University of California, Berkeley

"OUTBREAK 2007"
Pandemic Influenza Leadership Tabletop Exercise

March 28, 2007

Situation Manual
(SITMAN)

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Agenda/Schedule of Events

Participant Check-In	8:30 – 9:00
Introductions	9:00 – 9:05
Facilitators: Dr. Peter Dietrich, University Health Services *Dr. Tomás Aragón, Center for Infectious Disease Preparedness* *Cindy Lambdin, RN, MS, ROPE Program Director*	
Pre-Exercise Presentation(s)	9:05 – 9:30
Exercise Initiation	9:30
Exercise Closure	11:30
Hot Wash/Debriefing	11:30 – 11:50
Participant Evaluation Completion	11:50 – 12:00

Situation Manual

Background

Pandemic influenza poses an imminent threat to the global community. A pandemic occurs when a novel influenza virus emerges. The ability of a virus to infect and spread efficiently in combination with humans lacking immunity to the new virus sets the stage for a pandemic. Over the last century, the globe has experienced three pandemics. Each of these pandemics has evolved through avian viruses. H5N1 avian influenza is now endemic in wild birds with persistent transmission to poultry and then humans which results in high case fatality risk (>50%). The high mortality rate is due to the poor immunity to the virus and the lethality of the viral pneumonia and acute respiratory distress syndrome that develops. If the H5N1 influenza evolves to become sustained human-to-human transmissible, pandemic influenza becomes very likely. If the transmission dynamics of H5N1 pandemic influenza become similar to the 1918 pandemic, the impact on California could be catastrophic.

Influenza is an annual major public health threat. In the United States, influenza epidemics occur during the winter between November and April and are responsible for approximately 36,000 reported deaths each year.[1] Influenza is a highly contagious illness and can be spread easily from one person to another. It is most commonly spread through contact with droplets from the nose and throat of an infected person during coughing and sneezing.[2] As most people have no immunity to pandemic influenza virus, infection rates are expected to be higher than seasonal influenza epidemics.

The State of California is home to over 36,000,000 residents. If 15% to 35% of California inhabitants develop influenza from a pandemic strain, there would be between 5.4 to 12.6 million influenza cases and between 54,000 to 252,000 deaths in just one season.

The University of California, Berkeley enrolls approximately 34,000 students annually and employs 21,000 faculty and staff. If 15% to 35% of University faculty, staff and students develop pandemic influenza, there would be between 8,750 to 19,250 cases of influenza. The University of California Berkeley, will conduct a tabletop exercise on March 28, 2007 to explore, discuss, and enhance the UC Berkeley Draft Influenza Response Plan.

[1] Pandemic Influenza Preparedness and Response Plan 2004, Department of Health and Human Services

[2] Influenza can also be transmitted via direct and indirect contact and droplet nuclei or airborne spread. (Bridges, C.B., Influenza Transmission: What is the Evidence? C.f.D.C.a.P. National Immunization Program, Editor. February 8, 2005, Denver Colorado: Regional Influenza Preparedness Conference)

Flu Terms Defined

Seasonal (or common) flu is a respiratory illness that can be transmitted person to person. Most people have some immunity, and a vaccine is available.

Avian (or bird) flu (AI) is caused by influenza viruses that occur naturally among wild birds. Low pathogenic AI is common in birds and causes few problems. H5N1 is highly pathogenic, deadly to domestic fowl, and can be transmitted from birds to humans. There is no human immunity and no vaccine is available.

Pandemic flu is virulent human flu that causes a global outbreak, or pandemic, of serious illness. Because there is little natural immunity, the disease can spread easily from person to person. Currently, there is no pandemic flu[3].

Purpose

The purpose of this discussion-based, tabletop exercise is to engage and prepare campus emergency response leadership, executives, management, and operational emergency response infrastructure to collaboratively examine and identify gaps and vulnerabilities in the development of the Pandemic Influenza Emergency Draft Response Plan and with the intent to build capacity in preventing, protecting, responding to and recovering from an escalating infectious disease event.

Objectives

1. Identify and discuss the primary campus stakeholders in response to pandemic influenza.
2. Identify and discuss the responsibilities of the University of California, Berkeley to the researchers, faculty/staff, and students, related to pandemic influenza.
3. Determine the University line of authority in response to pandemic influenza.
4. Identify and discuss criteria which will lead to the activation of campus emergency operations management.
5. Identify and explore the movement of critical information to the stakeholders, public health, students, faculty, and the media.
6. Identify and discuss the collaboration and communication between campus leadership and public health in response to, and recovery from pandemic influenza
7. Discuss and explore how the campus will maintain sustained operations.
8. Identify and discuss the challenges of the "just in time" supply chain and determine alternative redundancy resources for maintenance of sustained operations.
9. Identify and discuss triggers that will lead to the suspension of non-critical activities and explore the consequences of suspending activities.
10. Identify and discuss gaps and vulnerabilities in current Human Resource Policies and Procedures which influence the capabilities of the campus to respond to and recover from pandemic influenza.

[3] www.cdc.gov

Exercise Structure

This will be a real time single-phase, tabletop exercise based on a Biological Threat. The Exercise will be conducted over one 3-hour period, and will be controlled through the use of a facilitator and evaluated based upon the Exercise objectives above.

Instructions for Participants

1. **THIS EXERCISE IS NOT A TEST OF PERSONNEL!** This is a discussion based exercise designed to evaluate the University of California, Berkeley Pandemic Influenza Response Plan.
2. During the exercise all questions should be directed to the Facilitator.
3. Complete the Participant Critique Form (Appendix C) and turn it in at the conclusion of the exercise.

Roles & Responsibilities of Participants

1. Participants will have reviewed University of California, Berkeley Pandemic Influenza Plan.
2. Participants will have reviewed their area's role in responding to a possible biological threat as it relates to UC Berkeley's Pandemic Influenza Plan.
3. The exercise design team (or designee) will present a brief overview of UC Berkeley's Pandemic Influenza Plan prior to tabletop exercise.

Assumptions and Artificialities

Assumptions

1. All information provided by the Facilitator is to be considered valid.
2. Participants will focus their attention on gaps, vulnerabilities, solutions and resources during the discussions.
3. All participating agencies, departments and organizations have established emergency management plans, annexes and procedures in-place.
4. These plans, annexes and procedures contain mitigation, response and recovery elements.
5. Participants are well versed in their own department and agency response plans and procedures.
6. Participants will discuss response in accordance with the existing plans, procedures and policies. In the absence of applicable plans, procedures or policies, participants will be expected to apply individual and/or team initiative to satisfy discussed response requirements.
7. Real-world response actions will take priority over exercise discussion.

Artificialities

1. Scenarios will advance calendar date and time to facilitate discussion points and meet exercise objectives.

Participants

UC Berkeley Participants:

- UC Berkeley, Chancellor's Emergency Policy Group
- Emergency Operations Center Members
- Departmental Operations Center Members
  - University Health Services
  - Environment, Health & Safety
  - Human Resources
  - Physical Plant – Campus Services
  - UC Police Department
  - Public Affairs
  - Residential & Student Service Programs
  - Capital Projects
  - Information Services and Technology
- School of Public Health, Center for Infectious Disease Preparedness (CIDP)

Alameda County Public Health Department
City of Berkeley, Public Health Department

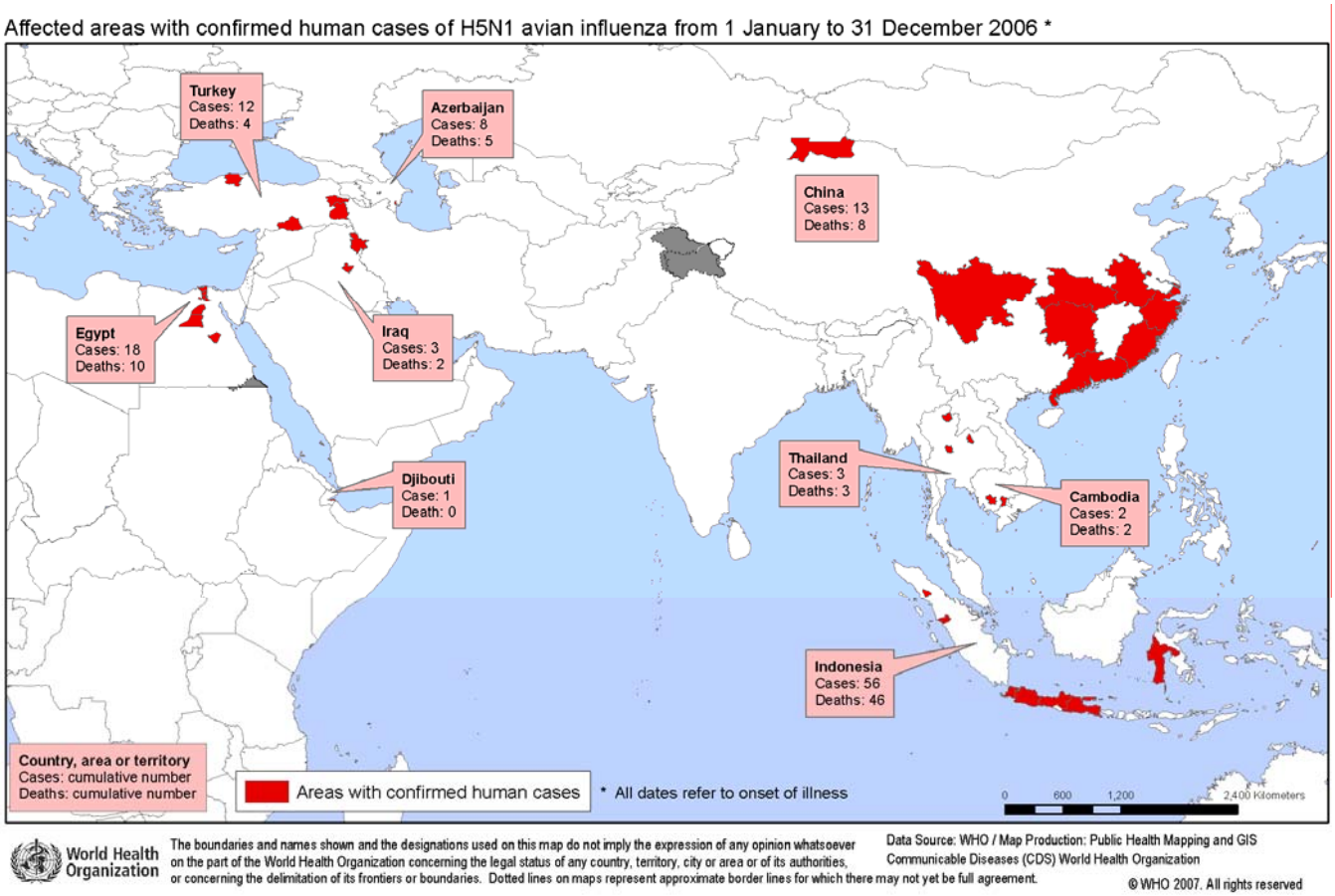
Exercise Design Team:

- Cindy Lambdin, RN, MS, Exercise Director, CIDP, ROPE Program Director
- Dr. Peter Dietrich, Medical Director, University Health Service
- Dr. Tomás Aragón, Medical Director, Center for Infectious Disease Preparedness
- Tom Klatt, B.S., M.B.A, Office of Emergency Preparedness, Manager
- Treacy Malloy, Office of Emergency Preparedness, Senior Administrative Analyst
- Sarah K. Nathe, Manager, Disaster Resistant University
- Pam Cameron, RN, MS, Assistant Director of Clinical, University Health Services
- Michelle Deverell, M.P.H., Pandemic Influenza Consultant, University Health Services
- Paul Dimond, Manager, Office of Business, Business Resumption

Scenarios and Issues for Consideration/Discussion Points

Scenario 1
February, 2007

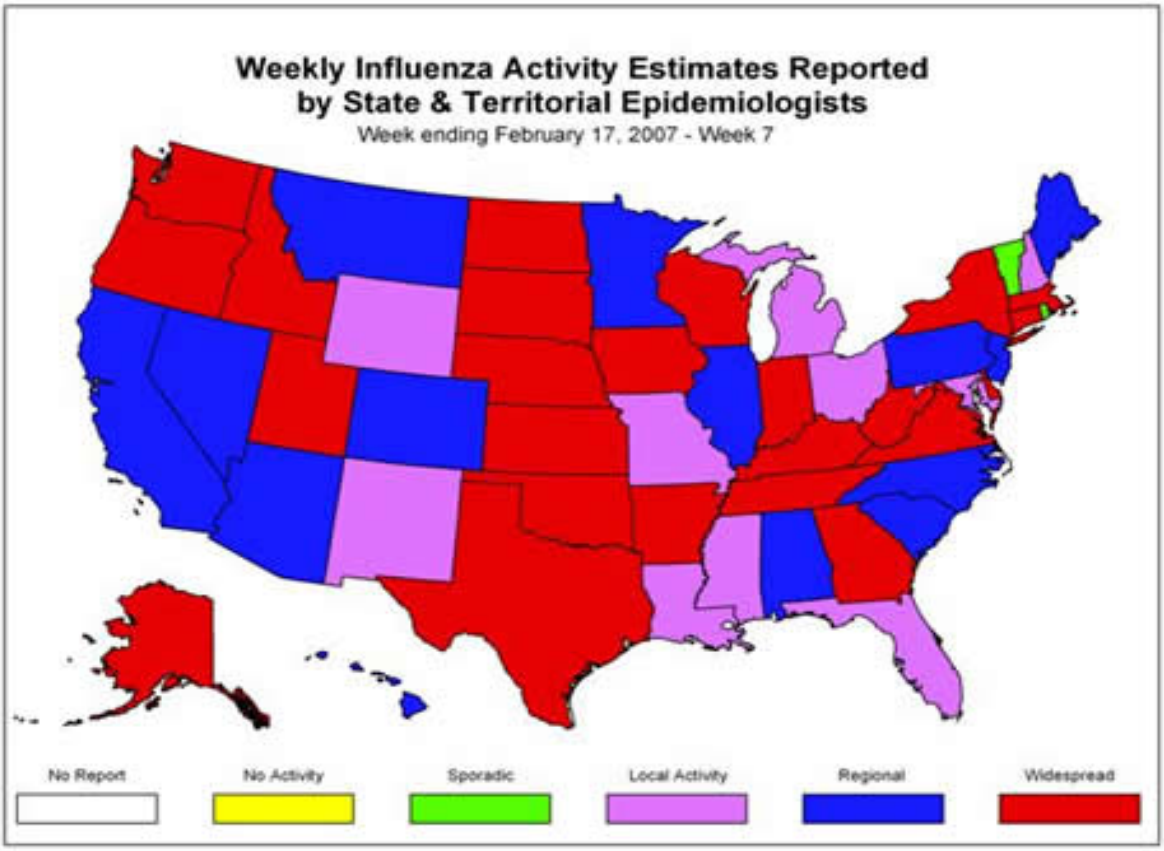
The world is monitoring the movement of the H5N1 virus in Europe. Concerns about the threat level for the United States seem distant for the average person. However, Epidemiologists and Public Health continue to watch with and track the progress of the virus. The cases of human to human transmission have been limited and are not sustained. It is unclear if the H5N1 virus will become the next pandemic event.



Seasonal influenza season is well underway across the nation. Twenty-four of the states are reporting in with widespread influenza. California is experiencing influenza in multiple regions. Area hospitals are being taxed with the seasonal surge of patients. Intensive Care Unit beds are at a premium throughout the Bay Area.

The campus has been affected by influenza as the influx of faculty, staff, and students become more deeply immersed in their winter studies. Students have been back in classes since the second week of January. The winter season has not been severe, however, intermittent cold snaps and rain, have forced students in doors to escape the elements.

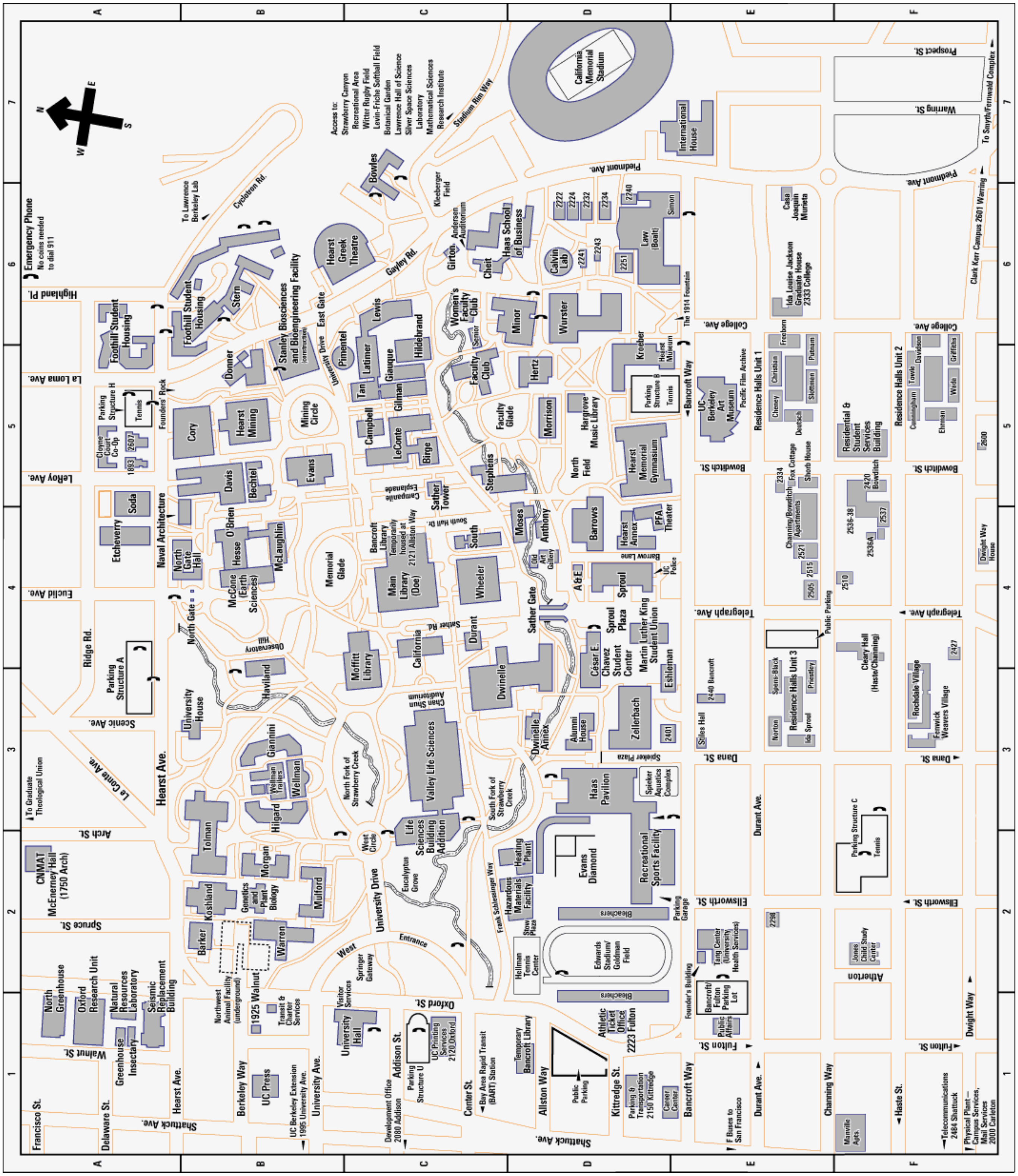
Students traveling abroad over the winter holiday appear to be experiencing a higher incidence of influenza symptoms with the predominant symptoms including: high fever, headache, malaise, general body aches, poor appetite. A smaller group of students living in Unit 2 are experiencing more severe symptoms, including shortness of breath and increasing high fevers. Three students were seen at University Health Services last week and were transferred to Alta Bates Hospital for evaluation and treatment. All three students have been hospitalized and diagnosed with atypical pneumonias. Unit 2 is one of the larger residences for students on campus and houses 1372 students in single, double, and triple rooms. More students appear to be experiencing flu-like symptoms this year, in spite of the active influenza vaccine program sponsored by the University Health Services. University Health Services (UHS) staff is concerned about the lack of effectiveness in vaccinated faculty, staff, and students. The UHS team is determining the need to take additional action to mitigate the increasing numbers of students with influenza.



Discussion Questions:

1. Who is the leadership person in charge of faculty, staff, and student welfare at this time?
2. Who are the primary stakeholders?
3. What are the responsibilities of UC Berkeley to the faculty, staff and students at this time?
4. How will communications be established with the identified stakeholders?
5. What are the gaps and vulnerabilities identified within the scenario that need to be identified and prioritized for action?
6. Which person and/or groups will be responsible for monitoring and identifying the changing status of illness on campus?
7. Is the current situation considered an “emergency”? What actions will need to be taken at this time?

Appendix A: UC Berkeley Campus Map



Appendix B:

FACT SHEET

Key Facts About Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus

This fact sheet provides general information about avian influenza (bird flu) and information about one type of bird flu, called avian influenza A (H5N1), that has caused infections in birds and in humans. Also see Questions and Answers (http://www.cdc.gov/flu/avian/geninfo/qa.htm) on the CDC website and Frequently Asked Questions (FAQs) http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html) on the World Health Organization (WHO) website.

Avian Influenza (Bird Flu)

Avian influenza in birds

Avian influenza is an infection caused by avian (bird) influenza (flu) viruses. These influenza viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, avian influenza is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them.

Infected birds shed influenza virus in their saliva, nasal secretions, and feces. Susceptible birds become infected when they have contact with contaminated secretions or excretions or with surfaces that are contaminated with secretions or excretions from infected birds. Domesticated birds may become infected with avian influenza virus through direct contact with infected waterfowl or other infected poultry, or through contact with surfaces (such as dirt or cages) or materials (such as water or feed) that have been contaminated with the virus.

Infection with avian influenza viruses in domestic poultry causes two main forms of disease that are distinguished by low and high extremes of virulence. The “low pathogenic” form may go undetected and usually causes only mild symptoms (such as ruffled feathers and a drop in egg production). However, the highly pathogenic form spreads more rapidly through flocks of poultry. This form may cause disease that affects multiple internal organs and has a mortality rate that can reach 90-100% often within 48 hours.

Human infection with avian influenza viruses

There are many different subtypes of type A influenza viruses. These subtypes differ because of changes in certain proteins on the surface of the influenza A virus (hemagglutinin [HA] and neuraminidase [NA] proteins). There are 16 known HA subtypes and 9 known NA subtypes of influenza A viruses. Many different combinations of HA and NA proteins are possible. Each combination represents a different subtype. All known subtypes of influenza A viruses can be found in birds.

Usually, “avian influenza virus” refers to influenza A viruses found chiefly in birds, but infections with these viruses can occur in humans. The risk from avian influenza is generally low to most people,

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

"Human influenza virus" usually refers to those subtypes that spread widely among humans. There are only three known A subtypes of influenza viruses (H1N1, H1N2, and H3N2) currently circulating among humans. It is likely that some genetic parts of current human influenza A viruses came from birds originally. Influenza A viruses are constantly changing, and they might adapt over time to infect and spread among humans.

During an outbreak of avian influenza among poultry, there is a possible risk to people who have contact with infected birds or surfaces that have been contaminated with secretions or excretions from infected birds.

Symptoms of avian influenza in humans have ranged from typical human influenza like symptoms (e.g., fever, cough, sore throat, and muscle aches) to eye infections, pneumonia, severe respiratory diseases (such as acute respiratory distress), and other severe and life threatening complications. The symptoms of avian influenza may depend on which virus caused the infection.

Studies done in laboratories suggest that some of the prescription medicines approved in the United States for human influenza viruses should work in treating avian influenza infection in humans. However, influenza viruses can become resistant to these drugs, so these medications may not always work. Additional studies are needed to demonstrate the effectiveness of these medicines.

Avian Influenza A (H5N1)

Influenza A (H5N1) virus – also called "H5N1 virus" – is an influenza A virus subtype that occurs mainly in birds, is highly contagious among birds, and can be deadly to them. H5N1 virus does not usually infect people, but infections with these viruses have occurred in humans. Most of these cases have resulted from people having direct or close contact with H5N1infected poultry or H5N1contaminated surfaces.

Avian influenza A (H5N1) outbreaks

For current information about avian influenza A (H5N1) outbreaks, see our Outbreaks (http://www.cdc.gov/flu/avian/outbreaks/) page.

Human health risks during the H5N1 outbreak

Of the few avian influenza viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of detected cases of severe disease and death in humans. However, it is possible that those cases in the most severely ill people are more likely to be diagnosed and reported, while milder cases go unreported. For the most current information about avian influenza and cumulative case numbers, see the World Health Organization (WHO) avian influenza website (http://www.who.int/csr/disease/avian_influenza/en/).

Of the human cases associated with the ongoing H5N1 outbreaks in poultry and wild birds in Asia and parts of Europe, the Near East and Africa, more than half of those people reported infected with the virus have died. Most cases have occurred in previously healthy children and young adults and have resulted from direct or close contact with H5N1infected poultry or H5N1contaminated surfaces. In general, H5N1 remains a very rare disease in people. The H5N1 virus does not infect humans easily, and if a person is infected, it is very difficult for the virus to spread to another person.

While there has been some human to human spread of H5N1, it has been limited, inefficient and unsustained. For example, in 2004 in Thailand, probable human to human spread in a family resulting from prolonged and very close contact between an ill child and her mother was reported. Most recently, in

June 2006, WHO reported evidence of human to human spread in Indonesia. In this situation, 8 people in one family were infected. The first family member is thought to have become ill through contact with infected poultry. This person then infected six family members. One of those six people (a child) then infected another family member (his father). No further spread outside of the exposed family was documented or suspected.

Nonetheless, because all influenza viruses have the ability to change, scientists are concerned that H5N1 virus one day could be able to infect humans and spread easily from one person to another. Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population. If H5N1 virus were to gain the capacity to spread easily from person to person, an influenza pandemic (worldwide outbreak of disease) could begin. For more information about influenza pandemics, see PandemicFlu.gov (http://www.pandemicflu.gov/).

No one can predict when a pandemic might occur. However, experts from around the world are watching the H5N1 situation in Asia and Europe very closely and are preparing for the possibility that the virus may begin to spread more easily and widely from person to person.

Treatment and vaccination for H5N1 virus in humans

The H5N1 virus that has caused human illness and death in Asia is resistant to amantadine and rimantadine, two antiviral medications commonly used for influenza. Two other antiviral medications, oseltamavir and zanamavir, would probably work to treat influenza caused by H5N1 virus, but additional studies still need to be done to demonstrate their effectiveness.

There currently is no commercially available vaccine to protect humans against H5N1 virus that is being seen in Asia and Europe. However, vaccine development efforts are taking place. Research studies to test a vaccine to protect humans against H5N1 virus began in April 2005, and a series of clinical trials is under way. For more information about H5N1 vaccine development process, visit the National Institutes of Health website (http://www3.niaid.nih.gov/news/newsreleases/2005/avianfluvax.htm).

For more information, visit http://www.cdc.gov/flu/avian, or call CDC at 800CDCINFO (English and Spanish) or 8882326348 (TTY).

Appendix C:
Participant Critique Form

Exercise Name: **"OUTBREAK 2007"**
Discussion-Based Tabletop Exercise, UC Berkeley

Date: March 28, 2007

Participant Name: _____

Participant Title: _____

Agency: _____

Role: _____ **Participant** _____**Evaluator** _____ **Observer**

1. Part 1—Recommendations and Action Steps

1. Based on today's activities list the top three issues and/or areas that need improvement:

_____
_____
_____
_____
_____
_____

2. Identify the action steps that should be taken to address the issues identified above. For each action step, indicate if it is a high, medium or low priority:

_____
_____
_____
_____
_____
_____

3. Describe the action steps that should be taken in your area of responsibility. Who should be assigned responsibility for each action item?

_____
_____
_____
_____
_____
_____

2. Part 2 – Exercise Design and Conduct

1. What is your assessment of the exercise design and conduct?

*Please rate, on a scale of 1 to 5, your overall assessment of the exercise relative to the statements provided below, with 1 indicating **strong disagreement** and 5 indicating **strong agreement**.*

Assessment Factor	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
The exercise was well structured and organized	1	2	3	4	5
The time allotted for the exercise was appropriate	1	2	3	4	5
The exercise scenario was plausible and realistic	1	2	3	4	5
The scenario adequately set the stage for activities and decisions to be acted upon.	1	2	3	4	5
The background information was useful	1	2	3	4	5
The SITMAN used during the exercise was a valuable tool throughout the exercise	1	2	3	4	5
Participation in the exercise was appropriate for someone in my position	1	2	3	4	5
The participants included the right people in terms of level and mix of disciplines	1	2	3	4	5
The information exchanged during the exercise discussion-based tabletop exercise was of high quality	1	2	3	4	5
The exercise activities stayed focused and on track	1	2	3	4	5

Assessment Factor	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
I will use knowledge gained at this exercise to suggest ways that my organization can improve its emergency planning activities	1	2	3	4	5
As a participant of my organization, I had a clear understanding of the role my organization should play if called upon under the scenario presented	1	2	3	4	5
I am confident in my organization's ability to perform its designated duties in a public health emergency	1	2	3	4	5

Facilitator(s)	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
The facilitator(s) were knowledgeable	1	2	3	4	5
The facilitator(s) were understandable	1	2	3	4	5
The facilitator(s) were motivated and interesting	1	2	3	4	5
The facilitators(s) were prepared	1	2	3	4	5

2. What changes would you make to improve this exercise?

Please provide any recommendations on how the exercise could be improved or enhanced to better prepare emergency responders to safely and effectively respond to such a public health emergency.

_____
_____
_____
_____
_____
_____

3. Should this group reconvene at a future date? _____yes _____no
If yes, do you have any comments or suggestions for a future agenda?

_____
_____
_____
_____

Thank you for your participation, comments and time!