Benton County Public Health Preparedness

Benton County Human Services
Public Health Unit
Pandemic Influenza

INFLUENZA
FREQUENTLY COMPlicated WITh
PNEUMONIA
IS PREVALENT AT THIS TIME THROUGHOUT AMERICA.
THIS THEATRE IS CO-OPERATING WITH THE DEPARTMENT OF HEALTH.
YOU MUST DO THE SAME
IF YOU HAVE A COLD AND ARE COUGHING AND
SNEEZING DO NOT ENTER THIS THEATRE.
GO HOME AND GO TO BED UNTIL YOU ARE WELL.
Coughing, Sneezing, or Spitting Will Not Be
Permitted In The Theatre. In case you
must cough or sneeze, do so in your own hand
kerchief and if the Coughing or Sneezing
Prevails Leave The Theatre At Once.

This Theatre has agreed to cooperate with the
Department Of Health in disseminating
the truth about Influenza, and thus serve
a great educational purpose.

HELP US TO KEEP CHICAGO THE
HEALTHIEST CITY IN THE WORLD

JOHN DILL ROBERTSON
COMMISSIONER OF HEALTH
Overview

- Seasonal influenza
- Avian influenza
- Pandemic influenza
- Preparedness
Influenza
Seasonal Influenza

- Respiratory infection
- Spread through coughing, sneezing
- 1 to 5 days from exposure to onset of symptoms
- Spread 1 day before illness up to 7 days after
- Seasonal influenza traditionally occurs October through April
Influenza Symptoms

- Rapid onset of:
  - Fever
  - Chills
  - Body aches
  - Sore throat
  - Non productive cough
  - Runny nose
  - Headache
Seasonal Influenza

- 36,000 deaths nationally every year;
- 800 to 1,000 in MN
- Vaccine available
- High risk for complications include:
  - Very young
  - Very old
  - Fragile immune systems
  - Pregnant women
Avian Influenza ("Bird Flu")

- Birds of all species thought to be susceptible
- Two forms
  - Mild
  - Severe
- Signs and symptoms
  - Mild: ruffled feathers, reduced egg production; significant to poultry producers
  - Severe: extremely contagious between birds, rapidly fatal, about 100% of infected birds die
Avian Influenza - H5N1 Infection in Humans

- Virus remains an avian flu strain
- Human infection – has occurred when living quarters were close to animals
- Transmission
  - Contact with manure
  - Handling chickens
  - Eating sick, undercooked chickens
Avian Influenza - H5N1

Why do we care?

- Spreading among birds quickly and across countries
- Jumping hosts (across animal groups)
- Large percentage of deaths in those infected (281 documented cases, 169 deaths) as of March 20, 2007 in 12 countries
- Has potential to mutate into a human strain
Pandemic

- Epidemic
  - More than the expected number of cases within a certain period of time

- Pandemic
  - Geographically widespread epidemic of disease
Influenza Virus
Attaining Pandemic Status

• Must be a “new” virus transmitted to humans (no immunity within the community)

• Must be able to cause illness in humans

• **Must be able to pass easily from human to human**
Influenza Pandemic of 1918-1919

- 20% of the world’s population infected
- 20-40 million people died from influenza
- Highest mortality in people ages 20-40 yrs
- 675,000 Americans died of influenza
  - 43,000 U.S. serviceman died of influenza
6,000,000 Deaths from Influenza

This is Estimate For World, For Past 12 Weeks:

Recalls Black Death

"Flu" Five Times Deadlier Than World War.

LONDON, Dec. 19.—Canadian Press, via Reuter's.)—The Times' medical correspondent says that it seems reasonable to believe that about 6,000,000 persons perished from influenza pneumonia during the past 12 weeks. It has been estimated that the war caused the death of 20,000,000 persons in four and a half years.

Thus, the correspondent points out, influenza has proved itself five times deadlier than war, because, in the same

Influenza Death Rate in Ontario

London's Fatality List 329 Per 100,000 of Population.

Statistics compiled by Dr. J. W. S. McCullough, chief officer of health for Ontario, indicate that in none of the cities in this province was the death rate from Spanish influenza and complications as great as in the United States centers. Toronto's death rate is given as 327 per 100,000. Kingston was the hardest hit in Ontario, the rate being 648 per 100,000. Winnipeg suffered the most of any Canadian city, according to the figures now available. The death rate in that city was 744 per 100,000.

Camp Sheridan, Ohio, where 12,000 soldiers were encamped, had the heaviest death rate of all. It being 2,551 to 100,000 of population.

The figures, which cover an approximate period of six weeks, are:

Deaths from Influenza and Death Rate per 100,000 of Population.

<table>
<thead>
<tr>
<th>Cities</th>
<th>Deaths</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>1,590</td>
<td>444</td>
</tr>
<tr>
<td>Montreal</td>
<td>2,068</td>
<td>443</td>
</tr>
<tr>
<td>Toronto</td>
<td>3,646</td>
<td>377</td>
</tr>
<tr>
<td>St. John, N.B.</td>
<td>1,968</td>
<td>377</td>
</tr>
<tr>
<td>Winnipeg</td>
<td>1,968</td>
<td>377</td>
</tr>
<tr>
<td>Hamilton</td>
<td>2,644</td>
<td>377</td>
</tr>
<tr>
<td>Buffalo</td>
<td>2,064</td>
<td>377</td>
</tr>
<tr>
<td>Pittsburg</td>
<td>1,894</td>
<td>377</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>1,987</td>
<td>377</td>
</tr>
<tr>
<td>Washington</td>
<td>1,687</td>
<td>377</td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td>377</td>
</tr>
</tbody>
</table>
Could H5N1 Spark the Next Flu Pandemic?

• Possibly...

but so far the virus cannot pass easily from human to human
# World Health Organization Influenza Pandemic Phases

## Interpandemic Period

| Novel subtypes in animals but not humans | Phase 1 |
| Circulating subtypes in animals posing threat to humans | Phase 2 |

## Pandemic Alert Period

| Novel subtypes in humans, but no human-to-human transmission | Phase 3 |
| Limited human-to-human transmission | Phase 4 |
| Localized clusters of human cases | Phase 5 |

## Pandemic Period

| Increased and sustained transmission in the general population on a large scale | Phase 6 |
# United States/Minnesota Pandemic Influenza Stages

<table>
<thead>
<tr>
<th>Highly Pathogenic Avian Influenza (HPAI) Outbreak</th>
<th>WHO Phase</th>
<th>U.S. Stage</th>
<th>Minnesota Response Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Low risk of human cases</td>
<td>Stage 0: New domestic animal outbreak in at-risk country</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 2: Higher risk of human cases</td>
<td></td>
<td></td>
<td>Phase A0: HPAI outbreak nonexistent or overseas</td>
</tr>
<tr>
<td>Phase 3: No or very limited human-to-human transmission</td>
<td></td>
<td></td>
<td>Phase A1: HPAI outbreak in wild animal in North America</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Phase A2: HPAI outbreak in wild animal in Minnesota</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Phase A3: HPAI outbreak in domestic animal in North America</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Phase A4: HPAI outbreak in domestic animal in Minnesota</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Phase A5: Recovery</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pandemic Influenza Outbreak</th>
<th>Phase 3: No or very limited human-to-human transmission</th>
<th>Stage 1: Suspected human outbreak overseas</th>
<th>Phase P0: Suspected human outbreak overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 4: Evidence of increased human-to-human transmission</td>
<td>Stage 2: Confirmed human outbreak overseas</td>
<td>Phase P1: Confirmed, sustained human-to-human transmission overseas</td>
<td></td>
</tr>
<tr>
<td>Phase 5: Evidence of significant human-to-human transmission</td>
<td>Stage 3: Widespread human outbreaks in multiple locations overseas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 6: Efficient and sustained human-to-human transmission</td>
<td>Stage 4: First human case in North America</td>
<td>Phase P2: Suspected or confirmed human case in North America</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stage 5: Spread throughout the U.S.</td>
<td>Phase P3: Outbreak in the U.S.</td>
<td></td>
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<tr>
<td></td>
<td>Stage 6: Recovery and preparation for subsequent waves</td>
<td>Phase P4: Suspected or confirmed human case in Minnesota</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Phase P5: Limited outbreak in Minnesota</td>
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<tr>
<td></td>
<td></td>
<td>Phase P6: Widespread throughout Minnesota</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Phase P7: Recovery and preparation for subsequent waves</td>
<td></td>
</tr>
</tbody>
</table>
Goals of Pandemic Response

- Maintain community infrastructure
- Minimize social disruption
- Reduce morbidity/mortality
Protective Actions

• Governor is state decision maker about
  - Closing schools
  - Canceling large gatherings
  - Encouraging people to limit exposure to others
  - Assuring continuation of infrastructure
  - Using limited resources
Regional and Local Planning Considerations

- Integrate non-health entities in planning
- Establish (vaccine and antivirals) distribution systems
- Identify spokespersons
- Provide effective public education
Partnerships

- Homeland Security and Emergency Management
- County and city emergency managers
- Schools
- Law enforcement/military
- Voluntary organizations
- Local public health
- Clinics
- Emergency Medical Services
- Media
### Projected Pandemic Impact Based on 2004 U.S. Population Estimate of 294 Million (0.05% of World Population)

<table>
<thead>
<tr>
<th></th>
<th>Moderate Pandemic</th>
<th>Severe Pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Illness</strong></td>
<td>90 million</td>
<td>90 million</td>
</tr>
<tr>
<td>(30% of population)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outpatient Care</strong></td>
<td>45 million</td>
<td>45 million</td>
</tr>
<tr>
<td>(50% of ill)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hospitalizations</strong></td>
<td>865,000</td>
<td>9,900,000</td>
</tr>
<tr>
<td>(1% to 11% of ill)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ICU Care</strong></td>
<td>128,750</td>
<td>1,485,000</td>
</tr>
<tr>
<td>(15% of hospitalized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ventilators</strong></td>
<td>64,875</td>
<td>742,500</td>
</tr>
<tr>
<td>(50% of ICU)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deaths</strong></td>
<td>209,000</td>
<td>1,903,000</td>
</tr>
<tr>
<td>(0.2% to 2% of ill)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Projected Pandemic Impact Based on 2004 Minnesota Population Estimate of 5.1 Million (1.75% of U.S. Population)

<table>
<thead>
<tr>
<th></th>
<th>Moderate Pandemic</th>
<th>Severe Pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Illness</strong></td>
<td>1,544,000</td>
<td>1,544,000</td>
</tr>
<tr>
<td>(30% of population)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outpatient Care</strong></td>
<td>772,000</td>
<td>772,000</td>
</tr>
<tr>
<td>(50% of ill)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hospitalizations</strong></td>
<td>15,000</td>
<td>172,000</td>
</tr>
<tr>
<td>(1% to 11% of ill)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ICU Care</strong></td>
<td>2,250</td>
<td>25,700</td>
</tr>
<tr>
<td>(15% of hospitalized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ventilators</strong></td>
<td>1,120</td>
<td>12,900</td>
</tr>
<tr>
<td>(50% of ICU)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deaths</strong></td>
<td>3,600</td>
<td>32,900</td>
</tr>
<tr>
<td>(0.2% to 2% of ill)</td>
<td></td>
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</tr>
</tbody>
</table>
Working with Community Partners to Address

- Disease surveillance
- Clinical issues
- Laboratory
- Infection control
- Healthcare planning
- Vaccine and antiviral agents
Working with Community Partners to Address (cont)

- Community disease control and prevention
- Communications
- Animal health collaboration
- Care of the deceased
- Legal issues
- Ethical issues
HealthCare Planning

- Working together with hospitals, clinics, EMS, and long term care facilities in 8 regions
- Predicting and managing surge in demand
- Protecting workers and patients
- Managing off-site care facilities
- Providing home care
- Using Minnesota Responds, Medical Reserve Corps
Vaccine, Antiviral Agents, and Supplies

- Strategic National Stockpile (SNS) system
- Vaccine for prevention
- Antivirals potentially for prevention and treatment
- Get needed material/supplies delivered to the public quickly
Community Disease Control and Prevention

- Respiratory hygiene
- Business continuation
- School closing
- Limited interaction of people
- Home care
- Isolation and quarantine
Communications (First Line of Defense)

- Need many ways to reach people
- Consistent, understandable, complete messages
- Reaching non-English speakers
- Hotlines, web, TV, community organizations and many other means
Legal Issues

- Governor’s authority to manage an emergency
- Liability issues
- Being able to move quickly
- Licenses, sharing resources
- Isolation and quarantine
Personal Preparedness

- Check with your local public health officials and health care providers for:
  - Information about the signs and symptoms of a specific disease outbreak
  - Recommended prevention and control actions
Protect Your Family’s Health

- Practice good health habits
- Stop the spread of germs
  - Frequent hand washing
  - Cover coughs and sneezes
  - Stay away from others as much as possible when you are sick
Family Emergency Preparedness Awareness

- Food and water
- First aid kit
- Battery powered radio and flashlight with extra batteries
- Toiletry items
- Special items for infants, elderly and pets
- Family contact lists and meeting place
- Wills, insurance papers, medical records, inventory of possessions, identification
- Medications
- Basic care giving skills
Stay Alert

• Stay informed about pandemic influenza and be prepared to respond.
• Consult www.pandemicflu.gov for updates on national and international information on pandemic influenza.
• Consult the local web sites frequently for updates:
  - www.mdhflu.com
  - www.birdflu.state.mn.us
Are We Ready?

- More today than yesterday
- More tomorrow than today
- Continuing process
- Requires everyone to participate
  - State and local government
  - Businesses
  - Community organizations
  - Health Care Systems
  - Individuals/families
Recommended Web Sites

http://www.health.state.mn.us/divs/idepc/diseases/flu/avian/index.html

www.health.state.mn.us

www.hsem.state.mn.us

www.ready.gov

www.pandemicflu.gov

http://www.cdc.gov/flu/avian/

www.fema.gov/areyouready

www.ed.gov/emergencyplan

www.weprevent.org/usa/cover.pdf

www.prepare.org/
Contact Information

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