

# International Association of Fire Fighters



## Avian & Pandemic Influenza *Instructor Guide*

Always on the Front Line

Harold A. Schaitberger  
General President

Vincent J. Bollon  
General Secretary-Treasurer





# HazMat / WMD Training Department

## *Avian & Pandemic Influenza*

### Instructor Guide



Developed by

**International Association of Fire Fighters®**

Harold A. Schaitberger  
General President

Vincent J. Bollon  
General Secretary-Treasurer

Funded By

**National Institute of Environmental Health Sciences**

Copyright© August 2007  
International Association of Fire Fighters  
1750 New York Avenue, NW  
Washington, DC 20006



## **Disclaimer**

Disclaimer and Notice of Copyright © 2007

This program was developed by the International Association of Fire Fighters (IAFF). Its publication was made possible by grant number 3 U45 ES006167-15S1 from the National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH). The contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIEHS, NIH.

Every effort has been made to ensure the information contained in these materials is accurate and reflects the latest scientific knowledge on its subject matter. However, proper training for, and understanding of, any emergency response situation is the responsibility of the responding agency or organization, and not of the IAFF. Furthermore, the IAFF and/or its agents cannot warrant the material presented in this program complies with requirements found in local policies or procedures.

To assist departments in building a self-sufficient training program, the IAFF provides train-the-trainer programs for all curricula. Students who successfully complete a train-the-trainer program are authorized to make use of these IAFF training materials to train others, in accordance with local, state, or provincial laws, regulations, or policies for training programs.

These materials are copyrighted and may not be sold. Reproduction of these materials in the course of conducting any for-profit training program is prohibited. Exact and complete copies of the materials may be reproduced solely for the purpose of assisting departments in building a self-sufficient, non-profit training program. Permission to duplicate these materials for any purpose may be revoked by the IAFF at any time for failure to comply with these terms.

Delivery of this program is free of charge by the IAFF, as federal funding permits. For information in obtaining delivery of this program by the IAFF, please contact the Hazardous Materials / Weapons of Mass Destruction Training Department at [hazmat@iaff.org](mailto:hazmat@iaff.org) or 202-737-8484.



## **Introduction**

The Avian & Pandemic Influenza unit is part of the IAFF's training for Infectious Diseases which includes the five units listed below:

- Unit 1: Staying Well
- Unit 2: Pathogens
- Unit 3: Prevention
- Unit 4: Post-Exposure
- Unit 5: Avian & Pandemic Influenza (may be used as an independent)

To obtain the complete Infectious Diseases course, please contact the Hazardous Materials / Weapons of Mass Destruction Training Department at [hazmat@iaff.org](mailto:hazmat@iaff.org) or 202-737-8484.

## **The Students' Roles**

The Avian & Pandemic Influenza unit is designed for students to be active learners, rather than passive recipients of information. Interactive exercises encourage students to share knowledge about exposures to infectious diseases, which adds meaningful context to the instruction.

## **The Instructors' Roles**

The Avian & Pandemic Influenza unit may be facilitated by one instructor or shift/crew leader with knowledge of the department's infectious disease control programs and training skills.

## **Using the Instructor Guide**

When printed double-sided, the Instructor Guide pages are on the left side and the Student Manual pages are on the right. The Instructor Guide pages include exercises, questions to ask, and key discussion points.

Relevant references and supplemental materials are included in the Appendices in both the Instructor Guide and the Student Manual.



## **Tips for Effective Facilitation**

The Avian & Pandemic Influenza unit is designed for one and one-half hours of interactive learning. A class size of either 5 – 15 students with one facilitator or 20 – 25 students with two instructors is recommended.

The Patient Care & Transport exercise is designed as a team exercise. If the class includes 15 – 25 students, divide the class into four teams at the beginning of the Patient Care & Transport exercise and then follow the tips below.

- As soon as one team completes the team exercise, bring the class back together to begin the report-backs. Avoid allowing the students to begin chatting among themselves.
- When one team is reporting back from an exercise, keep the students in the other teams involved. Ask for comments and questions from the other teams. Compare and contrast one team's answers with those from the other teams.
- When students respond or ask questions, you should repeat their comments loudly enough that all students can stay involved in the discussion.

## **Before You Begin**

Prepare the learning environment well before training begins. To ensure the learning experience progresses smoothly:

- Review any correspondence with the department (e.g., contract letters, pre-training surveys), if applicable.
- ***Obtain the department's Exposure Control Plan, Exposure Report Form, applicable SOG/SOP, etc. to use as reference items throughout the module.***
- Ensure the assigned training space will comfortably accommodate all participants. Much of the work in the course takes place while the students are in small groups. It is therefore necessary that there be adequate room to organize the students into small teams. (Four teams are recommended for the complete Infectious Diseases course). You may have to move chairs and/or other furniture to ensure that these teams can meet.
- Ensure an adequate number of Student Manuals are available. Shortly before the training event, distribute one to each participant's seat.



***Avian & Pandemic Influenza***

---

- Obtain equipment and materials needed:
  - Computer
  - PowerPoint presentations (download from <http://www.iaff.org/et/hw/programs.html> or [www.iaff.org/pandemicflu](http://www.iaff.org/pandemicflu))
  - Projection unit and screen (or white wall)
  - Sufficient easel pad paper for teams to complete exercises
  - Dark colored markers (4+)
  - Masking tape
- Set up and test the equipment.
- Thoroughly review the material in the Instructor Guide and Student Manual. You may want to conduct a dry run in advance of training to estimate your time.
- Review the following web sites:
  - U.S. Government web site on Pandemic and Avian Influenza, [www.pandemicflu.gov](http://www.pandemicflu.gov)
  - IAFF, Pandemic Flu Resources for First Responders, <http://www.iaff.org/pandemicflu>



Page left blank intentionally. Use for Notes



## **Avian & Pandemic Influenza**





## Estimated Times

Activities	Time (minutes)	Page
Avian & Pandemic Influenza Overview	10	5-4
In the Fire House	15	5-14
Is Your Department Ready?	10	5-18
The Role of the Safety/Infection Control & Prevention Officer	5	5-24
Staying Safe – Respiratory, Hand, & Eye Protection	10	5-26
Patient Care & Transport	15	5-32
Equipment & Vaccinations	5	5-34
What's Your Plan of Action?	5	5-38
Total Estimated Time	1 hour, 15 minutes	

(Slide 5-1)<sup>1</sup> Display the opening Slide 5-1 while waiting to begin class.

## Objectives

(Slide 5-2) Review the objectives.

Note this unit includes one of the exercises developed by the IAFF Education Department for a shift-based training program—Module 1: In My Fire House. The Facilitators Guide to **Preparing for a Pandemic Flu: What First Responders Need to Know** (see Appendix A) includes two additional exercises that can be used to supplement this course:

- Module 2: Making a Plan (1 hour) – Create a personal family plan for a major response
- Module 3: Protecting Myself (30 minutes) – Identify the proper personal protective equipment (PPE) and when to don it

If you do not use the additional exercises, refer students to the Facilitators Guide in Appendix A. The Facilitators Guide to **Preparing for a Pandemic Flu: What First Responders Need to Know** is also available on the Internet at:

- <http://www.iaff.org/academy/content/pandemicflu/index.htm>

<sup>1</sup> Slides for Unit 5 are shown on pages 5-61 through 5-74.



## **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.



## **Avian & Pandemic Influenza Overview** (10 Minutes)

This overview includes the following sections:

- General Information (below)
- Seasonal Flu, Epidemics and Pandemics (on page 5-8)
- Why Does Avian Flu Have the Potential to Become a Pandemic? (on page 5-10)
- How Is Avian Flu Spreading? (on page 5-12)
- What Are the Symptoms of Avian Flu? (on page 5-12)

### **Objectives**

Students will:

- 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.

### **General Information**

(Slide 5-3) Read the objective for the activity. Ask students what they already know about avian flu.

(Slide 5-4) Possible responses and background information is listed below. After students provide their responses, click on the Slide 5-4 to bring up/review the most important information.

- Health professionals are concerned that the continued spread of a highly pathogenic avian H5N1 virus across eastern Asia and other countries represents a significant threat to human health.
- The H5N1 virus has raised concerns about a potential human pandemic because:
  - Avian flu is spread from birds to humans.
  - Avian flu is spread from bird-to-bird through migration.
  - Currently, only bird-to-human transmission has been reported, not human-to-human.
  - If human-to-human transmission occurs, this strain of avian flu could become a pandemic outbreak.

*Continue on page 5-6.*



***Avian & Pandemic Influenza***

**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.*



*Avian & Pandemic Influenza Overview, General Information (Continued)*

- There is currently no immunity to avian flu
- The U.S. Food and Drug Administration (FDA) approved the first vaccine in 2007. It will take time to test and distribute the vaccine.
- Like other influenza viruses, it continues to evolve.
- Encourage students to explore the following for more information:
  - IAFF Online Module <http://www.iaff.org/academy/online/modules/avian/01.htm>
  - PandemicFlu.gov <http://www.pandemicflu.gov/index.html>



***Avian & Pandemic Influenza***

---

*Avian & Pandemic Influenza Overview, General Information (Continued)*

3. Are humans immune to avian flu?

---

---

---

---

---

---

---

---

4. Is there a vaccine for avian flu?

---

---

---

---

---

---

---

---

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>



## **Seasonal Flu, Epidemics & Pandemics**

(Slide 5-5) Click on the Slide 5-5 to bring up each term, and then its description and an image.

Ask students:

What is a **seasonal flu**?

- Respiratory illness
- Transmitted person to person
- Vaccine is available

What is an **epidemic**?

- An illness contained in a specific geographic area

What is a **pandemic**?

- A pandemic is a global disease outbreak.
  - A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity and for which there is no vaccine.
  - The disease spreads easily person-to-person, causes serious illness and can sweep across the country and around the world in very short time.



## 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.



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

*(Slide 5-6)* Lead the class in a discussion on why avian flu has the potential to become a pandemic. After students provide their responses, click on the Slide 5-6 to bring up/review the most important reasons.

- 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 two antiviral medications that are commonly used for influenza (amantadine and rimantadine).
- The virus continues to mutate.



***Avian & Pandemic Influenza***

**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.*

---

---

---

---

---





### **How is Avian Flu Spreading?**

*(Slide 5-7)* There are transitions on Slide 5-7. Slide 5-7 begins with a map of the world with the confirmed cases since 2003. Click to show the confirmed cases for 2006. Click again to show the confirmed cases since January 2007.

*(Slide 5-8)* Show the chart of numbers of cases and deaths reported to the World Health Organization (WHO) between 2003 and 2007.

### **What Are the Symptoms of Avian Flu?**

*(Slide 5-9)* Ask students to list the symptoms of avian flu. After students provide their responses, click on the Slide 5-9 to bring up/review the correct symptoms:

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



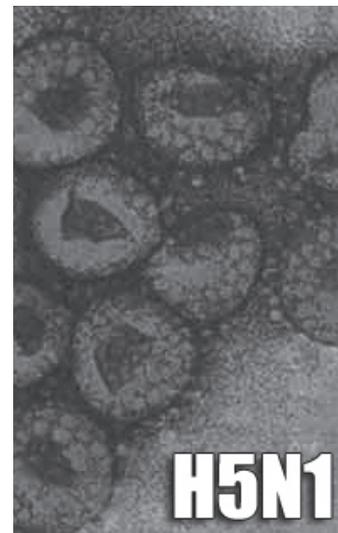
***Avian & Pandemic Influenza***

**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.*

---

---

---

---

---

---

---

---

---

---



## **In My Fire House<sup>2</sup>** (15 minutes)

(Slide 5-10) Read the objective for the activity.

Draw a fire house in the center of a white board or easel pad. Around it, draw a fire fighter, a family, a fire department, and a group of buildings to represent a town/city. Ask participants to predict the effects of a pandemic on each of these. Write answers near or under the drawing, or have students go up to the board and write responses.

### **Objective**

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

**Fire Station** – Ask what would happen to their fire station if a pandemic outbreak were to happen. Suggested responses:

- More calls because people are sick
- Experts predict one third of the workforce would be out sick
- Continuous restocking of equipment
- Potential for limited supplies
- Death of a coworker
- Quarantine or isolation

**Department** – Ask what would happen to their department if a pandemic outbreak were to happen. Suggested responses:

- Staffing issues – people out sick or quarantined, mandatory staffing, reduced/altered staffing, overtime, etc.
- Administrative duties such as budgeting, payroll
- Call volume affects dispatch
- Equipment stocking or shortages of protective gear
- Need for Critical Incident Stress Management (CISM) and Family Assistance Support Teams

2 Note this exercise was taken from the IAFF Education Department's **Facilitators Guide to Preparing for a Pandemic Flu: What First Responders Need to Know** (see Unit 5 – Appendix, Module 1: In My Fire House).



**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?

---

---

---

---



**Family** – Ask what would happen to their families if a pandemic outbreak were to happen. Suggested responses:

- Family members sick
- Shift changes
- Schools closed, children at home
- Child care unavailable
- Deaths in family
- Quarantine or isolation

**Town/City** – Ask what would happen to the wider community if a pandemic outbreak were to happen. Suggested responses:

- Grocery or other stores understaffed and with limited supplies
- Banks close
- Transportation system issues
- Lack of available medical care
- Lack of care for people with special needs
- Quarantine or isolation

**Nation** – ask students to name any other areas that might be affected across the nation if a pandemic outbreak were to happen. Write these answers around the outside of the others. Suggested responses:

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



## International Association of Fire Fighters

### Avian & Pandemic Influenza



*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?

---

---



## **Is Your Department Ready? (10 Minutes)**

Ask the students if they think their department is ready for a pandemic.

If available, review the department's plan for avian flu/pandemic flu response. Look at the department's planning checklist and/or SOPs for flu or outbreak response.

Ask the students if someone in their department has met with their health department, local hospital, other agencies (e.g., risk management, police and other applicable agencies) about a potential pandemic.

If not, discuss how a department should set up a meeting in order to plan for a pandemic.

- Meetings should include the health department, a risk management agency, and hospitals.
- During meetings, participants should discuss the challenges that will be encountered if a pandemic hits.

Ask students what factors their department will need to consider when planning for a pandemic:

- Logistics
- Infection control
- Inventory
- Staff impact
- Resource allocation

*(Slide 5-11)* Click on the IAFF Influenza Pandemic Checklist on the Slide 5-11 to open the Adobe Acrobat ® file. (To open the file, you must have Adobe Acrobat Reader ® 5.0+ installed on the computer. It's available at:

- <http://www.adobe.com/products/acrobat/readstep2.html>

Discuss the items on the IAFF Influenza Pandemic Checklist on pages 5-19, 5-21, and 5-23. If time permits, ask students to determine if their department has done, is doing, or has started working on each item in the checklist. If time does not permit, suggest students make the determination after the class.

### **Objective**

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



**Is Your Department Ready?**

<b>IAFF Influenza Pandemic Checklist</b>			
<b>Done</b>	<b>In Progress</b>	<b>Not Started</b>	<b>I. Planning Logistics</b>
			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.



Page left blank intentionally. Use for notes.



<b>Done</b>	<b>In Progress</b>	<b>Not Started</b>	<b>II. Infection Control</b>
			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.
<b>Done</b>	<b>In Progress</b>	<b>Not Started</b>	<b>III. Inventory Checklist</b>
			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.



Page left blank intentionally. Use for notes.



<b>Done</b>	<b>In Progress</b>	<b>Not Started</b>	<b>IV. Impact on Staff</b>
			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.
<b>Done</b>	<b>In Progress</b>	<b>Not Started</b>	<b>V. Resource Allocation</b>
			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.



## **The Role of the Safety/Infection Control & Prevention Officer**

*(5 Minutes)*

*(Slide 5-12)* Read the objective for the activity.

*(Slide 5-13)* Discuss the role of the safety/infection control and prevention officer before a pandemic. After students provide their responses, click on the Slide 5-13 to bring up/review the correct responses.

### **Objective**

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

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

*(Slide 5-14)* Discuss the role of the safety/infection control and prevention officer after an incident. After students provide their responses, click on the Slide 5-14 to bring up/review the correct responses.

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



## **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.





## **Staying Safe (10 Minutes)** **Respiratory Protection**

(Slide 5-15) Read the objective for the activity.

(Slide 5-16) Show examples of three types of masks—surgical mask, N-95, and P-100. Ask which mask they would wear to help prevent contracting avian flu virus. Then discuss the key points below.

### **Objective**

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

- A **surgical mask** will not protect you.
  - Surgical masks are intended to protect a patient from the health care provider.
  - They are not NIOSH-approved for worker protection.
  - There is no effective seal with this mask and the flu virus will be easily breathed in.
- The CDC recommends, as a minimum, the **N-95**, which filters 95% of particles.
  - The N-95 disposable mask is only effective if you have been fit-tested to determine size.
  - If you were exposed to the flu virus and your mask does not fit, you may take that virus back to your entire shift.
- The IAFF recommends, as a minimum, the **P-100** with an exhalation valve.
  - The P-100 filters 99.9% of particles and is oil proof.
  - The mask is effective only if it fits correctly.
  - You will need to be fit-tested.

Explain that if the patient requires oxygen therapy, responders should use a non-rebreather on the patient. If the patient does not require oxygen, they can put a surgical mask or some other type of barrier on the patient to minimize exposure to droplets from the patient.

Explain that another precaution that can be taken is to reduce the number of personnel in the immediate area around the patient. Basically, only the personnel required for treatment should remain near the patient; all others should move to other rooms/locations.



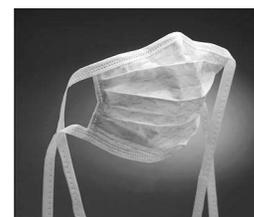
## Staying Safe

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

---

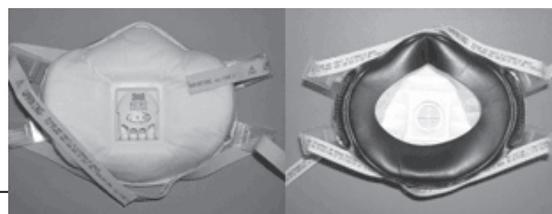
---



### P-100

---

---





Fit-testing for Disposable Masks

*(Slide 5-17)* Walk through the steps of fit-testing for disposable masks.



## **Avian & Pandemic Influenza**

### 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,<sup>1</sup> 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				

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



## **Hand Care**

*(Slide 5-18)* Discuss the key points related to hand and eye care.

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

## **Eye Care**

*(Slide 5-19)* Discuss the key points related to hand and eye care.

- Don protective (i.e., splash-resisant) eyewear.
- Do not rub eyes.

## ***Avian & Pandemic Influenza***

### **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.





## **Patient Care & Transport** (15 Minutes)

(Slide 5-20) Read the objective for the activity.

Ask students to work (in their teams) on the case study on page 5-33 for approximately five minutes.

### **Objective**

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

### **Report-Backs to Class**

Suggested responses are listed below.

(Slide 5-21) In situations where a patient has a high fever and any respiratory signs, the following precautions should be taken:

- Advise each patient with a suspected infection to cover his/her mouth when coughing or sneezing.
- Apply a disposable surgical mask or a disposable respirator to all suspected cases not requiring oxygen therapy.
- When a patient requires rescue breathing, use a bag-valve-mask. Never use direct mouth-to-mouth or mouth-to-mask resuscitation.

(Slide 5-22) When transporting the patient, work to reduce your risk of contracting the flu by following the recommendations below:

- Do not allow air to re-circulate within the transport vehicle – in particular DO NOT use the re-circulation control on the vehicle's heating/air conditioning system.
- Do not remove respirators to eat or drink while in the transport vehicle.
- Have the patient wear a surgical mask to reduce droplet production, if tolerated.
- Oxygen delivery with simple and non-rebreather face masks may be used for patient oxygen support during transport.



**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?

---

---

---

---



## **Equipment** (5 Minutes)

(Slide 5-23) Read the objective for the activity.

Discuss the equipment that should be disposed of:

- PPE (respirators, gloves, gowns/sleeves)
- Sharps

### **Objective**

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

Discuss the equipment that should be decontaminated, as necessary, per manufacturers' instructions and department SOPs:

- Ambulance (especially in the patient area)
- Stretchers
- Medical, trauma, airway equipment bags
- Blood pressure cuff
- Splints
- Immobilization straps
- Patient report clipboard
- Portable radio/cell phone

Remind students NOT to use bleach on PPE as it may degrade the equipment. Also remind them emergency medical equipment should be cleaned in a designated disinfecting facility while wearing appropriate PPE (i.e., eyewear, cleaning gloves, and fluid-resistant clothing).

## ***Avian & Pandemic Influenza***

### **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.





## Vaccinations

*(Slide 5-24)* Read the objective for the activity.

Remind students the Centers for Disease Control and Prevention (CDC), NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Department, and the Fire Service Joint Labor Management Wellness-Fitness Initiative recommend all emergency response workers receive annual influenza vaccines.

### **Objective**

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

Let students know the best protection against pandemic influenza is a vaccine. However, it is not likely a vaccine will be available at the outset of a pandemic.

Also let students know research efforts have led to the development of a vaccine for one of the two strains of the H5N1 influenza virus in humans. The U.S. Food and Drug Administration (FDA) approved the first U.S. vaccine for H5N1 in April 2007.



## **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.





## **What's Your Plan of Action?** (5 Minutes)

(Slide 5-25) Review what was covered in Unit 5.

Remind students that many health experts believe that the next outbreak of a pandemic flu is not a question of if, but a question of when. Stress the importance of being prepared.

(Slide 5-26) Refer students to the Appendices for Unit 5 and review the contents.

(Slide 5-27) Read the objective for the activity.

Prompt students to work individually to complete the Action Plan for changing their behavior based on the topics covered in this unit.

## **Review Student Responses with Class**

When most students have completed their action plans, explain that people are more likely to act on their plans when they make them public. Ask one or two of them to share their plans with the rest of the class. Remind students who do not share their plans with the class that they should share their plans with someone as soon as possible to make sure they act on their plans.

### **Objective**

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



***Avian & Pandemic Influenza***

**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. \_\_\_\_\_

\_\_\_\_\_



Page left blank intentionally. Use for notes.



## **Appendices**



Page left blank intentionally. Use for notes.



**Appendix A**

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



Page left blank intentionally. Use for notes.



**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<sup>1</sup>:

- 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 from 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](http://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](http://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](http://www.pandemicflu.gov)

United States Government Emergency Preparedness

[www.ready.gov](http://www.ready.gov)

International Association of Fire Fighters

Department of Education

1750 New York Ave. NW

Washington, DC 20006

(202) 824-1550

This program was made possible by a grant from the National Institute for Environmental Health Sciences with the assistance of the Fire and Rescue Department of Fairfax County, Virginia.

© 2006



**Appendix B**  
Emergency Plan for First Responder Families Worksheet



Page left blank intentionally. Use for notes.



## **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](http://www.ready.gov) and [www.pandemicflu.gov](http://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**

<b>Family Member Name</b>	<b>Cell/Pager #</b>	<b>Work/School #</b>	<b>Home #</b>
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.

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



***Avian & Pandemic Influenza***

**✈ 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.

<b>Usual Routes/Methods</b>	<b>Phone Number</b>



### 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/oshfiles/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](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](http://www.pandemicflu.gov)

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



Page left blank intentionally. Use for notes.



# 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.



IAFF Always on the Frontline

2



## 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

## 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>.



4

## 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

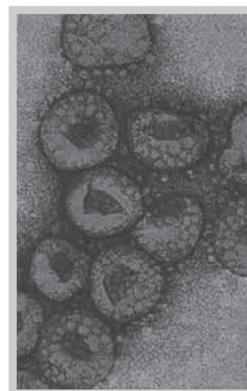


IAFF Always on the Frontline

5

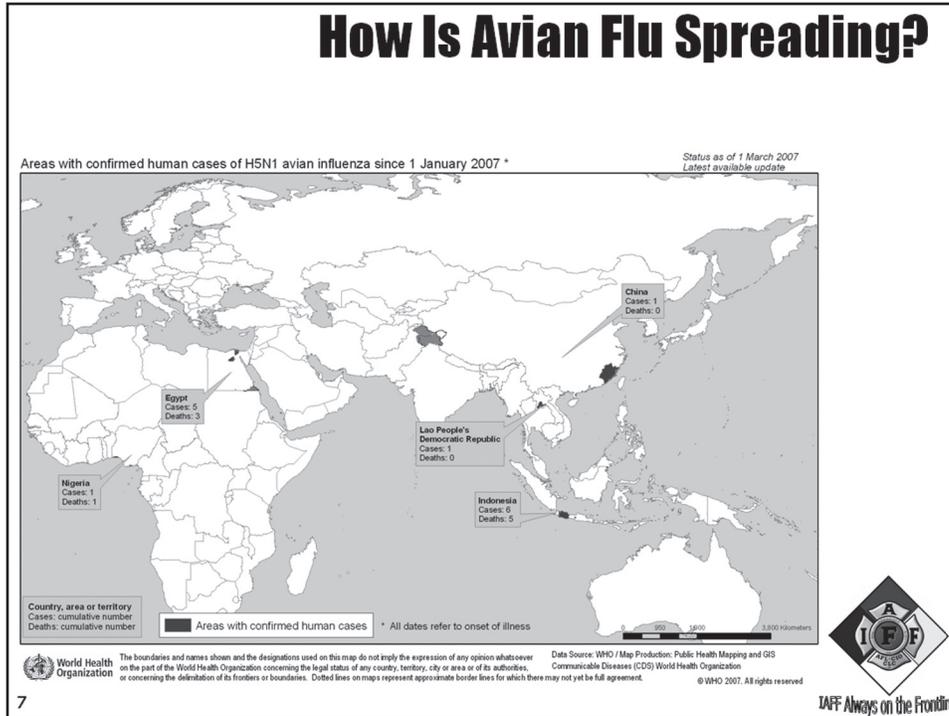
## Why Does Avian Flu Have the Potential to Become a Pandemic?

- 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.



IAFF Always on the Frontline

6



7

## 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
<b>Total</b>	<b>4</b>	<b>4</b>	<b>46</b>	<b>32</b>	<b>97</b>	<b>42</b>	<b>116</b>	<b>80</b>	<b>9</b>	<b>8</b>	<b>272</b>	<b>166</b>

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

**IAFF Always on the Frontline**

8



## **Symptoms of Avian Flu**

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



IAFF Always on the Frontline

9

## **Exercise Objective, p. 15 & 17**

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



IAFF Always on the Frontline

10



# 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, <i>Standard on Emergency Services Incident Management System</i> , 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.

11



# Exercise Objective, p. 25

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



12





## **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.



IAFF Always on the Frontline

13

## **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.



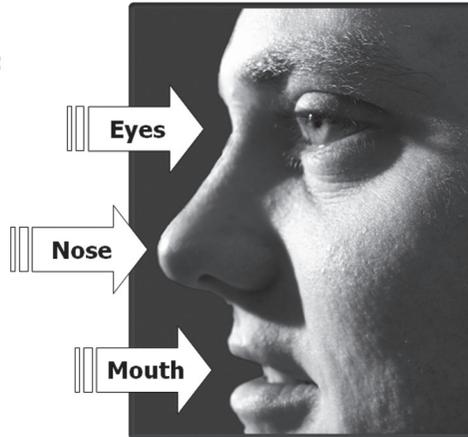
IAFF Always on the Frontline

14



## Exercise Objective, p. 27

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



15



## Respiratory Protection



**Surgical  
Mask**



**P100**

*Recommended  
by IAFF*



**N95**



16



## 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			
(IN)	(OUT)	(IN)	(OUT)
SCBA: BRAND	MODEL	SIZE	DATE
TD: BRAND	MODEL	SIZE	DATE
COMMENTS ON BACK			



IAFF Always on the Frontline

17

## 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.



IAFF Always on the Frontline

18



## Eye Care

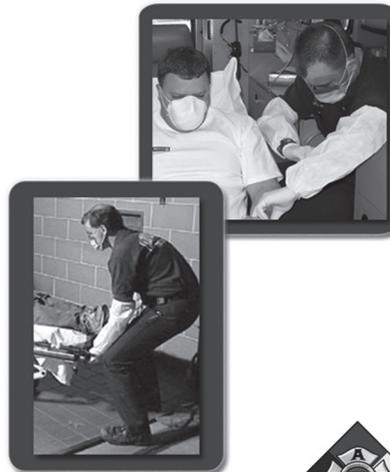
- Don protective eyewear.
- Do not rub eyes.



19

## Exercise Objective, p. 33

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



20

## 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.*



IAFF Always on the Frontline

21

## 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.



IAFF Always on the Frontline

22

## Exercise Objective, p. 35

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



23



## Exercise Objective, p. 37

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



24





## 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



IAFF Always on the Frontline

25

## 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



IAFF Always on the Frontline

26



## **Exercise Objective, p. 39**

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

27

