Avian Flu

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by Carol Ann Quinsey, RHIA, CHPS

There has been a great deal of publicity about the avian flu. Whether you agree with the concerns being voiced, it behooves us all to learn as much as we can about anything that has the potential for an epidemic or pandemic. This column reviews the facts about avian flu as they are known today. It also offers suggestions for roles that may be required of HIM professionals in the event of a major outbreak of avian flu.

Just the Facts

Avian (or bird) flu is a contagious animal disease caused by viruses that normally infect birds and, less commonly, pigs. Pigs can have both avian and human flu concurrently, so if the flu mutates into a new form, it can pass to humans. This caused flu outbreaks in 1957 and 1968. Typically the virus is highly species-specific, but it has on rare occasions crossed the species barrier to infect humans.

There are 15 different viruses that cause avian flu. Of these viruses, the H5 and H7 viruses cause the highly pathogenic form of the disease. They are usually introduced into poultry flocks in a low pathogenic form, spread by saliva, nasal secretions, and feces. Within a few months the virus can mutate into the highly pathogenic form.

The current concern surrounds a highly pathogenic avian influenza, the **H5N1 virus**, the largest and most severe on record. As of March 2006 H5N1 infections in poultry flocks and wild birds have been reported in Africa, East Asia and the Pacific, Europe, Eurasia, the Near East, and South Asia. Never have so many countries been affected simultaneously and lost so many birds.

Infection in Humans

Avian flu is passed from birds to humans through direct contact or surfaces and objects contaminated by their feces. Because many in Asia depend on poultry for their income and food, there may be a tendency to sell or consume the birds if signs of illness appear in flocks. In addition, close contact among poultry workers and birds in markets may allow the passage of the flu more easily.

The first human H5N1 cases were reported in Cambodia in 1997. Since that time, the World Health Organization has documented more than 175 human cases, including 96 deaths, in Cambodia, China, Indonesia, Iraq, Thailand, Turkey, and Vietnam.

The risk of avian flu is generally low in most humans. The virus must first mutate and then combine with the human flu virus before it can be transmitted from human to human. To date, there has been no reported transmission among humans.

Epidemic or Pandemic?

An *epidemic* is a disease that spreads rapidly and extensively, affecting many individuals in an area or a population at the same time. A pandemic is an epidemic over a wide geographic area. Three conditions must be met in order for an epidemic to become a pandemic:

- A new influenza virus must emerge
- The virus must be capable of causing serious illness in humans
- The virus must spread easily among humans

Two of these conditions have been met. The H5N1 virus is now firmly entrenched in large parts of Asia. There have been reports of the virus spreading to poultry flocks and wild birds in other parts of the world as well. The H5N1 virus is more lethal to experimentally infected mammals. Mammalian species previously considered resistant to avian flu viruses have also been found to have the disease.

Bird flu was found in a cat in Germany in March 2006. A zoo in Thailand reported that tigers and snow leopards were infected. In these cases, it is believed that cats ate infected birds or chicken carcasses. Swans are dying of the avian flu in northern Europe, and unprecedented numbers of wild waterfowl died in China in spring 2005.

Spread of the Disease to North America

Come spring, migratory birds from Asia fly to Alaska, carrying the H5N1 virus to breeding grounds. If it takes root among wild birds there, it will be carried south with migrating birds in the fall. The virus could potentially be spread to some of the 10 billion chickens produced in the United States annually.

Birds imported into the US legally are quarantined for 30 days and are tested for the virus. It is illegal to import birds to the US from countries known to have the H5N1 virus in poultry flocks. However, pet bird smuggling is still common in some parts of the world.

Vaccines and Treatment

No effective vaccines are available yet for the H5N1 virus. Older antiviral drugs may be useful with the virus, but resistance develops rapidly so their effect is questionable.

Coding and Reporting

The World Health Organization created an ICD-10 code (J09) for deaths caused by avian flu. Services provided to avian flu patients will most likely be similar to those provided to other flu patients. Biosurveillance reporting may be stepped up. HIM departments should collaborate with organizational infection control and emergency department staffs to ensure reporting to local public health officials in a timely manner.

HIM professionals can help prepare their organizations and communities by educating themselves and reaching out to others to offer education. Stay up-to-date by making use of resources available to you.

Resources

Centers for Disease Control. "Key Facts about Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus." Available online at www.cdc.gov/flu/avian/gen-info/facts.htm.

Rosenwald, Michael. "The Flu Hunter." *Smithsonian*, January 2006: 36-46.

World Health Organization. "Avian Influenza." Available online at www.who.int/csr/disease/ avian_influenza/en/.

Carol Ann Quinsey *(carol.quinsey@ahima.org) is a professional practice manager at AHIMA.*

Article citation:
Quinsey, Carol Ann. "Avian Flu." *Journal of AHIMA* 77, no.6 (June 2006): 57,59.