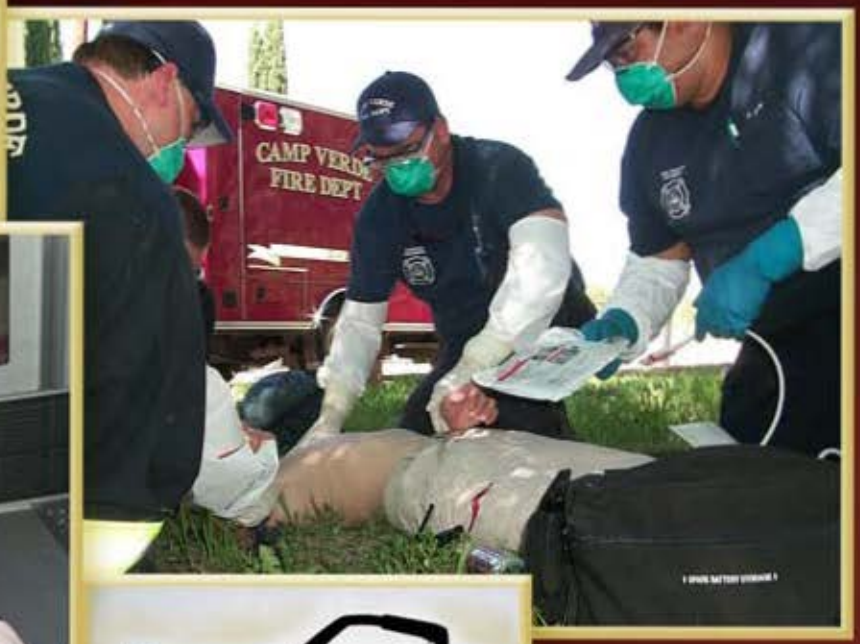
International Association of Fire Fighters



Avian & Pandemic Influenza

Student Manual

Always on the Front Line

HAZMAT WMD TRAINING DEPARTMENT

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General President

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General Secretary-Treasurer

HazMat / WMD Training Department

Avian & Pandemic Influenza

Student Manual

Developed by

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Funded By

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Avian & Pandemic Influenza

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Objectives

After this unit, you will be able to:

- Identify the differences between seasonal, epidemic, and pandemic infections.
- Describe the symptoms of avian flu, how it is spread, the potential for an avian flu pandemic, and the effects of a pandemic.
- Describe how you can help your department prepare for a pandemic.
- Describe the role of the safety/infection control and prevention officer before and after a pandemic.
- Explain how to protect yourself and patients.
- Explain proper decontamination procedures.
- Explain the importance of seasonal flu vaccination.

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Avian & Pandemic Influenza Overview

General Information

Use the space below and on page 5-7 to write your answers to the questions below.

1. How does avian flu spread?

2. Can avian flu become a pandemic?

Continue on page 5-7.

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Avian & Pandemic Influenza Overview, General Information (Continued)

3. Are humans immune to avian flu?

_____

_____

_____

_____

_____

_____

4. Is there a vaccine for avian flu?

_____

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_____

_____

_____

_____

For more information on avian influenza, explore the following:

- IAFF Online Module http://www.iaff.org/academy/online/modules/avian/01.htm
- PandemicFlu.gov http://www.pandemicflu.gov/index.html

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Seasonal Flu, Epidemics & Pandemics

Seasonal Flu

Seasonal flu, also called common flu, is a respiratory illness that is transmitted person to person. A vaccine is available and most people have some immunity.

Epidemic

An epidemic is an illness that is contained in a specific geographic area.

Pandemic

A pandemic is a global disease outbreak. A flu pandemic happens when a new virus emerges for which people have little or no immunity and for which there is no vaccine. The disease spreads easily from person to person, sweeping across a country and around the world.

In 1918, the Spanish flu pandemic hit the world. It is estimated that approximately 20 to 40 percent of the world's population became ill and that over 50 million people died, with 500,000 deaths in the U.S. alone. During the Spanish flu, healthy people, as well as those who were frail, fell ill and died. Flu pandemics have occurred in 1957, 1968, and 1977.

Many health experts believe the next outbreak of a pandemic flu isn't a question of if, but when. If not avian flu, it will be a different flu, so being prepared is a must.

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Why Does Avian Flu Have the Potential to Become a Pandemic?

Use the space below to write the reasons avian flu has the potential to become a pandemic.

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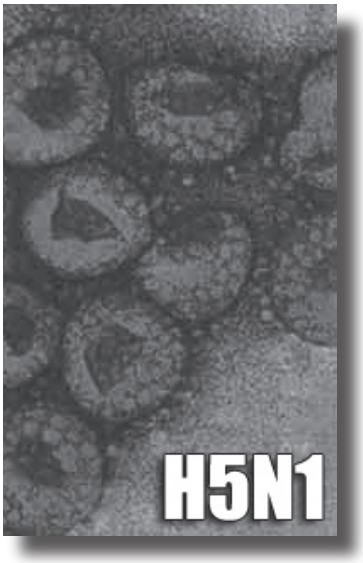
How is Avian Flu Spreading?



The new strand of avian flu is one of the few avian influenza viruses to have crossed the species barrier to infect humans, and is the most deadly of those that have crossed the barrier. In the recent outbreaks in Asia, Europe, and Africa, more than half of those infected with avian flu have died.

Those who have contracted the virus have handled birds or surfaces contaminated with secretions or excretions from infected birds. As of now, there are no reported cases of human to human transmission.

Scientists are finding that the virus must attack the lungs to take hold. It cannot be spread easily through coughing or sneezing.

What are the Symptoms of Avian Flu?

Use this space to list the symptoms of avian flu.

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Objective

Students will predict the effects of a pandemic flu on the fire station, department, family, town/city, and nation during this guided discussion.

In My Fire House

Use this space to respond to the questions related to the effects of an influenza pandemic.

1. What would happen to your fire station if a pandemic outbreak were to happen?

2. What would happen to your department if a pandemic outbreak were to happen?

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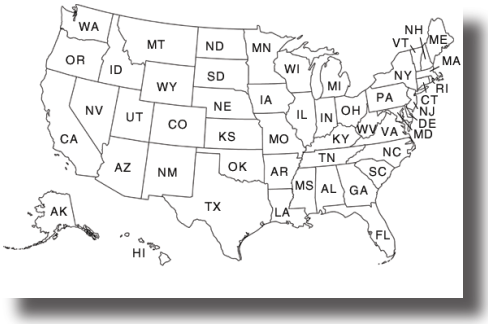
Use this space to respond to the questions related to the effects of an influenza pandemic.

3. What would happen to your family if a pandemic outbreak were to happen?

4. What would happen to the wider community if a pandemic outbreak were to happen?



5. What would happen to other areas in the nation if a pandemic outbreak were to happen?

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Objective

Students will describe how they can help make their department ready for a pandemic.

Is Your Department Ready?

IAFF Influenza Pandemic Checklist			
Done	**In Progress**	**Not Started**	**I. Planning Logistics**
			Establish an Incident Management System that meets NFPA 1561, Standard on Emergency Services Incident Management System, including written Standard Operating Procedures (SOP) and Mitigation Plan.
			Identify and define roles and responsibilities of Incident Commander who will coordinate the emergency response and the response teams (NFPA 1500, chapter 8.1).
			Inter-Agency Cooperation: Establish relationships with community public health department and other emergency management groups. Define functional roles and responsibilities of internal and external agencies, organizations, departments and individuals and establish lines of authority.
			Communications Plan: Establish systems and procedures (how, how often, when, what and to whom the information will be disseminated) and articulate resource requirements.
			Set up authorities, triggers, and procedures for activating and terminating response plan.
			Develop and plan for scenarios likely to result in an increase or decrease in demand for your services during a pandemic (e.g. search and rescue, assist with quarantine, etc). Define potential roles outside of usual duties (i.e. assisting healthcare facilities in mobilizing patients from one location to a quarantine location or other unusual activities).
			Determine training and define needs for training (NFPA 1600, 5.12).
			Implement an exercise/drill to test your plan and revise periodically.
			Develop a disaster recovery plan.

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Done	In Progress	Not Started	II. Infection Control
			Ensure adoption of an infection control program that meets the requirements of NFPA 1581, Standard on Fire Department Infection Control Program.
			Ensure fire department has a written infection control policy statement defining the department's mission in limiting the exposure of members to infectious diseases during the performance of their assigned duties and while in the fire station living environment.
			Ensure fire department has an experienced individual within the department designated as the infection control officer.
			Ensure availability of all flu vaccines.
			Ensure training and education is a component of the infection control program and includes proper selection and use of personal protective equipment, standard operating procedures for safe work practices in infection control, proper methods of disposal of contaminated articles and medical waste, cleaning and decontamination, exposure management and medical follow-up.
			Ensure fire department implements and enforces hand and skin washing practices and decontamination procedures.
			Establish fit-testing and skill training on all respirator types used to prevent exposures.
Done	**In Progress**	**Not Started**	**III. Inventory Checklist**
			Community: Develop an understanding of the local community dynamics, available resources and how they may shift during a pandemic – size and distribution of population, number and location of health facilities, quarantine sites, transportation issues, large spaces that could be transformed into healthcare or shelter facility, etc.
			Resources: Identify requirements during surge capacity (i.e. during a pandemic) – PPE, medical gloves, P-100 respirators, vaccines, emergency supplies for potential shelter-in-place at worksite, etc.
			Establish funding sources for planning process and for surge capacity.

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Done	In Progress	Not Started	IV. Impact on Staff
			Determine impact on staff – absenteeism due to illness or attending to ill family member or afraid to come into work and develop Contingency Plan for such an event.
			Determine potential safety issues and plan for prevention.
			Train and prepare ancillary workforce (e.g. contractors, non-first responders, support staff).
			Encourage and track vaccination history (annual influenza, Hepatitis B, Hepatitis A, TB, etc.).
			Evaluate staff access to, and availability of, healthcare services during a pandemic. Services should include mental health and social services.
			Establish policies for restricting travel and preventing influenza spread at the worksite. Encourage proper hygiene practice and universal precautions.
Done	**In Progress**	**Not Started**	**V. Resource Allocation**
			Education: Disseminate Influenza Pandemic Information.
			Utilize information developed by IAFF and other materials on pandemic.
			Communication Channel: establish two-way information flow.
			Disseminate information frequently to all staff to prevent misinformation or fears based on rumors. Establish a dedicated staff member who is responsible for disseminating information. Staff must also be able to easily provide feedback to designated staff member on what they are facing, including those issues experienced in the field.
			Establish funding for training sessions.

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Objective

Students will describe the role of the safety/infection control and prevention officer both before a pandemic and after an incident.

The Role of the Safety/Infection Control & Prevention Officer

Your department may already have safety/infection control and prevention officers – designated first responders who ensure overall safety at the fire house. The safety/infection control and prevention officers will be the first line of defense for policies your department makes for the pandemic.

Here are some examples of what the safety/infection control and prevention officers will ensure.

Before a pandemic:

- The fire station is a safe work environment.
- There are adequate supplies and equipment.
- Personal protective equipment fits.
- Fire fighters use proper equipment at the proper times.

After an incident:

- Report health incidents to health center.
- Fire fighters follow incident related decontamination guidelines.
- Administrative and PPE controls are followed.

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Objective

Students will describe how to keep the most vulnerable areas—the eyes, nose, and mouth—safe from avian flu.

Staying Safe

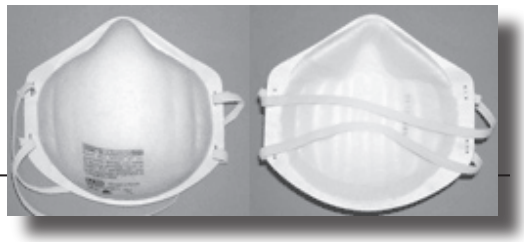
The most vulnerable areas for being infected with influenza are the eyes, nose, and mouth. Influenza is spread from person to person by contact with respiratory secretions from an infected person. When an infected person coughs or sneezes, large droplets carrying the virus land on the surfaces of the upper respiratory tracts of persons who are within three feet of the infected person. The virus can also spread by direct or indirect contact with respiratory secretions – touching contaminated surfaces and then touching the eyes, nose, or mouth.

Respiratory Protection

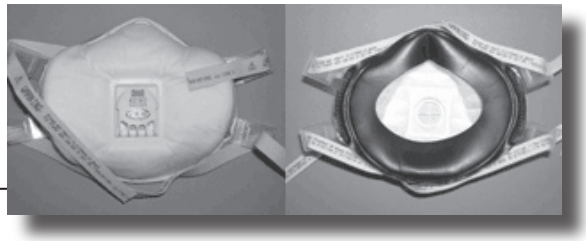
During the class discussion, use the space below to take notes on respiratory protection.

Surgical mask

N-95



P-100



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Fit-testing for Disposable Masks

Never reuse a disposable mask.

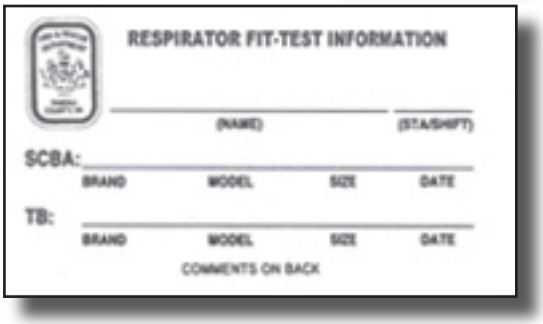
You will need to be fit-tested to make sure your mask fits properly. Here are the steps for fit-testing:

1. Don a hood while the test conductor sprays a fit-test agent, either a bitter substance called Bitrex™ (Denatonium Benzoate), or Saccharin,[1] into the hood for you to taste and smell.

2. Don a disposable mask. The testing agent is then sprayed again. Do you taste or smell the agent?

3. If you taste or smell the agent, you will test another disposable mask size (or type).

4. You will receive a card with your fit-testing results for you to carry on the job.


RESPIRATOR FIT-TEST INFORMATION

(NAME) (STA/SHIFT)

SCBA:

BRAND MODEL SIZE DATE

TB:

BRAND MODEL SIZE DATE

COMMENTS ON BACK

1 While the use of Saccharin is a sanctioned OSHA practice, it has been found to be carcinogenic

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Hand Care

Per NFPA 1581, Standard on Fire Department Infection Control Program, hands should be washed:

- After each emergency medical incident
- Immediately or as soon as possible after removal of gloves or other PPE
- After cleaning and disinfecting emergency medical equipment
- After cleaning PPE
- After any cleaning function
- After using the bathroom
- Before and after handling food or cooking utensils

In addition to proper hand washing, wear disposable medical gloves, certified to NFPA 1999, Standard on Protective Clothing for Emergency Medical Operations, prior to making any patient contact. Keep waterless hand cleaner in your EMS bag.

Immediately after activities involving contact with a patient's body fluids, gloves should be removed and discarded and hands should be cleaned.

Gloves must never be washed or reused.

Eye Care

Don protective eyewear, certified to NFPA 1999, Standard on Protective Clothing for Emergency Medical Operations, in situations where bodily fluids may be splashed.

Do not rub eyes after using eyewear, or after handling patients or equipment until you have thoroughly washed your hands.

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Objective

After a team discussion, students will identify the precautions to take when caring for and transporting patients with the flu.

Patient Care & Transport

Work in your assigned teams. Decide how the patient should be cared for and transported.

Case Study 1: Ladder Company 4
Date: August 11
Time: 11 a.m.

You are dispatched as part of Ladder Company 4 to 1881 West Point Drive where a 31-year-old male complains of shortness of breath. He has had a fever for four days, along with chills and fatigue. As you talk to him, he reveals that he works as a consultant to a company that produces down comforters and has spent a great deal of time in factories that house ducks.

1. What precautions should be taken when caring for this patient?

_____

_____

_____

_____

2. What precautions should be taken when transporting this patient?

_____

_____

_____

_____

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Objective

Students will describe how to decontaminate equipment that may have been contaminated with avian flu.

Equipment

Disposable respirators, gloves, and other equipment/ supplies used at the scene should be discarded as biohazardous waste.

Decontaminate non-disposable equipment (e.g., stretchers, blood pressure cuffs, splints) by following manufacturer and departmental standard operating procedures.

If the turnout gear is visibly contaminated by bodily fluid, it should be placed in a biohazard bag at the scene and washed, following prescribed laundry procedures.

Do not use bleach on PPE. It degrades equipment.

Always refer to your department's standard operating procedures.

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Objective

Students will explain why it is important to get a vaccine for seasonal flu.

Vaccinations

All first responders should get an influenza vaccine each year to protect themselves, their families, and the public they serve from the seasonal influenza outbreak.

In 2007, the first vaccine for avian flu was approved by the U.S. Food and Drug Administration. The vaccine could be used in the event the current H5N1 avian virus were to develop the capability to efficiently spread from human to human, resulting in the rapid spread of the disease across the globe. Should such an influenza pandemic emerge, the vaccine may provide early limited protection in the months before a vaccine tailored to the pandemic strain of the virus could be developed and produced.

The vaccine was obtained from a human strain and is intended for immunizing people 18 through 64 years of age who could be at increased risk of exposure to the H5N1 influenza virus contained in the vaccine. H5N1 influenza vaccine immunization consists of two intramuscular injections, given approximately one month apart. The vaccine has been purchased by the federal government for inclusion within the National Stockpile for distribution by public health officials if needed.

The vaccine was generally well tolerated, with the most common side effects reported as pain at the injection site, headache, general ill feeling, and muscle pain. The study showed that 45 percent of individuals who received the 90 microgram, two-dose regimen developed antibodies at a level that is expected to reduce the risk of getting influenza. Although the level of antibodies seen in the remaining individuals did not reach that level, current scientific information on other influenza vaccines suggests that less than optimal antibody levels may still have the potential to help reduce disease severity and influenza-related hospitalizations and deaths. Additional information on this H5N1 influenza vaccine is being collected on safety and effectiveness in other age groups and will be available to FDA in the near future.

With the support of FDA, the U.S. National Institutes of Health and other government agencies and manufacturers are working to develop a next generation of influenza vaccines for enhanced immune responses at lower doses, using technologies intended to boost the immune response. Meanwhile, the approval and availability of this vaccine will enhance national readiness and the nation's ability to protect those at increased risk of exposure.

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Objective

During this activity, students will plan actions they will take to change their behavior based on the topics covered in this unit.

What's Your Plan of Action?

In this unit, you learned:

- Basic facts about avian and pandemic influenza
- How a pandemic could affect the fire house, the department, your family, the wider community and the nation
- How to prepare the department for a pandemic
- How to keep yourself safe
- How to care for and transport patients who may be infected with avian or pandemic flu
- How to decontaminate equipment
- Why vaccinations are important

Based on what you learned in this course, what proactive steps can you take before a pandemic occurs? Work individually to describe how you will prepare for an outbreak of pandemic flu.

1. _____

_____

2. _____

_____

3. _____

_____

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Appendices

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Appendix A

Facilitators Guide to Preparing for a Pandemic Flu:
What First Responders Need to Know
A Shift-Based Training Program

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Facilitators Guide to
Preparing for a Pandemic Flu: What First Responders Need to Know
A Shift-Based Training Program

Overview

Many health experts believe that the next outbreak of a pandemic flu isn't a question of if, but when. This training program is for first responders who play a vital role in outbreak response. It is crucial that rank and file fire fighters learn basic information about the pandemic flu to protect themselves, their families, their department and their community.

This program provides hands-on activities and discussion questions to teach first responders to prepare for a major emergency, such as a pandemic flu outbreak.

Learning Objectives

After completing this program, first responders will be able to:

- Predict and summarize the effects of a pandemic flu on the individual, family, the department, the community and nation
- Identify proper personal protective equipment and when to don it
- Create a personal family plan for a major response and implement it

Recommended Participants

- Rank and file fire fighters, EMT and other first responders
- Members of same shift

Recommended Facilitator

- Training Coordinators/Officers
- Infection Control personnel
- Safety Officers

Agenda

This program is divided into three lessons, which could be completed in one workshop or individually, based on time.

Module 1: In My Fire House *(30 minutes)*
Examines the bigger picture of how first responders and their jobs are affected

Module 2: Making a Plan *(1 hour)*
Participants break into pairs or small groups to create a plan for their families

Module 3: Protecting Myself *(30 minutes)*
Remembering what PPE to wear and when to don it is addressed in this hands-on activity

Module 1: In My Fire House *(Recommended time 30 minutes)*

Summary
This lesson focuses on understanding questions behind the bigger picture by answering the question: What will the effects of a pandemic flu outbreak be?

Learning objectives
- Predict and summarize effects of a pandemic flu on the individual, family, the department, the community and nation.
- Recognize the chain reaction of events in the case of a pandemic flu.

Materials needed
- White board, chalk board, easel w/ pad or white paper taped to wall
- Markers

Facilitator Instructions

1. Guided Discussion on the Pandemic Flu *(10 minutes)*

   To understand bigger picture of a pandemic flu outbreak, start with basic facts about the pandemic flu. Ask participants: What do you already know about the pandemic flu? Suggested responses[1]:

   - A pandemic is an outbreak that spreads across a region
   - There is the potential for a current strain of the avian flu (the H5N1 strain) to begin to infect humans. Several cases have been reported, but only from bird to human transmission (not human to human).
   - Scientists and health officials warn that if this strain of the avian flu begins to spread form human to human it could become a pandemic outbreak.
   - A strain of the avian flu is potentially deadly because we do not have immunity to it and a vaccine will take months to make and distribute.
   - In 1918, a pandemic flu outbreak killed nearly 50 million people worldwide.

2. Guided Discussion with Writing Activity *(20 minutes)*

   Instructor will draw the fire house they work at in the center of the board. Around it, instructor will draw a fire fighter, a family, a fire department and a town. Ask participants to predict the effects of a pandemic outbreak on these items. (Write answers near or under the drawing or have students go up and write responses). Suggested responses are on the next page.

1 See page A5-59 for more resources on pandemic flu information.

Module 1: In My Fire House continued…

Start with the fire house. What would happen to this fire station if a pandemic outbreak were to happen? Suggested responses:

- More calls because so many people are sick
- One third of workforce would be out sick is predicted by experts
- Continuous restocking of equipment or limited supplies
- Death of coworker
- Quarantine or isolation

Next, ask them to step into the shoes of the fire chief. What would happen to the department? Suggested responses:

- Staffing issues, such as mandatory staffing, overtime and recall
- Administrative duties such as budgeting, payroll
- Call volume affects dispatch
- Equipment stocking
- Need for CISM and Family Assistance Support Teams

Is the department ready?
This would be an opportunity to review the department's plan for Avian Flu/ Pandemic Flu response, if it is available. Review the department's planning checklist and/or SOPs for flu or outbreak response.

What would happen to your family? Suggested responses:

- Family sick
- Shift changes
- Child care unavailable
- Deaths of elderly or young members of family
- Quarantine or isolation

What might happen in the community? Suggested responses:

- Schools close
- Grocery or other stores understaffed, limited supplies available
- Banks close
- Transportation system running slow
- Lack of available medical care
- Quarantine or isolation

Can you name other areas that might be affected across the nation? (Write these answers around the outside of the others.) Suggested responses:

- Banking/financial system and economy
- Transportation system (airlines, subways, buses, roads)
- Communications system (telephones, cell phones, Internet)
- Quarantine or isolation

Module 2: Making a Plan *(Recommended time 1 hour)*

While it may not seem like a concern of the department, the preparedness of every family is crucial in maintaining a working emergency response system. It is important that first responders have a plan for their families so that, with the peace of mind that their own families are prepared, they can do their job in the event of pandemic flu or any major emergency that may occur.

Summary
This lesson is focused on creating a family plan in case of a major emergency.

Learning objectives
- Decide what work/family issues need to be addressed in an emergency.
- Develop alternative plans for family during a major emergency.

Materials needed for each student
- Pen or pencil
- Handout "Emergency Plan for First Responder Families" worksheet

Facilitator Instructions

1. Guided Discussion *(5 minutes)* Introduce activity and refresh major points. What are major effects of a pandemic influenza on:
   - Home? (Caring for sick family member, unavailability of doctor or pediatrician)
   - Work? (Limited PPE, one third workforce is sick, increased calls)
   - Community? (Limited food and water, businesses and schools closed)

   Let's consider those factors when thinking about a family's situation.

2. Scenario *(20 minutes)*

   Read the scenario below aloud (or have a student read) about a family under a major emergency. Ask students: What are some factors that the family must consider in this emergency?

   The Martins family lives in Kansas. The mother is a nurse and the father is a fire fighter. They have two children ages 6 and 12. The 6-year old has asthma. They just moved to Kansas two weeks ago, leaving behind relatives in another state. They also have a dog.

   A serious flu pandemic outbreak has hit their town. There are so many sick people the schools have closed. The mother has been called to work at the hospital and the father is being required to stay on shift. On a normal day, the kids are in school. The family does not have any supplies on hand or an emergency plan.

Module 2: Making a Plan continued…

Lead a discussion with the following questions:

- What are some of the challenges this family needs to take care of?
- What could they have done before hand?
- What might an emergency plan for this family look like?

Ask other discussion questions:

- What will they do if their cell phones don't work?
- What will this family do if the subway, bus system or roads are closed?
- Will they have enough food and water?
- What will they do if their children's pediatrician is not available?
- What will they do if they get sick?

3. Group Activity *(25 minutes)*
   Have students develop a plan for their families based on predicted factors. Hand out worksheet "Emergency Plan for First Responder Families" for participants to fill out during the activity. (You may also hand out optional readiness plans available at www.ready.gov). Divide students into groups of two or three. Ask students to develop a backup plan based on childcare, transportation, communication and health and welfare.

   Groups should discuss the issues they might face with their own families and assist others with solutions to challenges they might face. They should brainstorm potential problems and solutions on scrap paper. They should help each other complete the worksheet, which includes coming up with alternative plans.

   Write the bulleted list below on an easel pad or chalkboard to remind students of the factors behind an emergency family plan:
   - Child care
   - Transportation
   - Communication
   - Health and welfare

   Encourage students to fill out the form to the best of their ability and acknowledge they will have to consult their spouse to get more information, and finish it later if time is limited.

4. Debrief *(10 minutes)*. After students have completed the form, ask the following evaluation questions:
   - What are some of the challenges they encountered while making their plans?
   - What information were they unable to complete?
   - What plan do they feel most sure about?
   - What will they do to practice this plan?
   - How will they share it with their families?
   - Where will they keep the form?
   - Who else outside their immediate families need to know about their plans?
   - What else might they add to the form?

Module 3: Protecting Myself *(Recommended time 25 minutes)*

Summary
This lesson is focused on the proper use of personal protective equipment (PPE) while responding to potential flu patients.

Learning objectives
After completing this lesson, students will be better able to:
- Explain four key pieces of equipment for protection
- Assess appropriate time to put on PPE
- Summarize proper disposal and decontamination procedures
- Identify further steps in personal protection, such as restocking equipment

Materials needed for each student
- Sleeves
- Gloves
- Eye protection
- Face mask

Adaptation
Students can work in pairs if equipment is limited. Encourage discussion between pairs as to when to use equipment.

Facilitator Instructions

1. Introduce the activity: This activity is a refresher for first responders to identify the correct PPE and how to use it effectively. We will focus on the proper timing of use of PPE. The flu is transferred through bodily liquids through the eyes, nose and mouth. These areas are most vulnerable to infection and you need to protect them.

2. Read the scenario (on page A-11) slowly aloud. Students should don what they consider the appropriate PPE at the point in the scenario they consider appropriate. Note when they donned the PPE. After the scenario has been read, discuss the appropriate PPE and the correct time to don it.

3. Remind students of key facts while they put on equipment:
   - Not every first responder on the scene needs to risk infection by handling the patient
   - Universal precautions
   - Decontamination procedures

   Note the appropriate PPE is listed after the scenario and the correct timing is indicated by three asterisks (***).

Module 3: Protecting Myself continued…

Scenario

Your unit has been dispatched to an unknown sickness at a local bus stop. Although there have not been any cases of pandemic flu or avian flu reported in your town, you have heard on the news that there are cases overseas. You arrive to find a family of three with flu-like symptoms:

- Fever
- Headache
- Cough
- Exhaustion
- Vomiting

You suspect these patients have influenza based on their presentation. [***] You obtain vital signs and history. You learn that the family has just returned from a vacation in Southeast Asia. You request additional units. You treat the patients and transport them to the nearest hospital.

***It is at this point students put on their PPE for the activity.

- Gloves
- Mask
- Eye protection
- Gown/sleeve protection

4. Debrief
   - When did you put on your gear?
   - When was the correct time?
   - What were the clues you heard to put on your PPE?
   - Why is each piece of equipment necessary? (Hold up equipment and ask for each one).
   - What is the next step in this scenario? (Sample responses: filing a report, calling the health department immediately)

Materials Checklist

Module 1: In My Fire House

- ☐ White board, chalk board, easel w/ pad or white paper taped to wall
- ☐ Markers, if using paper

Module 2: Making a Plan

- ☐ Pen or pencil
- ☐ Emergency Plan for First Responder Families Worksheet

Module 3: Protecting Myself

For each participant or pair:

- ☐ Sleeves
- ☐ Gloves
- ☐ Eye protection
- ☐ Face mask

Additional Resources

IAFF Pandemic Flu Home Page
www.iaff.org/pandemicflu

IAFF Online Education Program on the Pandemic Flu
http://www.iaff.org/academy/online/modules/avian/01.htm

United States Official U.S. Government website on pandemic and avian influenzas
www.pandemicflu.gov

United States Government Emergency Preparedness
www.ready.gov

International Association of Fire Fighters
Department of Education
1750 New York Ave. NW
Washington, DC 20006
(202) 824-1550

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Appendix B

Emergency Plan for First Responder Families Worksheet

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Emergency Plan for First Responder Families Worksheet

Be sure your family has a plan in case of a major emergency. Make sure each family member knows about the plan. Check out www.ready.gov and www.pandemicflu.gov for more planning checklists and information. This worksheet is divided into four sections:

- Safety, Health and Home
- Communication
- Transportation
- Child and Animal Care

Safety, Health and Home

Supplies

- Water, one gallon of water per person per day for at least three days (for drinking and sanitation)
- Food, at least a three-day supply of non-perishable food
- Battery-powered or hand crank radio
- Flashlight and extra batteries
- First aid kit
- Whistle to signal for help
- Moist towelettes, garbage bags and plastic ties for personal sanitation
- Wrench or pliers to turn off utilities
- Can opener for food (if kit contains canned food)
- Local maps

Respiratory Protection

Have appropriate face masks on hand for your family in case you have to travel or care for someone who is sick. Appropriate face masks should be made of dense-weave cotton material that snugly covers the nose and mouth and be specifically fit for each member of the family.

Isolation/Quarantine

In the event of a community-wide quarantine, you will be ordered to stay at home to avoid becoming sick. Be sure to have supplies on hand for everyone, including your pets, for several weeks.

Note any other safety and health concerns that your family needs to know:

_____

_____

Communication

Family Member Name	Cell/Pager #	Work/School #	Home #
Family Physician Dr.			
Pediatrician Dr.			

Emergency Meeting Places

It's important to have locations where you know your family can meet in case of a fire, flood or other emergency. Work with your family to decide on local and regional locations.

	Address	Phone Number	Key contact person	Other information
Neighborhood				
Regional				
Evacuation Location				
Out of Town Relative				

Transportation

List your current routes and methods to get to and from work and school. List a Plan B on the right side in case your first route/method of transportation is unavailable. Be sure to note alternative routes and drivers (neighbor, cab) if applicable. Have a map on hand for evacuation or if you have to walk.

Usual Routes/Methods	Phone Number

Child and Animal Care

Describe your current plan for child care and a Plan B.

Current Plan	Plan B

Describe your current plan for taking care of the pets and a Plan B for them.

Current Plan	Plan B

Child and Animal Care Checklist

- Have supplies, water and medication on hand for your children.
- Have supplies, water and medication on hand for your pets.
- Discuss a plan for children staying at home for extended periods of time, as school closings may occur along with restrictions on public gatherings.
- Plan entertainment, educational activities and recreation for your children to do at home. Have materials, such as reading books, coloring books and games on hand for your children to use.

Medications

List any prescriptions or required medication for children and pets.

Child or Pet Name	Medication

Appendix C
Additional Resources

Centers for Disease Control (CDC) http://www.cdc.gov/flu/weekly/fluactivity.htm

IAFF

- Influenza Pandemic Informational Bulletin, http://www.iaff.org/avianflu/plan/
- Pandemic Influenza Online Module, http://www.iaff.org/academy/online/modules/avian/01.htm
- Policy and Operational Recommendations, http://www.iaff.org/avianflu/policy/
- Preparation Checklist, http://www.iaff.org/avianflu/checklist/

Occupational Safety and Health Administration (OSHA), information on respiratory protection, http://www.osha.gov/SLTC/etools/respiratory/oshafiles/fittesting1.html

National Clearinghouse for Worker Safety & Health Training, http://www.wetp.org/wetp/index.cfm

National Fire Prevention Association, http://www.nfpa.org

- NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs
- NFPA 1500 Standard on FD Occupational Safety and Health Program
- NFPA 1521 Standard for Fire Department Safety Officer
- NFPA 1561 Standard on Emergency Services Incident Management System
- NFPA 1581 Fire Department Infection Control Program
- NFPA 1999 Standard on Protective Clothing for Emergency Medical Operations

Planning Checklists:

- State and Local Planning Checklist http://www.pandemicflu.gov/plan/statelocalchecklist.html
- Business Planning Checklist http://www.pandemicflu.gov/plan/business/index.html

Public Health Agency of Canada, http://phac-aspc.gc.ca/influenza/pandemic_e.html

United States Official U.S. Government web site on pandemic and avian influenzas, www.pandemicflu.gov

World Health Organization (WHO), http://www.who.int/csr/disease/avian_influenza/updates/en/index.html

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Avian & Pandemic Influenza

International Association of Fire Fighters

IAFF Always on the Frontline

Harold A. Schaitberger
General President

Vincent J. Bollon
General Secretary-Treasurer

Objectives, p. 3

- After this unit, you will be able to:
  - Identify the differences between seasonal, epidemic, and pandemic infections.
  - Describe the symptoms of avian flu, how it is spread, the potential for an avian flu pandemic, and the effects of a pandemic.
  - Describe how you can help your department prepare for a pandemic.
  - Describe the role of the safety/infection control and prevention officer before and after a pandemic.
  - Explain how to protect yourself and patients.
  - Explain proper decontamination procedures.
  - Explain the importance of seasonal flu vaccination.

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Exercise Objectives, p. 5

- Share general information on avian influenza.
- Identify the differences between seasonal, epidemic, and pandemic infections.
- Describe the symptoms of avian flu, how it is spread, and the potential for an avian flu pandemic.

3

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Avian & Pandemic Influenza Overview

- Avian flu is:
  - Spread from birds to humans
  - Spread from bird to bird through migration
  - Currently, spread only from birds to humans, not human to human
- Avian flu could become a pandemic.
- There is no immunity to avian flu.
- The FDA approved a vaccine in 2007.
- It will take time to test and distribute the vaccine.
- For more information, explore:
  - Pandemic Flu Resources for First Responders http://www.iaff.org/pandemicflu/
  - PandemicFlu.gov http://www.pandemicflu.gov/index.html.

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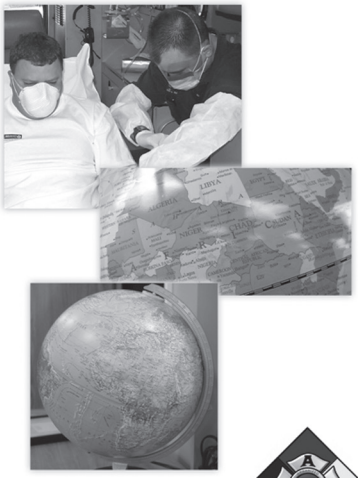
Seasonal Flu, Epidemics, and Pandemics

- Seasonal flu
  - Respiratory illness
  - Transmitted person-to-person
  - Vaccine is available
- Epidemic
  - An illness contained in a specific geographic area (e.g., Asia, the United States, Europe)
- Pandemic
  - A global disease outbreak



5

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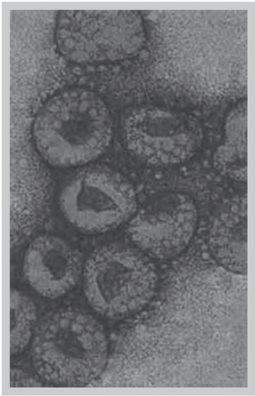
Why Does Avian Flu Have the Potential to Become a Pandemic?

- It's being spread by migratory birds.
- It can be transmitted from birds to mammals (including humans).
- There is no human immunity.
- It's resistant to antiviral medications commonly used.
- The virus continues to mutate.



6

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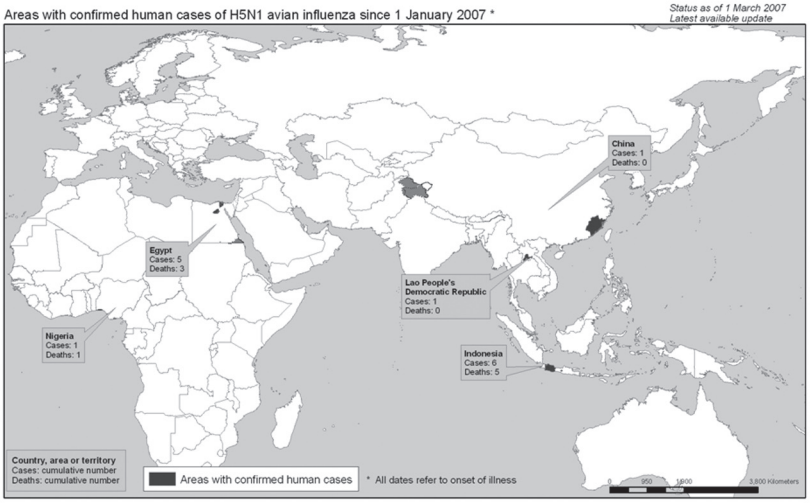
How Is Avian Flu Spreading?

Areas with confirmed human cases of H5N1 avian influenza since 1 January 2007 *

Status as of 1 March 2007
Latest available update



World Health Organization

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: WHO / Map Production: Public Health Mapping and GIS Communicable Diseases (CDS) World Health Organization

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Number of Deaths

Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO

6 February 2007

Country	2003		2004		2005		2006		2007		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	0	0	8	5
Cambodia	0	0	0	0	4	4	2	2	0	0	6	6
China	1	1	0	0	8	5	13	8	0	0	22	14
Djibouti	0	0	0	0	0	0	1	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	2	2	20	12
Indonesia	0	0	0	0	19	12	56	46	6	5	81	63
Iraq	0	0	0	0	0	0	3	2	0	0	3	2
Nigeria	0	0	0	0	0	0	0	0	1	1	1	1
Thailand	0	0	17	12	5	2	3	3	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	0	0	93	42
Total	4	4	46	32	97	42	116	80	9	8	272	166

Total number of cases includes number of deaths.
WHO reports only laboratory-confirmed cases.
All dates refer to onset of illness.

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Symptoms of Avian Flu

- Persistent fever
- Chills
- Productive or dry cough
- Shortness of breath
- Fatigue
- Muscle aches
- Low white blood count (lymphophemia)
- Progression to pneumonia or Acute Respiratory Distress Syndrome (ARDS) within five to seven days

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Exercise Objective, p. 15 & 17

- Predict the effects of a pandemic flu on the:
  - Fire Station
  - Department
  - Family
  - Town/city
  - Nation

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IAFF Influenza Pandemic Checklist, p. 19

IAFF Influenza Pandemic Checklist

Done	In Progress	Not Started	I. Planning Logistics
			Establish an Incident Management System that meets NFPA 1561, *Standard on Emergency Services Incident Management System*, including written Standard Operating Procedures (SOP) and Mitigation Plan.
			Identify and define roles and responsibilities of Incident Commander who will coordinate the emergency response and the response teams (NFPA 1500, chapter 8.1).
			Inter-Agency Cooperation: Establish relationships with community public health department and other emergency management groups. Define functional roles and responsibilities of internal and external agencies, organizations, departments, and individuals, and establish lines of authority.

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Exercise Objective, p. 25

Describe the role of the safety/infection control and prevention officer both before a pandemic and after an incident.

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The Role of the Safety/Infection Control and Prevention Officer

- Before a pandemic, ensure:
  - The fire station is a safe work environment.
  - There are adequate supplies and equipment.
  - Personal protective equipment (PPE) fits.
  - Fire fighters use proper equipment at the proper times.

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The Role of the Safety/Infection Control and Prevention Officer

- After an incident, ensure:
  - Health incidents are reported to health center.
  - Fire fighters follow incident-related decontamination guidelines.
  - Administrative and PPE controls are followed.

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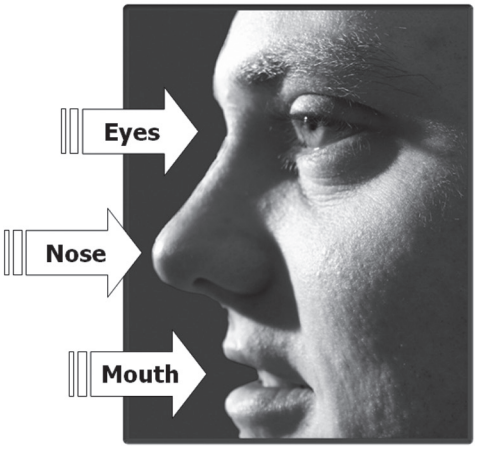
Exercise Objective, p. 27

Describe how to keep the most vulnerable areas safe from avian flu.



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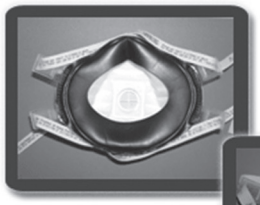
Respiratory Protection

Surgical Mask

N95



P100

Recommended by IAFF

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Fit-Testing for Disposable Masks

Step 1
Don hood while agent is sprayed for you to taste and smell.

Step 2
Don mask. Agent is sprayed. Do you taste or smell it?

Step 3
If you taste or smell agent, test another mask size (or type).

Step 4
Carry results card.

RESPIRATOR FIT-TEST INFORMATION
(NAME) (STA/SHIFT)
SCBA:
BRAND MODEL SIZE DATE
TB:
BRAND MODEL SIZE DATE
COMMENTS ON BACK

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Hand Care

- Wash hands properly.
- Wear disposable medical gloves.
- Keep waterless hand cleaner in your EMS bag.
- Discard gloves – do not wash or reuse gloves.

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Eye Care

- Don protective eyewear.
- Do not rub eyes.

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Exercise Objective, p. 33

Identify precautions to take when caring for and transporting patients with the flu.

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Precautions for Patient Care

- Request patients cover their mouths when coughing or sneezing.
- Apply disposable surgical masks or disposable respirators.
- Use bag-valve-masks.
  - *Never use direct mouth-to-mouth or mouth-to-mask resuscitation.*

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Precautions for Patient Transport

- Do not allow air to re-circulate within the transport vehicle.
- Do not remove respirators to eat or drink.
- Have patients wear surgical masks, if tolerated.
- Use simple and non-rebreather face mask for oxygen support.

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Exercise Objective, p. 35

Describe how to decontaminate equipment that may have been contaminated with avian flu.

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Exercise Objective, p. 37

Explain why it is important to get a vaccine for seasonal flu.

24

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Avian and Pandemic Influenza

- In this unit, you learned:
  - Basic facts about avian and pandemic influenza
  - How a pandemic could affect the fire house, the department, your family, the wider community and the nation
  - How to prepare the department for a pandemic
  - How to keep yourself safe
  - How to care for and transport patients who may be infected with avian or pandemic flu
  - How to decontaminate equipment
  - Why vaccinations are important

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Appendices, p. A-41

- Appendix A – Facilitators Guide to Preparing for a Pandemic Flu: What First Responders Need to Know
- Appendix B – Emergency Plan for First Responder Families Worksheet
- Appendix C – Additional Resources
  - IAFF Influenza Web Sites
  - PandemicFlu.gov
  - Center for Disease Control (CDC) Web Site
  - National Clearinghouse for Worker Safety & Health Training

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Exercise Objective, p. 39

Plan actions you will take to change your behavior based on the topics covered in this unit.

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