



## **Interim Guidance for States Conducting Avian Mortality Surveillance for West Nile Virus (WNV) and/or Highly Pathogenic H5N1 Avian Influenza Virus**

This guidance, which is directed to state health departments, supplements current *Guidelines for WNV Surveillance, Prevention, and Control* ([www.cdc.gov/ncidod/dvbid/westnile/resources/wnv-guidelines-aug-2003.pdf](http://www.cdc.gov/ncidod/dvbid/westnile/resources/wnv-guidelines-aug-2003.pdf)) and *An Early Detection System for Highly Pathogenic H5N1 Avian Influenza in Wild Migratory Birds: U.S. Interagency Strategic Plan* ([www.doi.gov/issues/birdflu\\_strategicplan.pdf](http://www.doi.gov/issues/birdflu_strategicplan.pdf)).

Surveillance of dead birds for WNV has proven useful for the early detection of WNV in the United States. In recent months, it has also proven useful for the early detection of highly pathogenic H5N1 avian influenza A (HPAI H5N1, hereafter referred to as H5N1 virus) in Europe. Given the potential for H5N1 to infect wild birds in North America in the future, the following interim guidance is offered to support the efforts of states conducting avian mortality surveillance.

### **General Considerations for States Conducting Avian Mortality Surveillance**

- If different agencies within a state are separately responsible for conducting surveillance for WNV or H5N1 among wild birds, the sharing of resources, including dead birds submitted for testing, may increase the efficiency of both systems.
- Any dead bird might be infected with any one of a number of zoonotic diseases currently present in the United States (US), such as WNV. However, in countries where H5N1 has been found in captive and wild birds, it frequently has resulted in multiple deaths within and across species, and if H5N1 enters the US, it is likely to result in the death of wild birds. If wild birds in the US are exposed to the virus, both single and groups of dead birds should be considered potentially infected.
- Avian mortality due to the introduction of H5N1 could occur at any time of the year, whereas WNV is more often detected when mosquitoes are active.
- To date, no human infections of WNV have been confirmed due to contact with live or dead wild birds in outdoor settings.
- Most human H5N1 cases overseas have been associated with close contact with infected poultry or their environment; however, a very small number of cases appear to be related to the handling of infected wild birds or their feathers or feces without the use of proper personal protective equipment (PPE). There is no evidence of H5N1 transmission to humans from exposure to H5N1 virus-contaminated water during swimming; however this may be theoretically possible.  
([http:// www.who.int/water\\_sanitation\\_health/emerging/h5n1background.pdf](http://www.who.int/water_sanitation_health/emerging/h5n1background.pdf))
- Although handling infected birds is unlikely to lead to infection, persons who develop an influenza-like illness after handling sick or dead birds should seek medical attention. Their health care provider should report the incident to public health agencies if clinical symptoms or laboratory test results indicate possible H5N1 or WNV infection.

### **Infection Control and Health and Safety Precautions**

These guidelines are intended for any person handling dead birds. The risk of infection with WNV from such contact is small. The risk of infection with H5N1 from handling dead birds is difficult to quantify and is likely to vary with each situation. Risk is related to the nature of the work environment, the number of birds to be collected, and the potential for aerosolization of bird feces, body fluids, or other tissues. The most important factor that will influence the degree of infection risk from handling wild birds is whether H5N1 has been reported in the area. Local public health officials can be consulted to help in selecting the most appropriate PPE for the situation.

### **General Precautions for Collection of Single Dead Birds (These precautions are applicable to employees as well as the general public)**

When collecting dead birds, the risk of infection from WNV, H5N1, or any other pathogen may be eliminated by avoiding contamination of mucous membranes, eyes, and skin by material from the birds. This can be accomplished by eliminating any direct contact with dead birds via use of the following safety precautions:

- When picking up any dead bird, wear disposable impermeable gloves and place it directly into a plastic bag. Gloves should be changed if torn or otherwise damaged. If gloves are not available, use an inverted double-plastic bag technique for picking up carcasses or use a shovel to scoop the carcass into a plastic bag.
- In situations in which the bird carcass is in a wet environment or in other situations in which splashing or aerosolization of viral particles is likely to occur during disposal, safety goggles or glasses and a surgical mask may be worn to protect mucous membranes against splashed droplets or particles.
- Bird carcasses should be double bagged and placed in a trash receptacle that is secured from access by children and animals. If the carcass will be submitted for testing, hold it a cool location until it pickup or delivery to authorities. Carcasses should not be held in close contact with food (e.g., not in a household refrigerator or picnic cooler).
- After handling any dead bird, avoid touching the face with gloved or unwashed hands.
- Any PPE that was used (e.g. gloves, safety glasses, mask) should be discarded or disinfected\* when done, and hands should then be washed with soap and water (or use an alcohol-based hand gel when soap and water are not available). <http://www.cdc.gov/cleanhands/>
- If possible, before disposing of the bird, members of the public may wish to consult with their local animal control, health, wildlife or agricultural agency or other such entity to inquire whether dead bird reports are being tallied and if the dead bird in question might be a candidate for WNV or H5N1 testing.

### **Additional Precautions for Personnel Tasked with Collecting Dead Birds in Higher-Risk Settings (e.g., when collecting large numbers or in confined indoor spaces, particularly once H5N1 has been confirmed in an area)**

- Minimize any work activities that generate airborne particles. For example, during the cleanup phase of the bird removal, avoid washing surfaces with pressurized water or cleaner (i.e., pressure washing), which could theoretically aerosolize H5N1 viral particles that could then be inhaled. If aerosolization is unavoidable, the use of a filtering face-piece respirator (e.g., N95) would be prudent, particularly while handling large quantities of dead birds repeatedly as part of regular work requirements.
- If using safety glasses, a mask, or a respirator, do not remove until after gloves have been removed and hands have been washed with soap and water (or use an alcohol-based hand gel when soap and water are not available). After PPE has been removed, hands should immediately be cleaned again. <http://www.cdc.gov/cleanhands/> Personal protective

equipment worn (e.g., gloves, mask, or clothing) should be disinfected\* or discarded.

- Discuss appropriate biosafety practices and PPE use with your employer.

### **\*Recommendations for PPE Disinfection**

For machine-washable, reusable PPE: Disinfect PPE in a washing machine with detergent in a normal wash cycle. Adding bleach will increase the speed of viral inactivation as will hot water but detergent alone in cold water will be effective. Follow manufacturer recommendations for drying the PPE.

Non machine-washable, reusable PPE should be cleaned following the manufacturer's recommendations for cleaning.

### **Laboratory Biosafety Recommendations**

Laboratory handling of routine diagnostic specimens of avian carcasses requires a minimum of BSL-2 laboratory safety precautions. However, if either WNV or H5N1 infection of the specimens is suspected on the basis of previous surveillance findings, at a minimum BSL-3 precautions are advisable. Consult your institutional biosafety officer for specific recommendations. Biosafety levels are described at [www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm](http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm).

### **Additional Information Sources**

Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities <http://www.cdc.gov/flu/avian/professional/protect-guid.htm>

Interim Guidelines for the Protection of Persons Handling Wild Birds with Reference to Highly Pathogenic Avian Influenza H5N1 can be found at:

[http://www.nwhc.usgs.gov/publications/wildlife\\_health\\_bulletins/WHB\\_05\\_03.jsp](http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_05_03.jsp)

Avian Influenza: Protecting Workers at Risk <http://www.osha.gov/dts/shib/shib121304.html>