Avian Flu

Outline of the Briefing

- Overview of influenza
- National preparedness activities
- New Hampshire’s preparedness activities
- Recommended planning activities for UNH
- Questions/Discussion
Overview of Influenza
What is Influenza?

- Influenza is a virus.
- The influenza or “flu” virus causes symptoms we think of as a cold.
- There are many other viruses capable of causing cold-like symptoms.
Are There Different Types of Flu?

- Influenza has a few subtypes
  - Influenza A and B are most common

- Influenza is further characterized by the structure of the virus:
  - Influenza A H1N1
  - Influenza A H3N2
  - Influenza A H5N1 – the “Avian Flu”
Etiology

Viral Nomenclature

A / Sydney / 184 / 93 (H3N2)

- Type of Nuclear Material
- Hemagglutinin
- Neuraminidase
- Virus type
- Geographic origin
- Strain number
- Year of isolation
- Virus subtype
How is the Virus Transmitted?

- Airborne spread
- Direct contact
- May persist hours in the environment
Pathogenesis

Disease Manifested

Damages critical pulmonary cells (Function Damaged)

- No Virus circulating in the infected person
  - Acute Influenza
    - Symptoms Resolve (~ 5 days)
  - Symptoms Appear (1-5 days)
- Viral Shedding 5-10 Days
  - Symptom Appear (1-5 days)
  - Viral Pneumonia
  - Secondary Bacterial Pneumonia/Complications
Regular Influenza Season

- Each year the virus circulates throughout the world
- Each year minor changes in the virus occur, triggering the next year’s flu season
- In most healthy persons, the immune system protects them from severe disease
- The result is in most cases a mild cold
- The result, however, is far more serious for some people:
  - Elderly
  - Young children
  - Persons with serious medical illnesses
- Each year ~30 to 40,000 persons in the US die of “routine” influenza
How can we prevent it?

• General hygiene
• Stay home if ill
• Hand washing, hand washing and hand washing
• Cover your mouth when coughing
• Cough etiquette protocol for health care facilities
• Vaccine (changes every year and regular flu vaccine does not prevent the pandemic)
• Antivirals (Amantadine, Flumantadine, Tamiflu\textsuperscript{R} ad Relenza\textsuperscript{R})
• Proper diagnosis and surveillance
Influenza Surveillance

or

How do we keep track
Timing of Three Recent Influenza Seasons
(Based on Percentage of Specimens Positive for Influenza)
Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists
Week ending January 8, 2005 - Week 1
Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists
Week ending February 19, 2005 - Week 7
Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists
Week ending March 5, 2005 - Week 9

No Report
No Activity
Sporadic
Local Activity
Regional
Widespread
What is a Pandemic?

- Emergence & spread of “novel” influenza A virus
  - Derived from animal viruses
- A **pandemic** occurs when this new virus is being transmitted person-to-person and results in widespread outbreaks:
  - (Near) simultaneous global outbreak
  - Elevated rates illness & death are expected, but currently unknown
- An Influenza pandemic may (or may not) come in waves that may follow each other or overlap
- An Influenza pandemic is not a short term crisis; it may last a couple of years
- An Influenza pandemic may cost not only human life, but also billions of dollars in health care services and lost productivity
Pandemics & Pandemic Alerts
19th - 21st Centuries

- 1891-92  H3
- 1918-19  “Spanish Flu” H1N1
- 1957    “Asian Flu” H2N2
- 1968    “Hong Kong Flu” H3N2
- 1976    Fort Dix “Swine Flu” episode
- 1977    “Russian Flu” H1N1
- 1997    Avian influenza A (H5N1)
- 2004    Avian influenza A (H5N1)
Infectious Disease Mortality, United States--20th Century

Current Avian Flu Activity in the World
Current Avian Flu Activities

- Widespread outbreak in Southeast Asia fowl farms
- Most recent countries: Romania and turkey (infected flocks)
- Culling of birds and other animals continues
- No well defined and efficient human to human transmission documented to date
- Human cases reports of limited quality
Human H5N1 Cases Reported to WHO 2004/2005*¹

- No data on mild or moderate illness
- Expected mortality for pandemic is quite lower (Around 1% or less)

<table>
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<th>Country</th>
<th>Number of Cases</th>
<th>Number of Deaths</th>
<th>Case Fatality</th>
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<tr>
<td>Indonesia</td>
<td>1</td>
<td>1</td>
<td>100 %</td>
</tr>
<tr>
<td>Vietnam</td>
<td>87</td>
<td>38</td>
<td>44 %</td>
</tr>
<tr>
<td>Thailand</td>
<td>17</td>
<td>12</td>
<td>71 %</td>
</tr>
<tr>
<td>Cambodia</td>
<td>4</td>
<td>4</td>
<td>100 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>109</strong></td>
<td><strong>55</strong></td>
<td><strong>50 %</strong></td>
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*¹ As reported by WHO on 7/27/05
National Preparedness Activities for Avian Flu
POLLY wants a SUDAFED...
Pandemic Response Components

- Pandemic influenza disease
- Interventions to decrease transmission
- Provide quality medical care
  - Infection control in medical & long term care settings
  - Maintain essential community services/emergency response activities
- Antiviral treatment & prophylaxis
- Vaccination
U.S. Pandemic Influenza Preparedness Activities

- Support of WHO and its worldwide surveillance and control efforts
- US Pandemic Influenza Preparedness & Response plan draft was released on August 26, 2004
- Final version release postponed. It is expected to be at the end of October 2005
- Ongoing Avian flu vaccine trials
- Antiviral medications (2.5 million treatments of Tamiflu<sup>R</sup>) added to Strategic National Stockpile (SNS)
- Increased sense of urgency at senior federal levels
Potential Avian Flu Impact in U.S.*

- Up to 200 million persons infected
- 38 – 89 million clinically ill
- 18 – 42 million requiring outpatient care
- 314,000 – 733,000 hospitalized
- 89,000 – 207,000 deaths
New Hampshire’s Avian Flu Preparedness Activities
Key Points to Keep in Mind

- Planning is for the worst case scenario
- Planning numbers are targets, *not* predictions
- Planning will not prevent the pandemic from happening
- Health care system is better able to respond than ever before
- NH’s resources are better coordinated and better prepared
Potential Impact in NH* 

- Up to 852,000 persons infected
- 168,000 – 384,000 clinically ill
- 72,000 – 180,000 requiring outpatient care
- 1,200 – 3,600 hospitalized
- 360 – 2,000 deaths
  - 200 deaths occur annually from “routine” flu
NH Preparedness

- 6 year history of preparation for DPHS to build on
  - CDC guidelines
  - SARS
  - Smallpox vaccination program
  - Taco Bell/meningitis clinics
  - Flu vaccine shortage
- Linked closely with state bioterrorism/emergency response preparedness activities
- Planning with BEM for State-wide Drill
NH Preparedness

- Assessment of BT emergency preparedness needs
- Development of ESF-8 (Emergency Support function) as part of the State Emergency Response Plan
- Statewide vaccination and surge capacity planning
- Surveillance improvements
- Diagnostic capacity improvements
- Influenza pandemic plan constantly updated by Public Health
State of New Hampshire
Interim Influenza Pandemic
Epidemiologic and Surveillance Plan

New Hampshire Communicable Disease Epidemic Control Committee
VERSION: July 25, 2004
What will we do at Public Health?

- Early detection
- Case investigation and follow up
- Implementation of patient/contacts related control measures
  - Several possible scenarios
    - One state elsewhere
    - One neighboring state
    - One suspect or confirmed case in one NH location
    - Several cases in one NH location
    - Several suspect and or confirmed cases in a NH region
    - State wide
What will we do at Public Health?

- Implementation of community based control and prevention measures
  - Several possible scenarios all dependent upon available resources (vaccine or antiviral meds)
    - One state elsewhere
    - One neighboring state
    - One suspect or confirmed case in one NH location
    - Several cases in one NH location
    - Several suspect and or confirmed cases in a NH region
    - State wide
DHHS Avian Flu Planning Group

- Using all resources of DHHS
  - Support Public Health
  - Potential impact of Avian Flu beyond Public Health

- Expand DHHS’ capacity, i.e.:
  - Achieve National Incident Management System (NIMS) certification for 300+ staff

- Involved DHHS partners, i.e.:
  - Office of Information Technology
  - Bureau of Emergency management (BEM)
  - Office of the Governor
General Training and Awareness Activities

- Video-conference for Local authorities
- Mailings to Local Health Officers (HO)
- Emergency planning training for HO, local authorities and law enforcement. June 29, 2005
- Several regional trainings scheduled for law enforcement, planning groups and Health Care Provider Community (like this one)
- Public Health Networks organizing Community Forums to inform general public
Mass Vaccination Planning

• Mass vaccination Clinic guidelines master plan developed
• Ongoing update of 29 regional plans (formerly known as “Smallpox plans”); moving into an All Hazards approach
• Public Health Networks playing a critical role in planning process
• Developed a master mass vaccination clinic plan
• Communities should be fully involved in the development of their local plan
Hospital and Medical Surge Capacity

- Meeting with Hospital Association and Network staff to outline Emergency Departments capacity and needs (BEM is coordinating)
- Assessments for Isolation and Diversion
- Assessments for morgue
- Inventory of Respiratory equipment needs
Diagnostic Surge Capacity

- PHL developing agreements for management of surge in testing
  - Re-prioritization
  - Developing agreements with regional labs
  - Developing back-up teams for technical personnel
Case Investigation and Follow-up

- Disease control section is developing back-up teams for case investigation and follow-up
  - Training curriculum developed
  - Undergoing selection of in-house backup team members
  - Training scheduled for early fall
  - Protocols for case investigation and follow-up under development

- Consider community support teams
Surveillance Activities

- Permanent communication with CDC
- No federal system in place for patient follow-up under pandemic conditions
- In-house developed systems for surveillance are in place
Isolation and Quarantine

- Work group created with participation of Court system, AG office, Law enforcement and County Corrections System
- Memo for County Court clerks
- Memo for Law enforcement
- System in place for due process if I&Q needed
- I&Q location for people who refuses shelter in place still unresolved
- Strong community partnership required
Flu Pandemic Drill

- First in the nation full scale pandemic preparedness exercise, jointly developed with BEM
- Scenario developed (redacted)
- Contractor hired for drill development, implementation, and evaluation
Flu Pandemic Drill
Components

• General response capacity for case reporting, investigation and follow-up
• Mass Vaccination process
• PHL surge capacity
• Communications infrastructure
• Ethical Issues in decision making
• SNS
Key Dates

– Oct. 20 National Guard Workshop for SNS
– Nov. 3 Emergency Operations Center Table Top Exercise
– Nov 9 Senior Leaders Workshop for SNS
– Nov. 17 SNS Drill
– Nov. 18 – 19 Avian Pan Full Scale Drill
Flu pandemic Impact on You

- You need to keep up to date and properly informed with facts, not rumors
- Need to learn and practice how to protect yourself and your family
- Always ready
Flu Pandemic: Preparing for Impact on Your Organization

- Clear notification/communications protocols
  - Who gets info from Public Health? Do you get any?
  - To whom is it distributed?
  - 24/7 availability?
  - Who notifies Public Health?
  - How many people know how to contact Public Health?
  - How many people know what is Public health?
Flu Pandemic: Preparing for Impact on Your Organization

- Plan for how to do more with less
- Develop succession plan
- Plan counting on no outside support
- Develop policies and procedures for enforcing isolation and quarantine
  - How to manage / isolate 1 suspect case (room and board)
  - How to manage / isolate 1 confirmed case (room and board)
  - How to manage a group of contacts or cases (Cohorting)
  - When to close
- Use SARS planning experience and documents as starting point
Impacts on Your Organization

- Clear notification/communications protocols
- Up to date contact list (24/7)
- College Emergency response plans will need thorough testing in preparation for drills and potential activation
  - “Succession” planning may be necessary
  - How to manage / isolate 1 suspect case (room and board)
  - How to manage / isolate 1 confirmed case (room and board)
  - How to manage a group of contacts or cases (Cohorting)
  - When to close
- Always ready (Think SARS planning)
PLEASE REMEMBER

To report the usual infectious diseases
or
to discuss communicable diseases issues
or
Isolation and quarantine issues
Monday through Friday
8:00am to 4:30pm,
please call:
271-4496 or 1-800-852-3345, ext 4496.

during non-business hours, please call:
1-800-852-3345 ext 5300,
and request the Public Health Nurse on call
Questions and Discussion
State of NH Influenza Pandemic Preparedness and Response Plan

10/24/05 Update
Using the State’s Plan as a Model

- Authority/legal issues
- UNH Community Profile
  - Fall & Spring Semesters
  - Winter Break
  - Summer sessions
- Assumptions
- Vulnerability Assessment
Using the State’s Plan as a Model

- Surveillance
  - UNH is a sentinel site
- Lab Capacity
- Special Needs population
- Immunizations & Clinics
  - “regular” flu vs. pandemic
Communication & Public Information

- Respiratory Hygiene & Cough Etiquette
  - “Ask for a Mask” campaigns
- Infection Control posters
- Influenza Fact Sheets & Vaccine Information Sheets
- University-specific issues
Are you coughing? Do you have a fever? If you answered YES to both, please put on a mask.

PROTECT YOUR HEALTH AND THE HEALTH OF OTHERS!

New Hampshire Department of Health and Human Services
Division of Public Health Services
www.dhhs.nh.gov

Attach box of masks here.
HEALTH CARE WORKERS:
WASH YOUR HANDS!
IT'S THE BEST WAY
TO PREVENT THE SPREAD OF INFECTIONS

WHY
- MOST (98%) INFECTIONS ARE SPREAD BY HANDS
- HAND HYGIENE IS THE MOST IMPORTANT WAY TO PREVENT THE SPREAD OF INFECTIONS

WHEN
- BEFORE AND AFTER DIRECT CONTACT WITH A PATIENT
- AFTER GLOVE REMOVAL
- AFTER CONTACT WITH ENVIRONMENTAL SURFACES IN THE VICINITY OF A PATIENT
- AFTER USING THE RESTROOM
- AFTER SNEEZING, BLOWING YOUR NOSE, OR TOUCHING YOUR FACE OR HAIR

HOW
- USE SOAP AND WARM WATER IF HANDS ARE VISIBLY SOILED
- RUB HANDS TOGETHER VIGOROUSLY FOR AT LEAST 15 SECONDS
- RINSE UNDER RUNNING WATER AND PAT DRY
- TURN WATER OFF WITH A TOWEL
- IF HANDS AREN'T VISIBLY SOILED, YOU CAN USE ALCOHOL-BASED HAND RUB
- APPLY TO PALM OF ONE HAND AND RUB HANDS TOGETHER TO COVER ALL SURFACES
- RUB UNTIL HANDS ARE DRY

New Hampshire Department of Health and Human Services
Division of Public Health Services
www.dhhs.nh.gov

Healthy New Hampshire
NH Department of Health and Human Services
Know How to Respond

- Surveillance
- When to contact DHHS
- When to isolate &/or quarantine
- Taking care of your workers!
  - Expanded precautions
- Recover – what to do when it’s over