Exercise 3: Infection Control and Personal Protective Equipment (PPE)

Part 1: Group Discussion/Brainstorming Activity– Accessing and Prioritizing PPE during an Avian Influenza Pandemic

Objectives:

Know where to get personal protective equipment (PPE), who should use it, and understand how to prioritize its use.

Instructions:

1. Take 5 minutes to read through the following questions individually and contemplate responses.
2. Discuss each question as a group; designate one group member to record group responses.

Time allotted: 20 minutes

Question 1 – Does your local animal and/or human health rapid response team have access to all types of PPE (gloves, gowns, goggles/face shields, boots, surgical masks, and respirators)? If not, which types of PPE are needed?

Suggested Answer *– Prompt group members to contribute standard PPE stockpiling and distribution procedures in their jurisdictions. If members are from separate jurisdictions, ask them to compare any policies or procedures in place for using PPE.*

Question 2 – Where is the PPE stored? How will the rapid response team (RRT) access the PPE?

Suggested Answer *– Answers will vary.*

Question 3: Have all RRT members in your jurisdiction been trained in the proper use of PPE and fitted for an N95 mask?

Suggested Answer *– Answers will vary.*

Question 4 – What other groups (besides the rapid response team) may need PPE in the event of an avian influenza outbreak? Is equipment available for these

groups? Do they know how to access the equipment? Have they been trained in the proper use of PPE?

Suggested Answer *– Other first responders, such as EMT's and hospital personnel would need PPE. The group may think of others, depending on the response plan in their jurisdiction.*

Question 5 – What do you think about advising members of the public who are concerned about exposure to H5N1 avian influenza to wear masks?

Suggested Answer *– Unless there is a pandemic, advising the general public who are not exposed to live or H5N1-infected poultry to wear masks will not reduce their risk (since it is already quite low). You might be tempted to tell the public to wear masks if it makes them feel more secure; however this may cause a panic rush on masks. It is probably best to communicate the low level of risk to the general public, educate them about what activities are high risk, and how to protect themselves via hygiene and PPE. There may be differing viewpoints among the group, however, especially since the early stages of a pandemic will be unpredictable. If human–to–human transmission is sustained, look to the Federal government and federal health authorities to provide guidance. Recommendations might change quickly and might be geographically or risk-based.*

On May 3rd, 2007, CDC released new guidance on community mask use during a pandemic. This can be found at www.pandemicflu.gov.

Question 6 – What could you do if personal protective equipment supplies were limited or unavailable during an H5N1 avian influenza pandemic? How would you prioritize the use of PPE in your area?

Suggested Answer – One option is reusing the PPE. If the PPE must be reused, it should be reused during one shift for one patient and discarded at the end of each shift. The technique for removing PPEwill be different from what we have learned. Once a gown is removed, hang the gown with outside facing in. To reuse a mask or respirator, you may need to touch the front of the mask. In this situation, you need to wash your hands immediately after removing the mask. Put the mask into a sealable bag; do not put it in your pocket.

Participants should discuss how PPE may be prioritized – perhaps by type of patient (i.e. symptomatic, confirmed cases), or by type of user (those collecting specimens, or giving treatment, etc). Participants should also be encouraged to consider all of the different groups that may need PPE (e.g. hospitals, EMS, outpatient clinics) and whether these groups have their own supplies of PPE or will be relying on the health department to provide additional PPE.

The May 3rd CDC community mask use guidance stresses that during an influenza pandemic, facemasks (i.e., loose-fitting, disposable masks that cover the nose and mouth, and labeled as surgical, dental, medical procedure, isolation or laser masks) and respirators (i.e,. an N95 or higher filtering face piece respirator) will

need to be used in conjunction with other preventive measures. The guidance recommends that when it is absolutely necessary to enter a crowded setting or to have close contact with persons who might be infectious, the time spent in that setting should be as short as possible. If used correctly, facemasks and respirators may help prevent some exposures, but they should be used along with other preventive measures, such as social distancing and hand hygiene. When crowded settings or close contact with others cannot be avoided, the use of facemasks or respirators should be considered as follows:

- *Whenever possible, rather than relying on the use of masks or respirators, close contact and crowded conditions should be avoided during an influenza pandemic.*
- *Facemasks should be considered for use by individuals who enter crowded settings, both to protect their nose and mouth from other people's coughs and to reduce the wearers' likelihood of coughing on others; the time spent in crowded settings should be as short as possible.*
- *Respirators should be considered for use by individuals for whom close contact with an infectious person is unavoidable. This can include selected individuals who must care for a sick person (e.g., family member with a respiratory infection) at home.*

Part 2: Group Discussion and Problem Solving Activity– Applying Infection Control Measures to Different Situations

Objectives:
Group members will know when and how to apply infection control measures.

Instructions:
Four scenarios with varying complexity are described below. Engage in group discussion to determine which infection control measures would be most appropriate for each scenario.

Time allotted: 30 minutes

Scenario 1

While no human avian influenza H5N1 cases have yet been confirmed in the U.S., a highly pathogenic H5N1 avian influenza has been identified in poultry in your area. The avian virus causing this outbreak has been shown to cause lower respiratory disease in humans in other parts of the world. You are asked to lead a team that is being sent to identify and interview people who may have been exposed to infected birds on a small farm. You do not expect that your team will have direct contact with birds, but you may be near areas where the poultry were housed.

Question 1 – Based on what you know about infection control, what Personal Protective Equipment (PPE) would you bring on this initial visit as the public health responders?

Suggested Answer *– The team should bring full PPE (gloves, gown, eye protection, surgical masks, boot covers, and N95 respirators). As always, hand hygiene is an important recommendation, and the team should bring an alcohol-based sanitizer in case running water isn't readily available.*

Question 2 – If the PPE that you planned to bring is unavailable or cannot be accessed for some reason, how would you proceed?

Suggested Answer *– There are several options available to the team. They could contact a local hospital and request to use some of their PPE. They could conduct screening interviews over the phone to determine if anyone is symptomatic. If so, they could refer the person to the hospital, and if not, the team may conduct the in-person interviews without wearing PPE, if they maintain 3 ft distance, avoid*

entry into contaminated environments, and practice good hand hygiene. A way to avoid the need for PPE is to conduct all possible interviews by phone.

Scenario 2

You are now arriving at the small farm and are preparing to conduct interviews. Your van is stocked with enough full PPE for your rapid response team, but local and state government officials are already on the scene for publicity purposes, and you notice that none are wearing PPE. You don't yet know whether any individuals on the farm have flu-like symptoms.

Question 3– How do you proceed? Will you conduct interviews without wearing PPE?

Suggested answer *– This is a dilemma. A first step would be to find out from other responders (i.e. Agriculture) if anyone on the farm has been determined to be symptomatic.*

If some individuals are symptomatic, or if this information is unknown, wearing PPE is probably advisable. However, the use of PPE may generate fear among the farm workers and the viewing public, and perhaps among the officials if they did not have PPE available to them. Ideally, the team should use PPE for themselves, and also provide PPE to other rapid response officials, especially those who will have direct contact with poultry or poultry manure.

Scenario 3

While you are conducting an interview of a person who may have been exposed to sick poultry, the interviewee reports that she has a fever and diarrhea. You are not wearing any PPE.

Question 4 – Ideally, what PPE should be worn when interviewing a symptomatic exposed person?

Suggested Answer *– CDC recommends that you take contact and droplet precautions, plus use an N95 or better respirator when interviewing symptomatic patients.*

Question 5 – How do you proceed in this situation?

Suggested Answer *– Participants should be encouraged to identify the barriers to using PPE in this situation, and brainstorm about strategies to adequately protect themselves while understanding the needs of the interviewee.*

Scenario 4

There are two suspected human cases of avian influenza in a local hospital. One case was admitted directly to the hospital. The second case initially presented in the emergency room, and was admitted to the hospital after mentioning his contact with ill poultry. The hospital has put the patients in separate, private rooms. Your team has been called to interview these suspected cases.

Question 6 – Which personal protective equipment will you wear during these interviews in the hospital setting?

Suggested Answer *– Since these are symptomatic exposed persons, the recommendations call for use of full PPE, including the N95 respirator.*

Question 7 – Are there other infection control measures that should be taken in this situation?

Suggested Answer *– The team leader should ask hospital staff whether rooms are designed for airborne isolation, and recommend this measure if it is not already being used. Also, there should be immediate follow-up with other patients who were in the emergency room when the suspect case arrived. If a hospital does not have any negative air pressure rooms, it might be possible to create one (you would have to speak with a hospital environmental engineer). If you aren't able to create one, the next best option would be to cohort the patients with confirmed avian influenza. It may be possible to keep these patients in a separate room with limited access, and with ventilation directly to the outdoors.*

Links to CDC Avian Influenza PPE recommendations:

Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities

http://www.cdc.gov/flu/avian/professional/protect-guid.htm

Interim Recommendations for Infection Control in Health-Care Facilities Caring for Patients with Known or Suspected Avian Influenza

http://www.cdc.gov/flu/avian/professional/infect-control.htm

Interim Guidance for Airline Flight Crews and Persons Meeting Passengers Arriving from Areas with Avian Influenza (Updated)

http://www.cdc.gov/travel/other/avian_flu_ig_airlines_021804.htm

CDC Guidance on Community Mask Use During a Pandemic.

www.pandemicflu.gov