Pandemic Influenza Preparedness and the Role of Infection Control Professionals

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What is the State of Pandemic Flu Preparedness in the USA?

• Major Logistical Challenges
• US Healthcare consists of an uncoordinated, fragmented, and largely private system
  – The system is broke or nearly broke
  – One-third of hospitals operate at a deficit
• There are severe manpower shortages, especially in nursing
  – Estimated current need for 100,000 nurses

What is the State of Pandemic Flu Preparedness in the USA?

• Approximately 48% of emergency departments operate at capacity or over capacity
• Essential health care supplies might not be available during a pandemic
  – Health care systems maintain their supply chains with “just-in-time” operations, and 80% of supplies, including drugs, come from offshore suppliers

### Current State of Preparedness is Alarming

<table>
<thead>
<tr>
<th>Variable</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital lacks surge capacity</td>
<td>20%</td>
</tr>
<tr>
<td>Plan for rapid set-up of negative pressure rooms</td>
<td>&lt;50%</td>
</tr>
<tr>
<td>Hospitals reporting a sufficient # of HCWs to respond to a surge of up to 50 patients</td>
<td>49%</td>
</tr>
<tr>
<td>Hospitals reporting a sufficient # of HCWs to respond to a surge of up to 50-100 patients</td>
<td>8%</td>
</tr>
<tr>
<td>Hospital reported that they lack HCWs to respond to any surge of patients</td>
<td>19%</td>
</tr>
<tr>
<td>Hospitals reporting having enough approved respirators to handle a surge capacity of 500 patients/visitors for 3 days</td>
<td>65%</td>
</tr>
</tbody>
</table>

Survey of IC Professionals N=1565

What is the Role of Infection Control Professionals in Preparedness Planning?

- IC should assist in the development of written preparedness plans and participate in
  - Disease surveillance
  - Education and training
  - Triage and clinical evaluation
  - Surge capacity planning
  - Occupational health management
  - PPE supply, vaccine and anti-viral use
  - Communication with hospital staff management, and local, regional and national healthcare authorities
IC Department Pandemic Flu Preparedness

- Pharmacy
- Employee Health
- Emergency Preparedness Committee
- Hospital Staff
- Patients
- Health Department
- Materials Management
- Hospital Administration
Multi-focal Pandemic Influenza Policy

• Surveillance

• Infection control practices for patients and personnel

• Management of infectious patients

• Reduction of exposure

• Occupational health issues

• Hospital communication and education
Surveillance for Pandemic Influenza is the First Step In Pandemic Awareness

- Emergency Department, physicians, unit managers, the laboratory and the Infection Control Department will detect Pandemic influenza by:
  - ILI / Influenza syndromic surveillance
  - Reporting of Influenza detection by the lab
  - Monitoring employee absenteeism for increases that suggest illnesses

- Infection Control Department will also disseminate surveillance data to
  - Hospital management and employees
  - Emergency preparedness committee
  - Local, state and national authorities
What is the Role of Infection Control In Pandemic Influenza Education?

- Infection control is a critical part of the hospital’s educational force
  - IC is charged with an educational mandate for infection control measures through:
    - Annual infection control updates/meetings
    - Medical Grand Rounds
    - ‘Just in time’ or emergency educational sessions upon detection of pandemic influenza
      - Real time guidance
    - Broadcast emails, text messages, pages and high visibility hospital message boards
    - Telephone hotlines for patients, visitors and staff
    - Press releases/ media communication
Education of Patients/Visitors on Infection Control Measures

• Infection control is expected to participate in the education of patients and visitors through
  – Language-specific and reading-level appropriate materials
  – Distribution of information to all persons who enter the hospital
  – Identifying staff to answer questions about preventing influenza transmission
How Can Infection Control Educate and Promote Respiratory Hygiene?

- Respiratory Hygiene/Cough Etiquette is encouraged by
  - Posting signs with instructions for patients and families in all common areas
  - Promoting the covering of mouth/nose with a tissue when coughing
  - Educating the public and staff on the proper disposal of used tissues
  - Promoting the use of surgical masks
  - Promoting hand hygiene after contact with respiratory secretions

http://www.hhs.gov/pandemicflu/plan/
Infection Control is Responsible for Promoting HCW Awareness of Basic Infection Control Principles for Pandemic Influenza

1. **Standard and Droplet (surgical mask) Precautions for routine care**

2. PFR 95 mask for aerosol generating procedures

[http://www.hhs.gov/pandemicflu/plan/]
Along with Emergency Preparedness Committee and Materials Management, Infection Control Professionals Must Plan for Personal Protective Equipment Use.

The Infection Control Department must know the stockpile of PPE.
Recommendations for Personal Protective Equipment (PPE)

- Stockpile a 3-week supply of surgical masks for use facility wide
- Stockpile N95 respirators for use by health care workers
- Periodically review and update inventories of PPE

Additional Stockpiles of PPE for Pandemic Influenza

http://www.hhs.gov/pandemicflu/plan/
Infection Control Must Educate Healthcare Personnel and Provide Real Time Guidance on Proper PPE Use

• Educational in-services
• Staff and Committee meetings
• Broadcast emails and text mssg/pages
• Telephone hotline and 24/7 availability

The process will likely be labor intense and logistically challenging.
Other Infection Control Guidance Issues for the Healthcare System

- Disposal of solid waste
- Linen and Laundry services
- Dishes and eating utensils
- Patient care equipment
- Environmental cleaning services
- Post-mortem care
- Laboratory specimens and practices
What Role Does Infection Control Play in Guiding Hospitalization During Pandemic Influenza?

Goal: limit admission to the most severe cases that cannot be cared for at home.
What is the Role of Infection Control in Patient Placement?

- Assist in placing patients with known or suspected pandemic influenza in droplet precautions
  - For a minimum of 5 days from the onset of symptoms
- Target single patient rooms when available
  - Cohort confirmed cases when necessary
- Assist in placement of immunocompromised patients
  - As these patients may shed virus for longer periods, they should be placed on droplet precautions for the duration of illness
IC Charged With Limiting Pandemic Influenza Exposures in the Hospital

• Infection Control will:
  – Assist in the detection of persons entering the facility who may have Pandemic Influenza
  – Assist hospital decision makers in identifying a “trigger point” for passive vs. active screening for pandemic influenza
    • Passive (signs at the entrance) vs. Active (direct questioning of all patients and visitors)
  – Assist in the triage of patients with respiratory symptoms
Visitors, Triage and Infection Control

• An IC Team member will likely participate in patient and visitor triage such as:
  • Screening visitors for signs and symptoms of Influenza
  • Instructing family members accompanying patients with influenza-like illness to wear a surgical mask
  • Instructing visitors to wear surgical masks and to perform hand-hygiene
Infection Control to Oversee the Limiting of Nosocomial Spread

- Limiting nosocomial transmission through:
  - Education on Infection Control Principles
  - Stockpiling a 3-week supply of surgical masks, N95 respirators and other PPE
  - Preventing infected staff from working
    - Furlough
  - Limiting exposures by cohorting patients and staff
  - Limiting unnecessary admissions
  - Using anti-viral treatment, chemoprophylaxis, vaccination

Occupational Health and Infection Control Collaboration

• Collaboration will include:
  – Educating personnel about occupational health issues related to pandemic influenza
    • In Services and real time guidance 24/7
  – Screening personnel for influenza like symptoms prior to starting work shift
    • Infection control to supply a symptoms checklist to unit managers for screening of staff prior to work
      – If symptomatic, remove HCW from patient care

• For HCWs who have recovered from pandemic influenza
  – Prioritized for the care of patients with active Influenza and its complications
Infection Control, Occupational Health and the Pharmacy

- Oseltamavir
  - Treatment of choice for pandemic Influenza
  - Likely will be in high demand for prophylaxis by HCWs
Priority Treatment and Prophylaxis

1. Patients admitted to a hospital.
2. Health-care workers (HCW) with direct patient contact, and EMS providers.
3. Highest risk outpatients – immunocompromised persons and pregnant women.
4. Pandemic health responders (public health, vaccinators, vaccine and antiviral manufacturers), public safety (police, fire, corrections), and government decision-makers.
5. Increased risk outpatients-young children 12-23 months old, persons ≥ 65 years old and persons with underlying medical conditions.
6. Pandemic societal responders (e.g., critical infrastructure groups and HCW without direct patient contact.
7. Other outpatients.

Infection Control must collaborate with Occupational Health and the Pharmacy to identify and deliver anti-virals to exposed HCWs

www.hhs.gov/pandemicflu/plan/appendix.html
Hospital Communication During Pandemic Influenza

Infection Control Department as Part of Communication Force

- Infection control and the Healthcare System should work with:
  - public health officials
  - neighboring healthcare facilities
  - the public
  - the press

- Ensure rapid and ongoing information sharing during Pandemic Influenza
Infection Control Assistance with Telephone Triage and Hotline

• IC to assist in planning and staffing telephone hotlines
  – Patient triage to limit unnecessary inpatient care
  – HCW hotline for guidance on IC issues, symptom surveillance, and post exposure management
Infection Control as a Member of Pandemic Preparedness Planning

- Hospitals bed capacity goals
  - Make 30% of beds available within 1 week
  - Double the licensed bed capacity within 2 weeks
  - Anticipate supply needs (including medications)

Surge Capacity, Bed and Materials Management

- Infection Control and Hospital planners should participate in emergency exercises and should use FluSurge Software to estimate the impact on resources
  - Flu Surge: http://www.cdc.gov/flu/flusurge.htm
  - TableTop: http://www.pandemicflu.gov

- Other Important IC Considerations
  - Develop policies for expediting discharges
  - Develop criteria for cancelling elective procedures
  - Develop criteria for shifting patients between units to free up critical care beds
CDC Pandemic Influenza Checklist is available for guidance with pandemic preparedness planning

www.pandemicflu.gov
**Cost of Hospital Preparedness will likely Challenge Healthcare Systems**

<table>
<thead>
<tr>
<th>Activity or Stockpile</th>
<th>Cost $US</th>
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<tbody>
<tr>
<td>Development of Pandemic Plan</td>
<td>200,000</td>
</tr>
<tr>
<td>Staff Education and Training</td>
<td>160,000</td>
</tr>
<tr>
<td>Stockpile of personnel protective equipment</td>
<td>400,000</td>
</tr>
<tr>
<td>Stockpile of basic supplies</td>
<td>240,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,000,000</strong></td>
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Estimated needs for an average hospital in the USA

The Role of Infection Control Professionals in Pandemic Influenza Preparedness?

• Infection control plays an important, multidisciplinary role in Pandemic Influenza preparedness
• Responsibilities include planning, educating, overseeing, communicating, triaging and advising on infection control measures
• Pandemic Influenza preparedness will be challenged both by logistical and financial considerations
• Educational and planning resources exist for healthcare systems and can be found at local, national and international healthcare organizations
The End