The Impact of Pandemic Influenza on Public Health

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Part Six of Six

Where Are We?
# Current WHO Phase of Pandemic Alert

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inter-Pandemic Phase: New Virus in Animals, NO Human Cases</td>
<td>Low Risk of Human Cases</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>High Risk of Human Cases</td>
<td>2</td>
</tr>
<tr>
<td>Pandemic ALERT: New Virus Causes Human Cases</td>
<td>No or Very Limited Human-to-Human Transmission</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Evidence of Increased Human-to-Human Transmission</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Evidence of Significant Human-to-Human Transmission</td>
<td>5</td>
</tr>
<tr>
<td>PANDEMIC</td>
<td>Efficient and Sustained Human-to-Human Transmission</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: WHO Global Influenza Program
The Next Pandemic?

- Potential impact of the next pandemic (CDC)
  - 2-7.4 million deaths globally
  - In high-income countries . . .
    - 134-233 million outpatient visits
    - 1.5-5.2 million hospitalizations
    - ~25% increase in demand for ICU beds, ventilators, etc.
50% or more of those who become sick will seek medical care

Number of hospitalizations and deaths will depend upon the virulence of the pandemic virus

<table>
<thead>
<tr>
<th></th>
<th>Moderate (1957-like)</th>
<th>Severe (1918-like)</th>
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</thead>
<tbody>
<tr>
<td>Illness</td>
<td>90 million (30%)</td>
<td>90 million (30%)</td>
</tr>
<tr>
<td>Outpatient medical care</td>
<td>45 million (50%)</td>
<td>45 million (50%)</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>865,000</td>
<td>9,900,000</td>
</tr>
<tr>
<td>ICU care</td>
<td>128,750</td>
<td>1,485,000</td>
</tr>
<tr>
<td>Mechanical ventilation</td>
<td>64,875</td>
<td>745,500</td>
</tr>
<tr>
<td>Deaths</td>
<td>209,000</td>
<td>1,903,000</td>
</tr>
</tbody>
</table>
What Needs to Be Done?

- Surveillance
- Culling/domestic poultry vaccine issues
- Quarantine
- Vaccination against circulating flu
- H5N1 vaccine development
- Stockpiling of antivirals
- Quicker laboratory testing
- Stringent infection control practices
  - Hand washing disinfection, masks, etc.
- Masks
- Education
  - Vaccination, antivirals, masks, food safety, hand washing, disinfection, etc.
- Coordination
- Through planning and preparedness
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2004–5 Influenza Season—An Amazing Collaboration

- State Health Departments
- City & County Health Officials
- Local Health Departments
- Vaccine Manufacturers
- Directors Emergency Operation Center
- National Center for Infectious Diseases
- Distributors
- Council for State & Territorial Epidemiologists
- National Immunization Program
- CDC Office of the Director
- Advisory Committee on Immunization Practices
- American Academy of Family Physicians
- American Medical Association
- Association of State & Territorial Health Officials
- “Health Heroes”
U.S. Pandemic Influenza Plan Funding 2006 Appropriations

- HHS allocations ($3.3B)

Dollars in Millions

*Other Domestic Includes:
- Surveillance, Quarantine, Lab Capacity, Rapid Tests

**International Activities Includes:
- International Preparedness, Surveillance, and Response

Source: US Dept of Health and Human Services
Preparations

Antiviral Purchases

12/08  81 million courses

12/06  26 million courses

03/06  20 million courses*

* a course is the number of doses needed to treat one person.

Source: US Dept of Health and Human Services
Checklists

Available Checklists:
- State and Local
- Individuals and Families
- Business
- Schools (K-12)
- Faith-based and Community Organizations
- Medical Offices and Clinics
- Home Health Services

Upcoming Checklists:
- Emergency Medical Services
- Preschool
- Colleges and Universities
- Long Term Care
- Travel Industry
- Transportation

Source: US Dept of Health and Human Services
Take-Home Messages

- The threat to public health will remain so long as the virus continues to cause disease in domestic poultry
- The outbreaks in poultry are likely to take a very long time to control
- Should the final prerequisite for a pandemic be met, the consequences for human health around the world could be devastating
- Regardless of how the present situation evolves, the world needs to be better prepared to respond to the next influenza pandemic
Lessons Learned

- Timing has a lot to do with the outcome of a rain dance
- “The only thing more difficult than planning for an emergency is having to explain why you didn’t.”
- Be proactive, NOT reactive!!!!
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