

Global Livestock CRSP

AVIAN FLU SCHOOL

International Course Guide

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MODULE 3: PUBLIC HEALTH AND WORKER SAFETY

**Wildlife Health Center and Cooperative Extension
School of Veterinary Medicine
University of California, Davis**

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www.avianfluschool.org

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INTRODUCTION

Instructor Notes	Course Material
<p>In addition to this Course Guide, you will need the following for this module:</p> <ul style="list-style-type: none"> • PPE kit if planning to demonstrate use in class <ul style="list-style-type: none"> a) Disposable coveralls (prefer type with elasticized sleeves and legs) b) Disposable hair covering c) Disposable boots/shoe covering d) Disposable N95 mask e) Disposable hand sanitize f) Disposable gloves (preferably nitrile) g) Goggles (indirectly vented, anti-fog) h) Bag for trash i) Bag for samples j) Bag for cell phone k) Bag for pocket l) Bag for goggles m) Spray disinfectant (like Lysol) n) Duct tape • Handout G, Personal Protective Equipment (PPE) <p>This module includes the following training methods:</p> <ul style="list-style-type: none"> • Lecture • Small and Large Group Discussion • Exercises <p>Introduce this module by welcoming the participants to Module 3 of the Avian Flu School.</p> <p>Introduce any new instructors for this module and ask each to briefly describe his or her relevant experience.</p> <p>TARGET AUDIENCES</p> <p>This module is designed for health aides, doctors, poultry farmers, wildlife managers, and others who employ people with risk of exposure to H5N1 HPAI. Participants will learn about protecting themselves and others through proper use of personal protective equipment and by reducing exposure.</p>	

Instructor Notes	Course Material
<p>LESSON TIMELINE</p> <p>A suggested time plan for this module is as follows:</p> <p>Introduction: 20 minutes</p> <p>Lesson 1: 15 minutes</p> <p>Lesson 2: 15 minutes</p> <p>Lesson 3: 10 minutes</p> <p>Lesson 4: 10 minutes</p> <p>Lesson 5: 20 minutes</p> <p>Lesson 6: 5 minutes</p> <p>Lesson 7: 5 minutes</p> <p>Final Exercise and Conclusion: 20 minutes</p> <p>TOTAL TIME: 2 HOURS</p> <p>Briefly preview the lessons, covering the key points listed at right.</p> <p><i>Instructor may add or omit material to customize length of module as necessary.</i></p> <p>Answer questions, then continue.</p>	<p>MODULE PREVIEW</p> <ul style="list-style-type: none"> • Avian flu is, at present, difficult for humans to contract, yet over half the confirmed cases to date have been fatal. • Preventing infection is the best method of control. • Outreach, education, and support of appropriate personal hygiene are key to protecting the public from infection. Lack of basic knowledge of avian influenza biology contributes to risky practices. • Use of Personal Protection Equipment (PPE) correctly, and in appropriate circumstances, is an important measure for limiting exposure to infection.

Instructor Notes	Course Material
	<p>MODULE OBJECTIVES:</p> <p>At the conclusion of this module, students will be able to:</p> <p>Describe protective measures people in various roles should implement to minimize the risk of infection from and/or spread of H5N1 HPAI.</p> <p>HPAI INFECTION HISTORY AND STATISTICS</p> <ul style="list-style-type: none"> • HPAI H5N1 was first reported to cause disease in humans in Hong Kong in 1997, when 18 cases resulted in 6 deaths. • As of November 2006, 258 cases have been reported (many among children), especially from Vietnam, Thailand, Cambodia, and Indonesia, with 153 of those cases fatal. • Other subtypes of AI have rarely infected humans, including 89 confirmed cases and one death from H7N7 during a large outbreak in the Netherlands, infections with H9N2 in Hong Kong and China, and H7N3 cases in Canada. • Most human cases have been associated with direct contact with infected poultry, though 3 cases of H7N7 in the Netherlands and a few of H5N1 in Southeast Asia apparently resulted from person-to-person transmission. <p>Local and Regional Status:</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

LESSON I

GENERAL PUBLIC EDUCATION AND PROTECTION

Instructor Notes	Course Material
<p>TIME: 15 MINUTES</p> <p>START TIME: _____</p> <p>END: _____</p> <p>Before beginning this section’s lecture material, ask participants to share their opinions and experience regarding the general public’s knowledge of H5N1 HPAI. Some possible discussion questions:</p> <ul style="list-style-type: none"> • How well do you think the general public understands bird flu? • How have you seen it portrayed on the news? • Do people know how to prevent it? Or that it is preventable? • Have you heard any crazy ideas about how it’s transmitted? • Who is/should be responsible for educating the public? Workers? 	<p>The general public hears about cases and deaths from H5N1 HPAI in the news, yet individuals likely know very little about H5N1 HPAI and its transmission to people.</p> <p>To be able to make rational and appropriate decisions about personal protection, the public needs some basic education.</p> <p>It is important that the general public be taught accurate basic information about HPAI including:</p> <ul style="list-style-type: none"> • What the H5N1 HPAI virus is • Where and how the virus survives • How the virus is transmitted to humans • Importance of routine hand-washing and other basic hygiene habits • What actions to take if they have sick or dead birds • Where they might encounter exposure to HPAI and how to avoid it <p>Seasonal, Pandemic, and Zoonotic Flu</p> <p>Although the viruses themselves are similar, the transmission patterns of seasonal, pandemic and zoonotic flu differ. (See table, next page.) This means that the ways to reduce exposure to the three types of human flu differ (as does the risk of infection) but the strategies to kill the viruses are the same.</p>

GENERAL PUBLIC EDUCATION AND PROTECTION

	Seasonal Flu	Pandemic Flu	H5N1 HPAI Zoonotic Flu
Hosts	Humans are the target host	Humans are the target host	Birds are the target hosts and humans are rarely infected
Occurrence	Outbreaks are seasonal (usually in the cool, wet months) and annual	Occurs rarely (three times in 20th century - last in 1968) and is not seasonal	Occurs rarely and shows a seasonal pattern
Level of Immunity	Usually some immunity built up from previous exposure to the same virus subtype	No previous exposure to the virus subtype; little or no pre-existing immunity	No previous exposure to the virus subtype; little or no pre-existing immunity in humans
Risk to Humans	Healthy adults usually not at risk for serious complications; the very young, the elderly at increased risk for serious complications	Healthy people may be at increased risk for serious complications	Healthy people may be at increased risk for serious complications, but it only affects people who are in close and continuous contact with sick hosts
Vaccine Useful?	A vaccine is developed annually based on known flu strains and is available in many countries	Vaccine probably would not be available in the early stages of a pandemic	No vaccine available
Likely Human Deaths?	Average U.S. deaths approximately 36,000/yr	Number of deaths could be quite high (e.g., Worldwide 1918 death toll 40-100 million)	Very few deaths, but highly lethal (over 50% of all cases have been fatal)
Clinical Signs	Symptoms: fever, cough, runny nose, muscle pain. Deaths often caused by complications, such as pneumonia.	Symptoms may be severe and complications are more frequent than with seasonal flu	Symptoms are severe and often lead to life-threatening complications.

(http://www.pandemicflu.gov/season_or_pandemic.html)

Pandemic flu: is caused by influenza A viruses that spread worldwide causing disease in humans. Human influenza pandemics are rare events (only three have occurred in the past century).

Seasonal Flu: is caused by influenza viruses that circulate in the human population and spread annually during the cold season causing respiratory illness that resolves with no serious complications in most people.

GENERAL PUBLIC EDUCATION AND PROTECTION

Instructor Notes	Course Material
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Additional information for public protection:

- **Reducing Exposure:**
 - During confirmed outbreaks of H5N1 HPAI, people should limit their handling of birds, especially those that are ill or have died.
 - Sick and dead birds should never be eaten.

- **Reducing Risk While Preparing a Carcass for a Meal:**

- Because carcass preparation for a meal has been a critical mode of transmission of H5N1 HPAI, do not eat infected birds and always follow the practices outlined in Handout H, "Safely Cleaning a Chicken."

(Practical session will include practice of a safe cleaning procedure.)

- **Assessing Exposure:**

- Many people think they are exposed to H5N1 HPAI through casual contacts they have with wild or domestic birds or their feces.
- In most cases, however, there is not enough exposure for an infection to occur. To determine if there has been exposure, one should answer these questions:
 - How long is the contact?
 - How much infectious material is present?
 - What is the route of the exposure?

IMPORTANT POINT

Public education programs should emphasize that it is possible to minimize the risk of infection by following simple protection measures.

Additional information for public protection:

- Reducing Exposure:
 - * Limit handling



- * Do not consume ill or dead birds

- Prepare carcass safely (Handout H, "Safely Cleaning a Chicken")

(Practical session will include practice of a safe cleaning procedure.)

- Assessing Exposure:

LESSON I
GENERAL PUBLIC EDUCATION AND PROTECTION

For example, for someone walking through duck feces, the time of exposure is limited to probably a few minutes or less, the dose of infectious material is very small, limited by the fact that the feces are not all fresh and only some will contain infectious viruses, and finally, the route of exposure would have to be exclusively through aerosol, which has not resulted in avian influenza infections. So, in this example, the walker is at low risk for infection because the exposure has been very low.

Ask the class to pose other common scenarios and discuss them with the three questions above.

• How Long?

• How much?

• What route?

Examples?

ADDITIONAL NOTES:

LESSON 2

POULTRY FARM WORKER PROTECTION

TIME: 15 MINUTES

START TIME: _____

END: _____

TRANSITION

Because of their daily interactions with poultry, farm workers are at a greater risk than the general public of being exposed to H5N1 HPAI. In addition to the basic information given to the general public, farm workers need to be taught specific measures that can help them minimize their risk.

IMPORTANT POINT

Practicing careful personal hygiene when working with poultry can greatly minimize workers' risk of disease.

Although to date no poultry workers exposed to H5N1 HPAI have died, their risk of exposure is high if flocks are infected. It is best to provide them with basic procedures to follow to ensure their safety in case they are exposed.



Activities which pose exposure risks to workers include daily farm chores such as feeding the flocks, collecting eggs, picking up mortality, handling manure, vaccinating flocks, and catching birds for processing.

Instructor Notes	Course Material
<p>The following safety measures should be implemented to protect workers:</p> <ul style="list-style-type: none"> • Hand-washing <ul style="list-style-type: none"> ◦ One of the simplest and most effective protective measures that can be taken. ◦ Hands should be lathered with soap for at least 20 seconds. ◦ An alcohol-based hand rub can be used if handwashing can't be done. • Clothing <ul style="list-style-type: none"> ◦ Workers should wear clean clothes to the farm, and change into dedicated work clothing (including coveralls, hats, and boots), which never leave the farm. 	<p>The following safety measures should be implemented to protect workers:</p> <p>Hand-washing</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>IMPORTANT POINT</p> <p>At a minimum, hands should be washed before eating and before leaving the farm for the day.</p> </div> <div style="text-align: center; margin: 10px 0;">  </div> <ul style="list-style-type: none"> • Clothing <p>The farm should have a decontamination area for:</p> <ul style="list-style-type: none"> • Any Personal Protective Equipment (PPE) worn on the farm to be removed and discarded. • Workers to store the clothes they wore coming to work. • Visitors to remove coveralls worn while on the farm. <p>Dedicated clothing</p> <hr/> <hr/>

Instructor Notes	Course Material
<ul style="list-style-type: none"> • Decontamination <ul style="list-style-type: none"> ◦ When workers are finished handling poultry, manure or other sources of viruses for the day, they should shower and change back into their own clothes. ◦ If showers are not available at the farm, workers should change out of their work clothes, leaving them to be laundered at the farm and shower when they arrive at home. • Responding to Sick or Dead Birds <ul style="list-style-type: none"> ◦ If workers notice severely depressed birds or a large number of dead birds, they should immediately leave the poultry house if they are not wearing sufficient PPE to prevent exposure. ◦ A supervisor should be contacted to investigate and determine if the problem is mechanical in nature - from outside the poultry house, if possible. ◦ Anyone entering the poultry house should put on full PPE and limit the time and amount of contact with dead or dying birds and potentially infective manure. 	<ul style="list-style-type: none"> * Decontamination area <hr/> <hr/> <hr/> • Decontamination <ul style="list-style-type: none"> ◦ Shower <hr/> <hr/> ◦ Change clothes <hr/> <hr/> <hr/> • Responding to Sick or Dead Birds <ul style="list-style-type: none"> ◦ Reduce exposure <hr/> <hr/> ◦ Contacts <hr/> <hr/> ◦ Wear PPE <hr/> <hr/>

Instructor Notes	Course Material
<ul style="list-style-type: none"> • Vaccinations <ul style="list-style-type: none"> ◦ Workers should have seasonal influenza vaccinations. ◦ Although these do not protect against H5N1 HPAI, they help prevent dual infections with AIV and seasonal flu in the same person. ◦ Dual infections could allow different flu viruses to exchange genetic material (reassortment), possibly leading to changes that could make AIV spread more easily. 	<ul style="list-style-type: none"> • Vaccinations <ul style="list-style-type: none"> ◦ Seasonal flu <hr/> <hr/> <hr/> <hr/>

ADDITIONAL NOTES:

BACKYARD/SMALLHOLDER POULTRY OWNER PROTECTION

Instructor Notes	Course Material
<ul style="list-style-type: none"> • Protecting Children <ul style="list-style-type: none"> ◦ Many of the human cases of HPAI H5N1 have occurred in small children and young adults, so children should be supervised if they play with or care for poultry to prevent exposure. ◦ Alternatively, restricting the access of children to poultry will reduce exposure. In addition, any children around poultry should be taught to practice good hand hygiene. 	<ul style="list-style-type: none"> • Protecting Children <ul style="list-style-type: none"> ◦ Supervise <hr/> <ul style="list-style-type: none"> ◦ Restrict access <hr/> <ul style="list-style-type: none"> ◦ Hand hygiene <hr/> <div data-bbox="852 949 1312 1270" data-label="Image"> </div>

ADDITIONAL NOTES:

LESSON 4

LIVE-BIRD WET MARKET WORKER PROTECTION

Instructor Notes	Course Material
<p>TIME: 10 MINUTES</p> <p>START TIME: _____</p> <p>END: _____</p> <p>TRANSITION</p> <p><i>Workers in wet markets may be less savvy about disease and disease transmission than are their counterparts in poultry production. To be able to make rational and appropriate decisions about personal protection, market workers will very likely need some basic education.</i></p> <p>It is important that wet market workers be taught accurate basic information including:</p> <ul style="list-style-type: none"> • What viruses are • Where and how they survive • How they are transmitted • Importance of routine hand-washing habits in the markets. <ul style="list-style-type: none"> ◦ Wet market workers should be informed that birds that die in the markets are potential sources of infection. ◦ If a worker finds a single dead bird, the bird should be removed from the cage and placed into an en-closed container like a bin or a bag. ◦ Any bird that has died in the market should not be eaten, but instead, should be placed into the refuse for disposal. ◦ If possible, the bird should be submitted to authorities for testing. ◦ After the bird has been handled, the worker should do a complete and thorough hand-washing. ◦ Like all people handling birds, 	<div style="background-color: black; color: white; padding: 5px; text-align: center; font-weight: bold; margin-bottom: 10px;">IMPORTANT POINT</div> <div style="border: 1px solid black; padding: 10px; margin-bottom: 20px;"> <p>To be able to make the correct decisions about personal protection, market workers will very likely need some basic education.</p> </div> <p>It is important that wet market workers be taught accurate basic information including the risks and appropriate methods of handling sick or dead birds:</p> <div style="text-align: right; margin-right: 50px;">  </div> <hr/> <p style="text-align: center;">Sources of infection</p> <hr/> <p style="text-align: center;">Remove and contain</p> <hr/> <p style="text-align: center;">DO NOT EAT!</p> <hr/> <p style="text-align: center;">Test</p> <hr/> <p style="text-align: center;">Wash hands</p> <hr/>

LIVE-BIRD WET MARKET WORKERS PROTECTION

Instructor Notes	Course Material
<p>workers should always wash hands before eating and before leaving for home.</p> <p>Large Numbers of Dead Birds:</p> <ul style="list-style-type: none"> • Limit their exposure by leaving the market • Secure the market areas so others can not enter the market • Contact their supervisor, the market owner, or designated first responder. 	<p>Large numbers of dead birds:</p> <p>Live-bird market workers who encounter large numbers of unexpectedly dead birds (or a large percentage of the total) in the market are unlikely to be wearing any type of PPE at the time of first discovery. Like the poultry worker, they should be educated that the proper response is:</p> <ul style="list-style-type: none"> • Limit exposure • Secure and stop • Contact supervisor <hr/> <p>The first responder on the scene should:</p> <ul style="list-style-type: none"> • Don Personal Protective Equipment (PPE; see Handout G, Personal Protective Equipment) <hr/> <ul style="list-style-type: none"> • Determine cause of death <hr/> <ul style="list-style-type: none"> • Test <hr/>

ADDITIONAL NOTES:

LESSON 5

MEDICAL WORKER PROTECTION AND PATIENT PROTOCOL

Instructor Notes	Course Material
<p>TIME: 20 MINUTES</p> <p>START TIME: _____</p> <p>END: _____</p> <p><i>TRANSITION</i></p> <p><i>Although prevention strategies like limiting exposure and properly using PPE can reduce the risk of human infection, it is probably not going to be eliminated. When cases occur, it is critical that they be handled appropriately.</i></p> <p>How to identify potential H5N1 HPAI cases</p> <p>Patients may have an HPAI infection if they meet one or more of these criteria:</p> <ul style="list-style-type: none"> • They are from areas with H5N1 HPAI outbreaks in poultry • Have traveled to H5N1 HPAI affected countries within the previous 2 weeks • Have had contact with ill or dead poultry • Are ill with fevers and respiratory symptoms (coughing, sneezing) - must be suspected of infection and treated accordingly <p>Isolating Patients</p> <p>In affected areas, clinics and hospitals should have methods in place to isolate human cases of H5N1 HPAI:</p> <ul style="list-style-type: none"> • Patients must be isolated and should be placed in a negative-pressure room <ul style="list-style-type: none"> ◦ at the minimum, a room with a door. 	<div style="background-color: black; color: white; padding: 5px; text-align: center; font-weight: bold; margin-bottom: 10px;">IMPORTANT POINT</div> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p>Although H5N1 HPAI person-to-person transmission is limited, efforts must be made to limit this possibility – both to protect caregivers and to limit the possibility of new viruses emerging through reassortment.</p> </div> <p>Treatment and investigation of suspected AIV cases should be performed in conjunction with the local and state public health departments, and thus public health officials should be immediately contacted for all suspect cases.</p> <p>To limit potential transmission, healthcare workers should be taught:</p> <ul style="list-style-type: none"> • How to identify potential H5N1 HPAI cases <ul style="list-style-type: none"> ◦ From H5N1 HPAI-affected areas <hr/> <ul style="list-style-type: none"> ◦ Have traveled to H5N2 HPAI-affected areas <hr/> <ul style="list-style-type: none"> ◦ Contact with ill or dead poultry <ul style="list-style-type: none"> • How to isolate patients who have or are suspected of having H5N1 HPAI <ul style="list-style-type: none"> ◦ Isolation in negative pressure room <hr/> <hr/>

MEDICAL WORKER PROTECTION AND PATIENT PROTOCOL

Instructor Notes	Course Material
<ul style="list-style-type: none"> ◦ the door to the room should be kept closed. ◦ all healthcare workers treating the patient should use full PPE as described below. • The World Health Organization recommends that full infection control barriers remain in place: <ul style="list-style-type: none"> ◦ for 7 days after an adult patient’s fever resolves, ◦ for 21 days for children, who can shed high amounts of the virus after the fever subsides. • Keeping a distance of at least one meter between beds helps decrease the spread of the virus through droplets (coughing and sneezing). • Floors should not be carpeted because vacuuming can spread virus particles into the air. • It is best to have isolation anterooms to provide a buffer between H5N1 HPAI patients and other patients, and to serve as a staging area for medical personnel to remove used PPE and collect contaminated supplies for later disinfection. <ul style="list-style-type: none"> ◦ The World Health Organization guidelines for AI infection control in health care facilities should be followed. • In patient rooms, personal belongings should be kept to a minimum, and medical supplies should be used for only one patient. • In any setting, patients’ visitors should be limited to: <ul style="list-style-type: none"> ◦ Necessary medical care workers using PPE. <ul style="list-style-type: none"> - Family members assisting in patient care who are trained and supervised in the proper use of PPE AND fully informed of the possibility of exposure. 	<ul style="list-style-type: none"> • Full infection control <hr/> <hr/> <ul style="list-style-type: none"> • Distance of 1 meter <hr/> <hr/> <ul style="list-style-type: none"> • Bare floors <hr/> <hr/> <ul style="list-style-type: none"> • Anterooms <hr/> <hr/> <ul style="list-style-type: none"> • Limit belongings <hr/> <hr/> <ul style="list-style-type: none"> • Limit visitors <hr/> <hr/>

MEDICAL WORKER PROTECTION AND PATIENT PROTOCOL

Instructor Notes	Course Material
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- If suspected AI patients must be treated in ambulatory care settings (i.e., outside of hospitals and inpatient clinics), **adequate infection control** procedures must be implemented.
- **Avoid procedures generating high-risk aerosols** (nebulization, bronchoscopy, humidified oxygen) in an ambulatory setting unless negative-pressure rooms are available.

AMBULATORY CARE SETTING

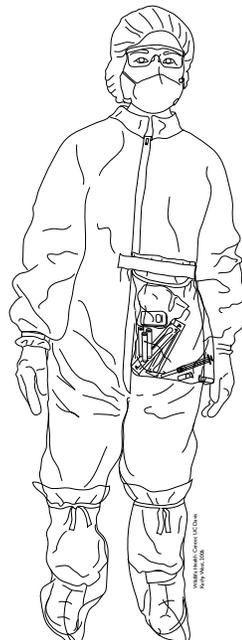
- Adequate infection control

- Avoid aerosol generating procedures

How to use PPE effectively

Healthcare workers and family members treating patients should:

- Enter isolation rooms before entering other hospital areas.
- Perform hand hygiene with alcohol-based rubs or soap and water.
- Dry the hands with single-use disposable towels
- Dress in PPE, as will be demonstrated in this course and practiced in the Applied Procedures session at the end of this training (See: Hand-out G, “Personal Protective Equipment”).



- Remove PPE in an area where no other people can be contaminated.
- Collect removed PPE in an enclosed bin for decontamination.
- Remove respirators last to avoid inhalation of any virus particles aerosolized while removing other PPE articles.
- Thoroughly wash hands for at least 20 seconds, or disinfect with alcohol-based rubs.

LESSON 6

PUBLIC HEALTH TEAM PROTECTION

Instructor Notes	Course Material
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TIME: 5 MINUTES

START TIME: _____

END: _____

When handling H5NI HPAI patients:

- 1) contact precautions,
- 2) respiratory precautions with a fit-tested N-95 mask
- 3) hand hygiene

Contact tracing

- 1) No symptoms reported
 - hand washing

- 2) Symptomatic contacts
 - assume H5NI HPAI
 - full healthcare precautions
 - N-95 mask
 - eye protection
 - gloves
 - gown
 - handwashing

IMPORTANT POINT

Public Health Teams, Epidemiology Intelligence teams, and Vaccination/ Medication teams should follow the same precautions as healthcare workers. Additionally, precautions should also be followed when researching or inspecting suspect cases.

Handling H5NI HPAI patients



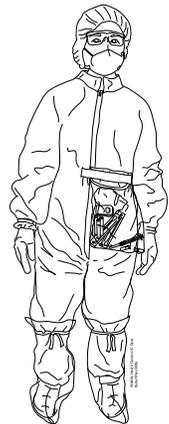
Contact tracing

Disposal of contaminated PPE

- should be done in the manner similar to health-care workers (this will be covered in the Practical Session on PPE).
- Remove PPE in an area where other people cannot be contaminated.
- Collect removed PPE in an enclosed bin for decontamination/disposal.



Instructor Notes	Course Material
	<ul style="list-style-type: none"> • Remove respirators last to avoid inhalation of any virus particles aerosolized while removing other PPE articles. • Thoroughly wash hands for at least 20 seconds, or disinfect with alcohol-based rubs. <hr/> <hr/> <ul style="list-style-type: none"> • Symptomatic patients should be sent for further medical evaluation to the healthcare setting that can provide appropriate isolation. <hr/> <hr/> <hr/>



LESSON 7

FIRST RESPONDER PROTECTION

Instructor Notes	Course Material
<p>TIME: 5 MINUTES</p> <p>START TIME: _____</p> <p>END: _____</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="background-color: black; color: white; padding: 2px 5px; display: inline-block;">IMPORTANT POINT</p> </div> <p>Firefighters, emergency medical technicians, and other first responders provide critical community services and must be prepared for exposure to H5N1 HPAI cases.</p> <p>To limit their risk, first responders should:</p> <ul style="list-style-type: none"> • Observe the same kinds of precautions taken by healthcare workers – using surgical masks and gloves when caring for people who are or may be infected. • Generally err on the side of suspected infection, especially when collecting information from patients. • Use PPE (including gloves, gowns, eye protection, and an N-95 mask) when entering an area or dwelling of a suspect H5N1 HPAI or other infectious case. <hr style="border: 0.5px solid black; margin: 10px 0;"/> <p>On occasion, first responders may be asked to handle poultry or wild waterfowl. Precautions should be similar to those for poultry industry workers:</p> <ul style="list-style-type: none"> • PPE should be worn, including gowns or coveralls, gloves, eye shields, and masks. • The mask can be surgical unless dirt or poultry products are being aerosolized, and then an N-95 mask should be worn.

Instructor Notes	Course Material
	<ul style="list-style-type: none"> • Remove PPE in an area where other people cannot be contaminated. • Collect removed PPE in a closed bin for decontamination. • Remove respirators last to avoid inhalation of any virus particles aerosolized while removing other PPE articles. • Thoroughly wash hands for at least 20 seconds, or disinfect with alcohol-based rubs. <hr/> <hr/> <hr/> <hr/>

ADDITIONAL NOTES:

FINAL EXERCISE AND CONCLUSION

Instructor Notes	Course Material
<p>TIME: 20 MINUTES</p> <p>START TIME: _____</p> <p>END: _____</p> <p>Instructions: Follow the steps below to conduct this exercise:</p> <p>A. You may have participants work in pairs or groups of 4-5, or you may want to conduct the exercise aloud with the entire group. It may depend on the size of the group, level of expertise, and time.</p> <p>B. Participants should answer each of the following questions for each type of person listed below.</p> <ol style="list-style-type: none"> 1) How can you protect yourself from becoming infected with AI viruses? 2) Besides yourself, who are you responsible for protecting from infection with AIV? 3) What can you do to protect those for whom you are responsible? 4) What should you do if someone comes to you with flu-like symptoms? 5) What should you do if you have flu-like symptoms? 6) How will those for whom you are responsible know what to do if they have flu-like symptoms? 	

EXERCISE 3-1: HOW WILL YOU PROTECT YOURSELF FROM H5N1 HPAI?

Purpose: This exercise allows participants to apply acquired knowledge to a real-world setting by identifying the level of risk and appropriate responses for a given scenario.

Answer each of the following questions for each type of person listed below.

- 1) How can you protect yourself from becoming infected with H5N1 HPAI?
- 2) Besides yourself, who are you responsible for protecting from infection with H5N1 HPAI?
- 3) What can you do to protect those for whom you are responsible?
- 4) What should you do if someone comes to you with flu-like symptoms?
- 5) What should you do if you have flu-like symptoms?
- 6) How will those for whom you are responsible know what to do if they have flu-like symptoms?

Be prepared to share your answers with the group.

Member of the general public

Small poultry farm owner

EXERCISE 3-1 (continued)

Worker on a poultry farm

Wet market manager

Worker at a wet market

EXERCISE 3-1 (continued)

Commercial poultry facility owner

Emergency room staff

Member of a public health team

EXERCISE 3-1 (continued)

Emergency responder – firefighter, EMT, etc.

Large group discussion questions after all have shared:

Go through the list of roles, calling on different groups to share their answers. Check that participants understand the prevention measures and also that owners and managers are responsible for the health of everyone who works for them. Also, remind the group of the questions to ask to assess exposure if they've forgotten to apply those to the questions about flu-like symptoms.

Instructor Notes	Course Material
<p>Review objectives and gather participants' input about whether course objectives and individual expectations were met.</p>	<p>MODULE REVIEW</p> <ul style="list-style-type: none"> • Avian flu is, at present, difficult for humans to contract, yet over half the confirmed cases of H5N1 HPAI to date have proved fatal. Preventing the disease is the best method of control. • Outreach, education, and support of appropriate personal hygiene are key to protecting the public from infection. Lack of basic knowledge of avian influenza biology contributes to risky practices. • Use of Personal Protection Equipment (PPE) correctly, and in appropriate circumstances, is an important measure for limiting exposure to infection. <p>MODULE OBJECTIVES</p> <p>Now that we've concluded this module, you should be able to:</p> <ul style="list-style-type: none"> • Describe protective measures people in various roles should implement to minimize the risk of infection from and/or spread of H5N1 HPAI

REFERENCES AND RESOURCES

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ADDITIONAL NOTES: