

## MEMORANDUM OF UNDERSTANDING

### RI Department of Health and RI Department of Environmental Management

## CONCERNING OUTBREAKS OF HIGH-PATHOLOGY AVIAN INFLUENZA

### Summary

This Memorandum of Understanding has been developed by the Rhode Island Department of Health (HEALTH) and the RI Department of Environmental Management (DEM) for coordinating agency responses to outbreaks of high-pathology avian influenza ("HPAI").

### Need

HPAI is a serious threat to flocks of domesticated birds, spreading quickly and causing high rates of mortality. Any outbreak of HPAI demands an immediate response from governmental agencies at all levels to contain disease outbreaks and minimize economic loss.

### Threat to Humans

The CDC describes the risk to humans from avian influenza as follows:

The risk from avian influenza is generally low to most people, because the viruses do not usually infect humans. However, confirmed cases of human infection from several subtypes of avian influenza infection have been reported since 1997. Most cases of avian influenza infection in humans have resulted from contact with infected poultry (e.g., domesticated chicken, ducks, and turkeys) or surfaces contaminated with secretion/excretions from infected birds. The spread of avian influenza viruses from one ill person to another has been reported very rarely, and has been limited, inefficient and unsustainable.

#### H5N1 Epizootic

The highly pathogenic avian influenza A (H5N1) epizootic (animal outbreak) in Asia, Europe, the Near East, and Africa is not expected to diminish significantly in the short term. It is likely that H5N1 virus infections among domestic poultry have become endemic in certain areas and that sporadic human infections resulting from direct contact with infected poultry and/or wild birds will continue to occur. So far, the spread of H5N1 virus from person-to-person has been very rare, limited and unsustainable. However, this epizootic continues to pose an important public health threat.

There is little pre-existing natural immunity to H5N1 virus infection in the human population. If H5N1 viruses gain the ability for efficient and sustained transmission among humans, an influenza pandemic could result, with potentially high rates of illness and death worldwide. No evidence for genetic reassortment between human and avian influenza A virus genes has been found to date, and there is no evidence of any significant changes to circulating H5N1 virus strains to suggest greater transmissibility to or among humans. Genetic sequencing of avian influenza A (H5N1) viruses from human cases in Vietnam, Thailand, and Indonesia shows resistance to the antiviral medications amantadine and rimantadine, two of the medications commonly used for treatment of influenza. This leaves two remaining antiviral medications (oseltamivir and zanamivir) that should still be effective against currently circulating strains of H5N1 viruses. A small number of oseltamivir resistant H5N1 virus infections of humans have been reported. Efforts to produce pre-pandemic

vaccine candidates for humans that would be effective against avian influenza A (H5N1) viruses are ongoing. However, no H5N1 vaccines are currently available for human use.

**Research suggests that currently circulating strains of H5N1 viruses are becoming more capable of causing disease (pathogenic) in animals than were earlier H5N1 viruses. One study found that ducks infected with H5N1 virus are now shedding more virus for longer periods without showing symptoms of illness. This finding has implications for the role of ducks in transmitting disease to other birds and possibly to humans as well.**

Additionally, other findings have documented H5N1 virus infection among pigs in China and Vietnam; H5N1 virus infection of cats (experimental infection of housecats in the Netherlands, isolation of H5N1 virus from domestic cats in Germany and Thailand, and detection of H5N1 viral RNA in domestic cats in Iraq and Austria); H5N1 virus infection of dogs (isolation of H5N1 virus from a domestic dog in Thailand); and isolation of H5N1 viruses from tigers and leopards at zoos in Thailand). In addition, H5N1 virus infection in a wild stone marten (a weasel-like mammal) was reported in Germany and in a wild civet cat in Vietnam. Avian influenza A (H5N1) virus strains that emerged in Asia in 2003 continue to evolve and may adapt so that other mammals may be susceptible to infection as well.

## **Threat Reduction**

- 1/ Because HPAI has zoonotic potential (the *potential of transmission from animals to humans*), **it is important to minimize human exposure to this family of viruses** – most especially H5N1 strains – although some level of exposure is unavoidable. Commonly, for example, when HPAI attacks a domestic flock, the people who care for the birds are exposed to the pathogen before it is isolated and identified. As well, people who respond to the emergency may be exposed, even when careful precautions are planned. In any case, **the early use of practical measures to minimize human exposure to HPAI, once identified, is essential.**
- 2/ Because human deaths have been associated with avian influenza recently, it is likely that any outbreak of HPAI will cause intense public interest and concern. **The potential for misinformation, exaggerated concern, and public panic must be addressed quickly and directly with accurate information and effective risk communication.**

As structured within Rhode Island state government, the containment of avian disease is the responsibility of DEM, while the prevention of human disease is the responsibility of HEALTH. As these two responsibilities may occasionally overlap, the careful coordination DEM and HEALTH responses to HPAI is important in minimizing the potential impact of this family of viruses on domestic animals and humans.

## **Planning**

The State of Rhode Island has written several emergency response plans of relevance to guiding its response to an outbreak of HPAI. Because HPAI is primarily an avian disease, DEM was chosen as the state's lead agency in response, containment and planning of any related interventions regarding that disease. HEALTH plays a supportive role in these plans, addressing the prevention of human disease.

The following roles and responsibilities are derived from the several emergency response plans of relevance to HPAI, with additional specifications to assure the coordination of DEM and HEALTH.

**Role: The Rhode Island Department of Environmental Management (DEM)**

DEM agrees:

1. To respond to HPAI pursuant to existing emergency response plans, as appropriate.
2. To inform HEALTH immediately about all investigations into possible outbreaks of HPAI.
3. To keep HEALTH fully apprised of all ongoing investigations into possible outbreaks of HPAI.
4. To inform HEALTH about all human exposures and potential human exposures to HPAI.
5. To coordinate all public messages about HPAI by the formation of a Joint Information Center (JIC), in which HEALTH would participate.

**Role: The Rhode Island Department of Health (HEALTH)**

HEALTH agrees:

1. To examine issues of zoonotic potential in all HPAI incidents (consulting with the Centers of Disease Control and Prevention, and assessing individual and community risks).
2. To assist DEM in protecting its staff and other responders from exposure to HPAI (by training, consulting, and assessing the effectiveness of emergency protocols in collaboration with DEM).
3. To initiate emergency response protocols, as necessary, to prevent zoonotic disease.
4. To investigate all potential cases of zoonotic disease.
5. To participate in the JIC formed by DEM to coordinate public messages, avoiding separate public messaging channels for the duration of HPAI incidents.

**Agreement**

HEALTH and DEM agree to use their best efforts to work together to ensure that the goals and objectives set forth in this Memorandum of Understanding are achieved.

This Memorandum of Understanding will become effective immediately upon signing and will remain in effect until rescinded, subject to annual renewal by the parties.

IN WITNESS THEREOF the said parties are in agreement and hereto set their hands to duplicate originals of this Memorandum of Understanding.

David R. Gifford  
Director of Health

1-23-08  
Date

W. Michael Sullivan  
Director of Environmental Management

2-25-08  
Date