

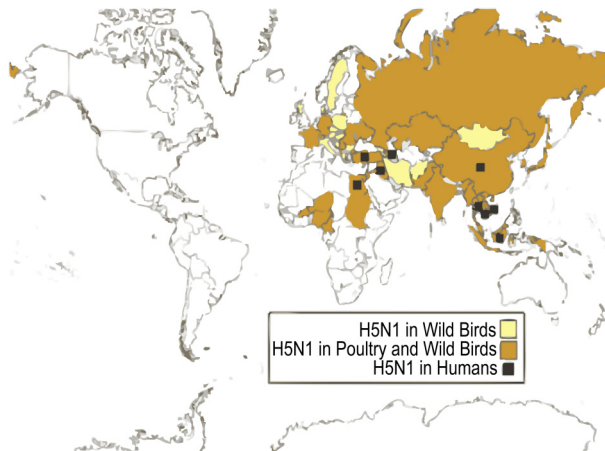
## DETECTION and TREATMENT

- An avian influenza vaccine is being developed and tested for use in humans. However, at least four months would be needed to produce a new vaccine, in significant quantities, capable of conferring protection against a new virus subtype.
- Antiviral drugs, some of which can be used for both treatment and prevention, are clinically effective against influenza A virus strains in otherwise healthy adults and children, but have some limitations.
- Tests for diagnosing all influenza strains of animals and humans are rapid and reliable. Many laboratories have the necessary high-security facilities and reagents for performing these tests as well as considerable experience.
- Rapid bedside tests for the diagnosis of human influenza are also available, but do not have the precision of the more extensive laboratory testing.
- Experience in the production of influenza vaccines is also considerable, particularly as vaccine composition changes each year to match changes in circulating virus due to antigenic drift.



### Map: Avian Influenza (H5N1) Virus Infections

(<http://www.pandemicflu.gov/>)



## RESOURCES

### *Centers for Disease Control and Prevention*

1600 Clifton Road  
Atlanta, GA 30333  
404.639.3311 (Telephone)

<http://www.cdc.gov/>

### *European Commission*

DG Health and Consumer Protection  
B-1049 BRUSSELS

<http://europa.eu.int/comm/health/>

### *NH Department of Health & Human Services*

29 Hazen Drive  
Concord, NH 03301  
603-271-4477 (Telephone)

<http://www.dhhs.state.nh.us/DHHS/>

### *United States Environmental Protection Agency*

US EPA Headquarters, Ariel Rios Building  
1200 Pennsylvania Ave., N.W.  
Washington, DC 20460  
New England Region: 888.372.7341 (Telephone)

<http://www.epa.gov>

### *University of New Hampshire*

#### *Office of Environmental Health and Safety*

11 Leavitt Lane, Perpetuity Hall  
Durham, NH 03824  
603.862.4041 (Telephone)

<http://www.unh.edu/ehs>

### *World Health Organization*

525, 23<sup>rd</sup> Street, N.W.  
Washington D.C. 20037  
202.974.3000 (Telephone)

<http://www.who.int/en/>



UNIVERSITY of NEW HAMPSHIRE

Created by David R. Gillum.  
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# Avian Influenza A (H5N1) Virus Safety Pamphlet

UNH has developed a Pandemic Influenza Preparedness Plan to help the campus prepare and respond to a pandemic influenza outbreak. The purpose of the plan is to describe specific action to be taken by the University in the event of an influenza outbreak.



The Pandemic Influenza Preparedness Plan will be implemented in accordance with the UNH Emergency Operations Plan and used to advise the community about the campus response to an influenza pandemic. The plan encompasses the various aspects of communication and education, preparedness, emergency response, and the recovery and maintenance efforts to take place in the event of an influenza pandemic. Details of the plan can be accessed at the UNH Emergency Preparedness website at <http://www.unh.edu/emergency>.

The UNH Office of Environmental Health and Safety has produced this information brochure to serve as a simple guide to avian influenza. This document should not replace the expertise of your health care provider.



## BACKGROUND

- Influenza A (H5N1) virus is an influenza A virus subtype that occurs mainly in birds. It was first isolated from birds in South Africa in 1961. The H5N1 virus is one of more than 15 varieties of bird influenza.
- The CDC estimates that the cumulative case-fatality proportion for confirmed H5N1 cases since January 2004 is 73% (Vietnam: 27 cases, 20 deaths; Thailand: 17 cases, 12 deaths).



## TRANSMISSION

- The H5N1 virus does not usually infect humans. However, since influenza viruses mutate rapidly, scientists are concerned that the H5N1 virus may soon be able to easily infect people and spread from person to person.
- Like other bird flu viruses, H5N1 virus circulates among birds worldwide, is very contagious among birds, and can be deadly.
- Infected birds shed the H5N1 virus in their saliva, nasal secretions, and feces. Susceptible birds become infected when they have contact with contaminated excretions or surfaces that are contaminated with excretions.
- Migratory waterfowl (most notably wild ducks) are the natural reservoir of avian influenza viruses, and these birds are also the most resistant to infection. 
- Birds that survive infection excrete virus for at least 10 days making it easier to spread the virus at live poultry markets and by migratory birds.
- All birds, especially domestic poultry (including chickens and turkeys), are susceptible to epidemics of rapidly fatal influenza. 
- Infection causes a wide spectrum of symptoms in birds, ranging from mild illness to a highly contagious and rapidly fatal disease resulting in severe epidemics.
- Current H5N1 virus cases have occurred from contact with infected poultry or contaminated surfaces. However, it is thought that a few cases of human-to-human spread of H5N1 have occurred.
- The H5N1 virus mutates rapidly and has a history of being able to acquire genes from viruses infecting other animal species.

## PREVENTION

- Influenza viruses are very sensitive to most detergents and disinfectants. However, influenza viruses are well protected from inactivation by organic material. Infectious viruses can be recovered from manure for up to 105 days. Complete removal of organic material is part of any effective disinfection procedure.
- Wild birds and their excreta should be considered a major source of avian influenza. Do not touch nests, feathers, feces or other excreta.
- Prevent direct contact with free-flying birds and protect domestic poultry from contact with the feces of wild birds. Avoid live bird markets as they may be a source of avian influenza.
- Maintain good personal hygiene, including frequent hand washing and covering your nose and mouth when sneezing or coughing. Do not touch your nose, mouth, or eyes without washing your hands first. 
- Keep hands clean and wash hands properly and thoroughly (especially after touching communal objects such as hand railings, buttons, door knobs, and handles). Use liquid soaps for washing and disposable towels for drying. 
- Avoid traveling to places where H5N1 cases are reported or inviting guests who have recently returned from these places.
- Build up a good immunity by having a healthy diet, regular exercise, adequate rest, reducing stress and avoiding alcohol and smoking.
- The CDC states that the current risk to Americans from the H5N1 bird flu outbreak in Asia is low. In addition, the H5N1 virus has not been found in the United States.

## SYMPTOMS

- Symptoms of bird influenza in humans include:
  - ✓ Typical flu-like symptoms:
    - Fever; 
    - Cough;
    - Sore throat; and
    - Muscle aches.
  - ✓ Eye infections;
  - ✓ Pneumonia; and
  - ✓ Severe respiratory diseases;
- Other symptoms may include:
  - ✓ Headache;
  - ✓ Extreme tiredness;
  - ✓ Runny or stuffy nose;
  - ✓ Stomach symptoms:
    - Nausea;
    - Pain;
    - Vomiting; and
    - Diarrhea (more common in children than adults)
- The symptoms of bird flu may depend on the virus that caused the infection.
- Diagnosis of avian influenza may be made on the basis of clinical signs and events leading to the disease. However, since the signs and course of avian influenza are similar to other diseases, laboratory diagnosis is essential. 
- Immediately contact the NH Department of Health and Human Services at 603-271-4496 if you notice a sick or dead bird.
- **Stay home from work or school; consult your health care provider if influenza symptoms persist or are severe.**