

AVIAN INFLUENZA

FACT SHEET

HOW CAN WE PROTECT HUMAN, LIVESTOCK AND WILDLIFE HEALTH FROM AVIAN INFLUENZA?

There are new reports of highly pathogenic avian influenza (H5N1) from Central Asia, including Russia, Kazakhstan, and Mongolia. In official reports to the World Organization for Animal Health, both Russia and Kazakhstan have indicated that the virus was introduced by migratory birds; however, this has not been demonstrated scientifically. Almost all the human infections with H5N1 avian influenza in Southeast Asia resulted from contact with domestic poultry and/or domestic waterfowl. Wild birds have not been implicated in any human infection.

WHY IS THIS A CONSERVATION ISSUE?

Avian influenza presents a threat to wild bird conservation on several fronts. First, although most strains of avian influenza are relatively benign, H5N1 appears to be able to cause illness and death in many species of wild birds. Second, some public and animal health officials will blame wild birds for spreading H5N1, and there may be calls for culling of wild birds to try to control or limit the spread of H5N1.

WHY CAN'T CULLING WILD BIRDS CONTROL AVIAN INFLUENZA?

Culling can be effective in controlling domestic animal diseases, but there are no examples where the culling of native wildlife has completely eradicated a wildlife disease. There are several key reasons why culling of wild birds will not work for controlling avian influenza:

- 1) Culling birds might lead to increased spread of the virus as culling activities, such as shooting or capture attempts, would immediately disperse many birds and the disease to other areas. Disturbing or modifying bird nesting or roosting areas will produce similar results.
- 2) Species that die from the virus are unlikely to carry the virus long distances so the reservoir is likely a species that is showing few or no clinical signs rather than the ones that are observed to be sick and dying. Without knowing which species are the reservoir, you cannot even begin to design a culling program.
- 3) Control of a wildlife disease through culling is likely only to be successful for diseases with low transmission rates that occur in one species, and where the outbreak is contained to a small area. None of these conditions are met with H5N1: a) avian influenza is highly infectious, b) multiple species are being infected, and c) the disease is spread across much of Central and Southeast Asia.

For a scientific paper that discusses management of wildlife diseases, please go to this website:
http://www.oie.int/eng/publicat/rt/2101/a_r21110.htm

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WHAT CAN GOVERNMENTS DO TO PROTECT HUMAN, LIVESTOCK AND WILDLIFE HEALTH?

There are several strategies that can be followed to prevent transmission of avian influenza among livestock, wildlife, and humans:

IMPROVE SURVEILLANCE

Increased surveillance is critical to controlling avian influenza. Surveillance at domestic poultry and waterfowl production facilities is necessary to determine the spread of the virus, enact control measures, and protect human, livestock and wildlife health. Improved surveillance requires broad commitment, transparency, efficient reporting mechanisms, and extensive outreach to local poultry holders to provide education and incentives to report problems. Wildlife management authorities also need to be included in any surveillance systems.

IMPROVE BIOSECURITY

The key to mitigating the effects of avian influenza on wild birds, domestic birds, and ultimately humans, is improved biosecurity. Specifically, contact between wild birds and domestic birds, as well as domestic birds and humans, must be minimized. The highly pathogenic avian influenza (H5N1) virus isolated in the outbreak at Qinghai Nature Preserve (China)—where over 5000 wild birds died—was most closely related to virus isolates from domestic birds in Southern China from 2004. Therefore, the Qinghai outbreak most likely represented a "spill-over" event from domestic birds to wild birds. The best way to prevent future "spill-over" events from domestic to wild birds, and "spill-back" events from wild to domestic birds, is to prevent contact between these two groups. Furthermore, husbandry of domestic birds should be designed so that wild and domestic birds do not share water and feed sources.

For more information on improving biosecurity on farms, please read:

<http://www.fao.org/ag/againfo/subjects/documents/ai/concmalaysia.pdf>

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STOP THE WILDLIFE TRADE

The legal and illegal trade in wildlife may have played a role in the emergence of highly pathogenic avian influenza. Benign avian influenza viruses commonly circulate in wild bird populations without causing disease. However, in wildlife and poultry markets, highly pathogenic strains of virus can evolve due to the high densities and high turnover of susceptible birds. Furthermore, as many species from disparate places, along with their numerous pathogenic and non-pathogenic viruses, are brought together in the wildlife trade, it provides increased opportunity for disease transmission among species. The movement of wildlife in the trade, often spanning long distances, can allow viruses to spread geographically. For example, recently smuggled hawk-eagles from Thailand that were intercepted at an airport in Belgium turned out to be infected with H5N1. Although it is a different virus, SARS also emerged from the Asian wildlife trade. Consequently, the trade in wildlife forms a clear and present danger to human, livestock, and wildlife health.

For more information on the wildlife trade and global health, see:

<http://www.cdc.gov/ncidod/EID/vol11no07/05-0194.htm>

WHAT CAN AN INDIVIDUAL DO TO AVOID EXPOSURE TO H5N1?

In areas where H5N1 is suspected or reported to be present (map of the current distribution of H5N1 is here: http://www.wpro.who.int/avian%5Fflu/images/asia_spawn.htm), humans may come into contact with birds infected with H5N1 by working in domestic poultry and waterfowl production, hunting wild birds, or by contacting sick or dead birds. The following precautions should be followed to prevent exposure to avian influenza:

- 1) Do not handle birds that appear sick or are found dead
- 2) Wear disposable gloves, glasses or face shield, and a mask when handling live or dead birds
- 3) Do not eat, drink, or smoke while handling live or dead birds
- 4) Wash hands with soap and water, and disinfect any surface that has come in contact with dead birds using alcohol, diluted bleach, or commercial disinfectants
- 5) Thoroughly cook any bird intended for consumption (i.e. above 160°F or 70°C)
- 6) Dispose of bird remains after field dressing in a way that will prevent mammalian and avian scavengers from contacting the carcass
- 7) *In areas where H5N1 has been suspected or reported to be present:* if flu-like symptoms develop within 10 days of handling live or dead birds, contact a physician and report that exposure to H5N1 may have occurred.

For more information on reducing opportunities for transmission of this virus among people, their animals, and wildlife, please see the following website:

http://www.cdc.gov/travel/other/avian_flu_ig_americans_abroad_032405.htm

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WHERE CAN I FIND MORE INFORMATION ON AVIAN INFLUENZA?

NATURE has a special issue on avian influenza:

<http://www.nature.com/news/2005/050523/full/435399a.html>

The World Health Organization:

http://www.who.int/csr/disease/avian_influenza/en/

The Office International des Epizooties (OIE) animal summary:

http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm

The Centers for Disease Control web site:

<http://www.cdc.gov/flu/avian/index.htm>

The United States Geological Survey – National Wildlife Health Center web site:

http://www.nwhc.usgs.gov/research/avian_influenza/avian_influenza.html

Videos of talks at the “One World, One Health” Symposium avian influenza session:

<http://www.oneworldonehealth.org/avian.html>

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