

Avian Influenza

Presentation to UC Departments

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Background

- Epidemic means more than the usual number of cases in a local area
- Pandemic means more than the usual number of cases over the entire globe
- Older persons are more likely to die from the usual influenza than younger persons
- Influenza viruses are always changing (mutating)

Background

- The 1918 human influenza is thought to have originated from an avian (bird) source
- The 1918 influenza pandemic caused more deaths in young persons and wage earners
- There has been no pandemic from a bird-source influenza since 1918

Avian Influenza Virus

- Present in migrating birds.
- Has spread west from Asian birds to European birds (most recently Scotland).
- Flyways for North American birds intersect with flyways for Asian birds over Alaska.
- Outbreaks have occurred in chicken flocks in multiple southeast Asian and Middle East countries.

Avian Influenza Virus

- The presence of avian influenza virus in chickens and ducks seems to make the virus more likely to mutate so it can infect humans
- China is vaccinating its chicken population
- Limited spread from person-to-person.
- Thought to have about half (all but 2?) of the mutations it needs to easily infect humans

Human Avian Influenza Cases in 2006

- As of July 26, 2006, 232 cases of human Avian Influenza have been reported with 134 deaths.
- Involved countries include Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Thailand, Turkey, and Viet Nam

WHO Classification of the Current Situation – Stage 3

- Stage 3: No or very limited human-to-human transmission
- Stage 4: Evidence of increased human-to-human transmission
- Stage 5: Evidence of significant human-to-human transmission
- Stage 6: Efficient and sustained human-to-human transmission (pandemic)

Avian Influenza Virus

- Currently no vaccine available
- Not enough antiviral medicines Tamiflu and Relenza for the world's population
- Antiviral medications would have to be taken for months to prevent avian influenza infection

Avian Influenza Pandemic

- Thought to be a certainty – only issue is when
- Would likely spread over most of the entire globe in a matter of weeks
- Could take 18 months to 3 years to infect about 50 percent of the world's population.
- 2-10% deaths (1918 Spanish flu with 5% deaths)
- Multiple possible scenarios

Avian Influenza Pandemic (Drs. Koop and Osterholm)

- Could cause massive disruption in travel and commerce as individuals refuse to travel to certain areas or are too ill to work
- No food on grocery shelves, no water available and citizens will be sequestered inside their houses.
- Not enough ventilators, hospital beds, or medical personnel for everyone who might need care

Avian Influenza Pandemic (Dr. Donald A Henderson)

- A moderate disruption for 16 weeks
- Maximum of 15% of people ill at any one time
- No advantage to quarantine or “socially isolate” people
- No need to close universities
- Not enough ventilators, hospital beds, or medical personnel for everyone who might need care

US Avian Flu Prevention Strategies

- US government has accepted the Drs. Koop and Osterholm scenario
- Provide Vaccine
- Provide Antiviral medications
- Encourage social distancing

Pre-Pandemic Activities

- Plan for healthcare workers who are ill and unable to work
- Prepare for breakdown in government services such as sanitation, water, and power.
- Build up inventories in case foreign or domestic suppliers and transport services are paralyzed.

UC Pre-Pandemic Activities

- Prepare an Avian Flu Pandemic Response Plan involving the entire UC campus
- Identify essential and non-essential services
- Prepare to delivery essential services with 25% of your employees – and maybe not the 25% you wish you had.

UC Pre-Pandemic Activities

- When to change the UC call-off policy so that ill persons are encouraged to stay home
- When to require only essential personnel to show up for work
- Whether or not to put resources into servers so that most students could take classes from home
- Identify, purchase, and use any needed personal protective equipment



University Health Services Activities

- UHS staff is current with publicly available information regarding the world Avian flu situation.
- Links on UHS websites
- UHS staff has contacts at the City, county, state and CDC.
- UHS has Tamiflu, Relenza, N95 masks, positive air purifying respirators and hand sanitizer.

UC Activities in a Pandemic

- Disseminate information (website, emails, telephones, posters)
- Discourage faculty and student travel
- Require faculty and students to be healthy for two weeks after travel to infected areas
- Discourage campus-wide congregation of students (sports, seminars)

UC Activities in a Pandemic

- Plan for ill employees to stay home. Workers will come to work only if they feel well enough to work and they feel their families are safe.
- Plan to deliver services with only 25% of staff
- Plan for delivering instruction mostly (entirely) electronically

UC Activities in a Pandemic

- Will probably send most students home. May have to provide services to some faculty, staff, and students who don't want to go home or who cannot get home.
- If students are on campus, UC must be able to provide, heat, cooling, water, food, bathrooms, trash service, internet, and telephone connections.

Vaccine Manufacture

- All of us wish the manufacturers success in developing an H5N1 avian influenza vaccine.
- Report in the media this week that one of the pharmaceutical manufacturers has had good antibody responses to its avian influenza vaccine.

Avian Influenza Websites

- <http://www.who.int>
- <http://www.pandemicflu.gov>
- <http://www.ohiopandemicflu.gov>
- <http://www.uc.edu/uhs>