

# DENTON COUNTY HEALTH DEPARTMENT

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## Avian Influenza Frequently Asked Questions

### **What is avian influenza?**

Avian influenza, or “bird flu,” is a contagious disease caused by a virus that normally only infects birds. Wild birds carry the virus in their intestines, but usually do not get sick. In domestic poultry (chickens, ducks, and turkeys), bird flu is very contagious and can make them very sick. Infection with the avian influenza virus causes two main forms of disease, distinguished by low and high extremes. The “low pathogenic” form commonly causes only mild symptoms (ruffled feathers, drop in egg production) and may go unnoticed. The “highly pathogenic” form spreads quickly through domestic birds. It can cause disease that affects multiple internal organs and can kill high numbers of infected birds.

### **Do bird flu viruses infect humans?**

Bird flu viruses do not usually infect humans. The virus does not spread easily from birds to humans. Since 2002, more than 100 human cases have occurred in Eastern Asia; however, this is a small number compared to the large number of birds affected and the many opportunities for human exposure.

### **How are bird flu viruses different from human flu viruses?**

There are many different subtypes of type A flu viruses. The subtypes are different because of the proteins on the surface of the flu A virus (hemagglutinin [HA] and neuraminidase [NA] proteins). There are 16 different HA subtypes and 9 different NA subtypes of flu A viruses. Many different combinations of HA and NA proteins are possible. Each combination is a different subtype. All subtypes of flu A viruses can be found in birds. However, when we talk about “bird flu” viruses, we are referring to the flu A subtypes that continue to occur mainly in birds. They do not usually infect humans, even though we know they can do so. When we talk about “human flu” viruses we are referring to those subtypes that occur widely in humans. There are only three known subtypes of human flu viruses (H1N1, H1N2, and H3N2). Influenza A viruses are constantly changing, and they might adapt over time to infect and spread among humans.

### **What are the symptoms of bird flu in humans?**

Symptoms of bird flu in humans have ranged from typical flu-like symptoms (fever, cough, sore throat, and muscle aches) to eye infections, pneumonia, severe respiratory diseases, and other severe and life-threatening complications. Symptoms may vary according to the strain.

### **How is avian influenza treated in humans?**

Two drugs, oseltamivir (commercially known as Tamiflu) and zanamivir (commercially known as Relenza) can reduce the severity and duration of the illness caused by seasonal influenza. For human cases of H5N1, the drugs may increase a person’s chance of survival, if administered early, but data is limited. The H5N1 virus is expected to be susceptible to the neuraminidase inhibitors. M2 inhibitors, amantadine and rimantadine, could be used against pandemic influenza, but drug resistance can develop rapidly and could limit their effectiveness. Antibiotics may be used for secondary bacterial infections that often times develop.

### **Which countries have been affected by outbreaks in poultry?**

From mid-December 2004 through February 2005, poultry outbreaks caused by the H5N1 virus were reported in eight Asian nations (listed in order of reporting): the Republic of Korea, Viet Nam, Japan, Thailand, Cambodia, Lao People's Democratic Republic, Indonesia, and China. Most of these countries had never before experienced an outbreak of highly pathogenic avian influenza in their histories. In early August 2004, Malaysia reported its first outbreak of H5N1 outbreak in poultry, becoming the ninth Asian nation affected. Russia reported its first outbreak in poultry in late July 2005, followed by reports of disease in adjacent parts of Kazakhstan in early August. Deaths of wild birds from highly pathogenic H5N1 were reported in both countries. Almost simultaneously, Mongolia reported the detection of H5N1 in dead migratory birds. In October 2005, H5N1 was confirmed in poultry in Turkey and Romania. Japan, the Republic of Korea, and Malaysia have announced that the outbreaks have been controlled and are now considered disease free. Severity varies in other areas.

### **What are the risks to human health?**

H5N1 in the poultry populations poses two main risks to human health. The first is the risk of direct infection when the virus passes from poultry to humans, resulting in very severe disease. The second risk, of even greater concern, is that the virus may change into a form that is highly infectious for humans and spreads easily from person to person. This could cause an influenza pandemic throughout the world (a global outbreak).

### **What about the pandemic risk?**

A pandemic can start when three conditions are met: a new influenza virus subtype emerges; it infects humans, causing serious illness; and it spreads easily and is sustainable among humans. H5N1 has met the first two criteria: it is a new virus subtype and it has infected more than 100 humans, killing more than half of them. However, as of yet, H5N1 cannot spread from person to person and does not infect humans easily.

### **How do people become infected?**

Direct contact with infected poultry, or surfaces and objects contaminated by their feces, is considered the main route for human infection. Exposure is considered most likely during slaughter, defeathering, butchering, and preparing poultry for cooking. There is no evidence that properly cooked poultry or eggs can be a source of infection. It is recommended that people traveling to areas where bird flu has infected humans should avoid bird farms and live animal markets.

### **For More Information**

World Health Organization (WHO), [www.who.int](http://www.who.int)

Centers for Disease Control and Prevention (CDC), [www.cdc.gov](http://www.cdc.gov)

Texas Department of State Health Services (DSHS), [www.dshs.state.tx.us](http://www.dshs.state.tx.us)

Denton County Health Department (DCHD), [www.dentoncounty.com/health](http://www.dentoncounty.com/health)