

Frequently Asked Questions About Influenza

What is avian influenza?

Avian influenza, or “bird flu,” is a contagious viral disease that normally infects only birds and on occasion, pigs. A highly pathogenic strain, H5N1, has been persistent and tenacious. Despite the fact that an estimated 150 million birds have died or been destroyed, the virus has become endemic in some areas and is being spread by migratory birds.

Which countries have been affected?

Outbreaks in wild and domestic birds have been reported in more than 40 countries including: the Republic of Korea, Vietnam, Japan, Thailand, Cambodia, Lao Peoples Democratic Republic, Indonesia, China, Malaysia, Mongolia, Russia, Kazakhstan, Turkey, and Romania.

What are the implications for human health?

Widespread persistence of H5N1 in poultry populations poses two main risks for human health. The first is the direct infection from poultry to humans. The second threat is the emergence of a mutant strain that spreads easily from person to person. As of May 12, there have been 208 laboratory confirmed cases of human transmission in 10 countries, resulting in 115 deaths.

How is the virus transmitted?

The bird to human transmission occurs from direct contact with infected poultry or surfaces and objects contaminated by their feces. Exposure to the virus is most likely during slaughter, de-feathering, butchering, and preparing poultry for cooking. Currently, there is no evidence that properly cooked poultry or eggs are a source of infection.

What changes are needed for the H5N1 virus to affect humans and become pandemic?

The virus can become transmissible among humans by either a “reassortment” event or by a more gradual process of adaptive mutation. In “reassortment” genetic material is exchanged between human and avian viruses when there is coinfection in a human or pig. This results in a new potent strain that is fully transmissible to humans. The process of adaptive mutation is a more gradual process by which the virus becomes more efficient at binding to human cells. A pandemic can start when three conditions have been met: a new virus subtype emerges; it infects humans; and it spreads easily and is sustained among humans. The first two conditions have been met in that a new subtype has emerged and humans have been infected through contact with infected birds.

Are vaccines and antivirals available for prevention and treatment?

Some vaccine clinical trials are currently underway. Because the antigen needs to closely match the pandemic virus, large-scale production will not start until the virus has emerged. Current vaccine production capacity cannot meet demand. Tamiflu and Relenza are oral antivirals that are currently available and are effective for reducing the severity and duration of the illness. These medications can also be used prophylactically to decrease the number of new cases when an exposure has occurred.

References:

World Health Organization

www.who.int/csr/disease/avian_influenza

Centers for Disease Control

www.cdc.gov/flu/avian