza H5N2 and H5N1 were also identified in wild birds, and H5N2 was identified in backyard poultry and at a game bird farm. No human cases of avian influenza were reported in Washington State associated with these detections, although symptom monitoring of exposed persons did occur.

Currently, the Department of Fish and Wildlife has increased surveillance for avian influenza along the Pacific Flyway, including in Washington. Low-pathogenic avian influenza H5N2 has been detected in wild bird populations; this virus has the potential to mutate to high-pathogenic avian influenza and cause significant illness and death in birds. No travel-associated cases of avian influenza have been identified in Washington residents to-date.

### **Planning for Prevention**

Due to the increase in avian influenza A H5N6 cases identified internationally and detections of H5N2 in the Pacific Flyway, preparedness for an avian influenza detection event in people or domestic poultry is paramount.

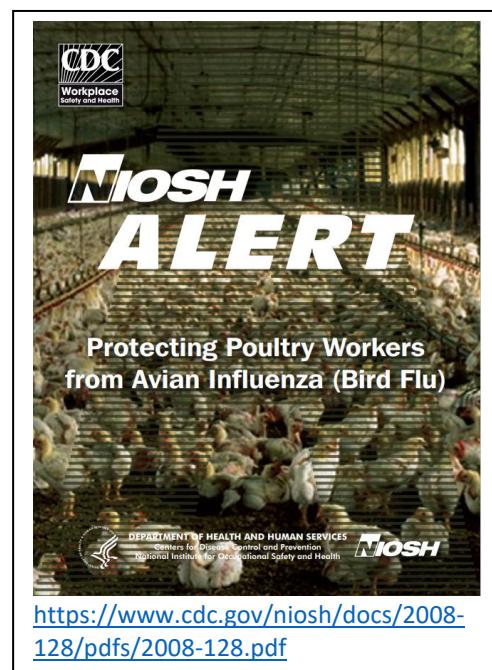
As a general precaution, people should avoid contact with wild birds or with domestic birds that appear ill or have died. People who own birds or who work with poultry should pay careful attention to hand hygiene, receive the seasonal influenza vaccine annually, and use appropriate personal protective equipment. Biosecurity practices are also critical to maintaining a healthy flock. These can include: separating domestic birds from disease sources such as wildlife and wild birds; not sharing potentially contaminated equipment with other bird owners; and separating new birds for at least 30 days before introducing into a flock.

Clinicians should be alert to the potential for avian influenza A H5N6 infections in persons with influenza-like-illness (ILI) who traveled to China, Laos or Vietnam within 10 days of illness onset, who report contact or possible contact with poultry, or with a confirmed human case of avian influenza A H5N6.

Local health jurisdictions should immediately contact the Office of Communicable Disease Epidemiology at 206-418-5500 regarding suspected novel influenza infections and influenza specimens that are unsubtypable commercially. Note that a commercial flu test may yield an unsubtypable result due to low viral titer or other issues even when the infection is with seasonal strains (testing at Washington State Public Health Laboratories [PHL] can determine whether a commercial unsubtypable result is due to seasonal flu or due to novel virus). Further information can be found in the Novel or Unsubtypable Influenza guideline. For more detail on testing influenza specimens at PHL and specimen collection instructions see guidance.

Washington State agencies have partnered to develop the Washington State Multi-Agency Response to HPAI Animal Emergency Plan. This plan includes the role of public health agencies during an avian influenza detection event. Notably, response to HPAI detection events involve collaboration and communication across human and animal health agencies; in the case of such an event, coordination in response is critical.

Local health jurisdictions should call the Department of Health's Office of Communicable Disease Epidemiology (206-418-5500) to discuss any influenza situation including preparedness for avian influenza detection events. Prompt reporting and identification of avian influenza strains may prevent the spread of novel viruses to human populations.



## Resources

USDA: [Defend the flock](#)

CDC:

[CDC Update on A\(H5N6\) Bird Flu: How is the U.S. CDC Monitoring A\(H5N6\) Infections and Contributing to Global Pandemic Preparedness?](#)

[CDC: Influenza Risk Assessment Tool \(IRAT\) – Virus Report: H5N6 clade 2.3.4.4b \[A/Sichuan/06681/2021\]](#)

[How Infected Backyard Poultry Could Spread Bird Flu to People](#)

[Avian Influenza A Virus Infections in Humans | Avian Influenza \(Flu\) \(cdc.gov\)](#)

[Prevention and Treatment of Avian Influenza A Viruses in People](#)

[Avian Influenza: Information for Health Professionals and Laboratorians](#)

DOH:

[Influenza Virus Testing at the Washington State Public Health Laboratories \(WAPHL\) Including Novel Influenza and Fatal Influenza](#)

[Influenza—Novel or Unsubtypable Strain Guideline](#)

