



AVIAN INFLUENZA (BIRD FLU)

KEY POINTS:

First Reported Case of Avian Influenza A (H5N1) Virus Infection in a Human in the Americas

CURRENT SITUATION:

- Canada has reported a confirmed case of human infection with avian influenza A (H5N1) virus in a patient who died.
- The patient recently traveled to Beijing, China, where avian influenza A H5N1 is endemic (ever-present) among poultry.
- Canadian public health authorities are investigating the situation. No additional cases of H5N1 in Canada have been detected. Canadian health authorities are reporting this as an isolated case of H5N1 virus infection.
- CDC has not received a sample of the virus at this time.
- This is the first detected case of human infection with avian influenza A H5N1 virus in North or South America.
- It also is the first case of H5N1 infection ever imported by a traveler into a country where this virus is not present in poultry.
- These H5N1 viruses have not been detected in people or in animals in the United States.
- Rarely, cases of human infection with H5N1 virus occur after exposure to infected poultry or contaminated environments.
- While human infection is rare, it often results in serious illness with very high mortality (60%).
- At this time, H5N1 viruses do not spread easily from person to person.
- Most of the human cases of infection with H5N1 virus in other parts of the world have resulted from direct or close contact with infected poultry (e.g., domesticated chickens, ducks and turkeys) or surfaces contaminated with poultry excretions, or with visiting live poultry markets in countries where H5N1 viruses are endemic among poultry.
- Transmission of H5N1 viruses from person-to-person is uncommon, and when it occurs, is not sustained.
- The few cases of person-to-person transmission that have occurred in other parts of the world are thought to have resulted after prolonged and close unprotected contact with someone who is very sick with H5N1 virus, usually among family members.
- The current health risk posed by detection of one case of H5N1 in Canada is very low.
- "Novel influenza A infections" such as H5N1, have been nationally notifiable diseases in the United States since 2007.
- Novel influenza A virus infections include all human infections with influenza A viruses that are different from currently circulating human seasonal influenza H1 and H3 viruses. These viruses include those that are subtyped as nonhuman in origin and those that are unsubtypable with standard laboratory methods and reagents.

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- Rapid reporting of human infections with novel influenza A viruses facilitates prompt detection and characterization of influenza A viruses and accelerates the implementation of effective public health responses.
- The United States has had enhanced surveillance measures to detect possible cases of H5N1 in this country in place since 2003.
- While the current risk from H5N1 virus is low and CDC believes it very unlikely that cases of H5N1 have occurred in the United States, CDC will send out a reminder to clinicians in this country about when and how to test for H5N1 infection.
- Those recommendations for testing for H5N1 are the same as those for H7N9 and include recent travel (within 10 days) to a country with H5N1 virus infections in birds or people.
- See the H7N9 guidance now posted on the CDC website at <http://emergency.cdc.gov/han/han00344.asp>.
- CDC's guidance for H5N1 will be updated to address this current situation.
- More information about H5N1 is available on the CDC website at <http://www.cdc.gov/flu/avianflu/h5n1-virus.htm>.
- At this point, there are no special actions that the public needs to take regarding H5N1 virus in the United States.
- More concerning for Americans right now is seasonal flu, which is widespread in much of the country. People who have not gotten their seasonal flu vaccine yet this season should get one now. For many, it's not too late to benefit from vaccination this season. A seasonal vaccine will protect you against seasonal flu viruses.
- For people traveling to China, CDC would have the same recommendations for protecting against H5N1 as we do against H7N9 or other avian influenza A viruses.
- This information is available on the CDC website at <http://wwwnc.cdc.gov/travel/diseases/avian-bird-flu>.

H5N1 IN CHINA

- As mentioned previously, avian influenza A H5N1 is endemic in poultry in China.
- Since 2003, 45 cases of human infection with H5N1 have been reported in China and 30 (67%) have died.
- Affected persons have ranged in age from 2 years to 62 years, but the average age is 26 years.
- The most recent cases reported were in February 2013 in Guizhou, a province in central southern China.
- Two cases of H5N1 have been reported in Beijing, one in 2003 and another in 2008.

PANDEMIC THREAT:

- The detection of one isolated case of H5N1 virus infection in a returned traveler does not signal the start of a pandemic.
- Two of the main criteria of a pandemic—the appearance of a new influenza virus which causes human illness, and for which people have little or no protection—have occurred. However, the third

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criteria of a pandemic—the easy and repeated spread of the virus from person to person—has **not** occurred.

- This does not change the current risk assessment for pandemic potential.
- A pandemic would only result if the H5N1 virus were to gain the ability to spread efficiently from person-to-person.
- There is no indication that this has occurred.

WHAT CDC IS DOING:

- CDC is in close contact with Canadian public health partners and has offered laboratory and other support as needed.
- CDC will issue a reminder to health care professionals about our guidance for testing for H5N1.
- CDC will continue to monitor this situation closely and work with public health partners to rapidly test specimens and advise local and state authorities regarding control measures.
- Long-term preparedness measures against H5N1 include the existence of a stockpile of H5N1 vaccine in the Strategic National Stockpile (SNS).

WHAT YOU CAN DO

- At this point, there are no special actions that the public needs to take regarding H5N1 virus in the United States.
- More concerning for Americans right now is seasonal flu, which is widespread in much of the country. People who have not gotten their seasonal flu vaccine yet this season should get one now. For many, it's not too late to benefit from vaccination this season. A seasonal vaccine will protect you against seasonal flu viruses.
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BACKGROUND

- H5N1 is a virus that occurs mainly in birds, is highly contagious among birds, and can be deadly to them, especially domestic poultry.
- Since December 2003, highly pathogenic avian influenza A (H5N1) virus infections in birds have been reported in Asia, Africa, the Pacific, Europe and the Near East.
- H5N1 viruses are considered endemic (ever-present) in poultry in at least six countries (alphabetically: Bangladesh, China, Egypt, India, Indonesia and Vietnam) with sporadic detection in wild birds and poultry outbreaks occurring in other countries.
- The virus also is circulating widely in other countries in those regions.
- From 2003 through December 10, 2014, 648 laboratory-confirmed human cases with H5N1 virus infection have been officially reported to WHO from 15 countries.

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- Of these cases, 384 died (60%)
- Human cases of H5N1 virus infection are rare and sporadic events, occurring mostly in areas where the virus is circulating endemically in poultry and following close contact with infected wild birds or poultry.
- Limited non-sustained person-to-person spread of H5N1 viruses is thought to have occurred in the past.
- This includes “clusters” of cases that have occurred within families.
- Clusters of human H5N1 cases, usually 2 cases but ranging from 2-8 cases per cluster, have been identified in several countries.
- Nearly all of the clusters have occurred among blood-related family members, especially those living in the same household.
- In cases where limited human-to-human transmission of H5N1 virus is thought to have occurred, spread has occurred after a very long period of unprotected close contact (hours in length) with a very sick blood-related family member (e.g. mother-daughter or brother-brother).
- This has been reported to have occurred in a home and in a hospital room.
- So far, however, the spread of H5N1 virus from person-to-person has been very rare, limited, and not sustained.
- At the current time, there is no ongoing transmission of any avian influenza A viruses in humans, including H5N1 viruses.
- However, the H5N1 epizootic poses an important public health threat.
- Influenza viruses evolve and swap genes frequently.
- If H5N1 viruses gain the ability for efficient and sustained transmission among humans, an influenza pandemic could result, with potentially high rates of illness and death worldwide.
- The Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and Food and Agriculture Organization of the United Nations (FAO) conduct routine surveillance to monitor influenza viruses, including H5N1 viruses, for changes that may have implications for animal and public health.
- More information on H5N1 is available at <http://www.cdc.gov/flu/avianflu/h5n1-virus.htm>.