Business Continuity and Crisis Management

Cardinal Health’s Approach
Welcome

• We don’t have ALL the answers
• Opportunity to share ideas
• Discussion around how we can work together to help prepare our communities, employees and families
Three different types of Disasters

1) Natural Disasters
   – Hurricane, Earthquakes, Tornados, Floods

2) Biohazard events

3) Pandemic
At Cardinal Health we take an “all-hazards” approach to business continuity, ensuring resilience against any type of disruption - - including everyday incidents as well as natural disasters and acts of terrorism

- **Business Recovery Plans:**
  - Defined activities that are critical to the survival of the organization
  - Defined people and resources required to perform essential business functions

- **Emergency Response Plans:**
  - Defined procedures for responding to, and stabilizing the situation immediately following an incident; the initial actions to protect lives and our supply chain
  - Established procedures for interacting with public emergency responders
Tested and Documented Plans

- Crisis Leader at each facility is responsible for emergency response, backup operations, and post-recovery plans
- Detailed planning process with table-top simulation training for key personnel
- Up to three backup locations for each distribution center
- Emergency customer service support for order placement
- Centralized command and control centers
Tested and Documented Plans

• Employees who can be redeployed immediately to maintain operations in an impacted facility
• Emergency procedures for contacting employees
• Extensive private fleet for medical supplies with GPS tracking system
• Contingency plans with key suppliers to maintain fuel supply
• Working relationships with government agencies and trade associations
Government and Industry Resources for Formulary

- **AHRMM, HIGPA** and **HIDA** created product formularies for Medical – Surgical supplies related to disasters that could affect the hospital supply chain.
- There are core and pediatric formularies that focus on these disasters:
  - **Biological**
  - **Explosive**
  - **Chemical**
  - **Radiological**
  - **Nuclear**
- Formularies can be accessed at the following URL:
  
- Other government and industry websites for disaster preparedness and product formulary information:
  
Bio Terrorism

• If there were a deliberate release of viruses, bacteria, or other germ agents used to cause illness or death, Cardinal would invoke the same disaster response protocols that are used to maintain overall business continuity and minimize disruption to the supply chain.


• Homeland Security recommends utilizing the CDC’s guide for Bioterrorism readiness at http://www.cdc.gov/ncidod/dhqp/pdf/bt/13apr99APIC-CDCBioterrorism.PDF

• Cardinal Disaster Preparedness Product Guide
History of Pandemic

- Pandemics occur when novel influenza strain emerges with these features:
  - Readily transmitted between humans
  - Genetically unique
    - lack of preexisting immunity in the human population
  - Increased virulence

- Pandemics have differed in terms of population-specific mortality rates and cannot be characterized by a “single risk predictive model”
  - CIDRAP, 2006

- H5N1 – Avian Influenza
  - Largest threat to incite a pandemic, should the virus mutate
  - Currently not easily transmitted from human to human
  - Cases due to handling of wild birds or poultry
  - Researchers believe H5N1 is similar to 1918 strain
Ten Things You Must Know About Pandemic Influenza — World Health Organization, October 2005

• Pandemic influenza is different from avian influenza
• Influenza pandemics are recurring events
• The world may be on the brink of another pandemic
• All countries will be affected
• Widespread illness will occur
• Medical supplies will be inadequate
• Large numbers of deaths will occur
• Economic and social disruption will be great
• Every country must be prepared
• WHO will alert the world when the pandemic threat increases
Experts at WHO believe that the world is now closer to another influenza pandemic than at any time since 1968.

**WHO uses six phases of pandemic alert** as a system for informing the world of the seriousness of the threat and of the need to launch progressively more intense preparedness activities.

<table>
<thead>
<tr>
<th>Inter-pandemic phase</th>
<th>Low risk of human cases</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>New virus in animals, no human cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pandemic alert</strong></td>
<td></td>
<td></td>
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<tr>
<td>New virus causes human cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pandemic</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>No or very limited human-to-human transmission</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Evidence of increased human-to-human transmission</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Evidence of significant human-to-human transmission</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Efficient and sustained human-to-human transmission</td>
<td></td>
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</tbody>
</table>
Future pandemics will be assigned to one of five discrete categories of increasing severity (Category 1 to Category 5). The Pandemic Severity Index provides communities a tool for scenario-based contingency planning to guide local pre-pandemic preparedness efforts. Accordingly, communities facing the imminent arrival of pandemic disease will be able to use the pandemic severity assessment to define which pandemic mitigation interventions are indicated for implementation.
Community Mitigation and Pandemic Severity - CDC

Mitigation Guidelines for social distancing to reduce transmission of any Avian Flu Pandemic Include:

- Closing schools
- Canceling public gatherings
- Planning for liberal work leave policies
- Teleworking strategies
- Voluntary isolation of cases
- Voluntary quarantine of household contacts

CDC 02/07
Federal Pandemic Planning: 
*National Strategy for Pandemic Influenza, May 2006*

- The federal government will use all instruments of national power to address the pandemic threat.
- States and communities should have credible pandemic preparedness plans to respond to an outbreak within their jurisdictions.
- The private sector should play an integral role in preparedness before a pandemic begins, and should be part of the national response.
- Individual citizens should be prepared for an influenza pandemic, and be educated about individual responsibility to limit the spread of infection if they or their family members become ill.
- Global partnerships will be leveraged to address the pandemic threat.
Our communities are on the front lines of a pandemic…State and local responsibilities include the following:

- Ensuring that all reasonable measures are taken to limit the spread of an outbreak within and beyond the community’s borders.
- Establishing comprehensive and credible preparedness and response plans that are exercised on a regular basis.
- Integrating non-health entities in the planning for a pandemic, including law enforcement, utilities, city services and political leadership.
- Establishing state and community-based stockpiles and distribution systems to support a comprehensive pandemic response.
- Identifying key spokespersons for the community, ensuring that they are educated in risk communication, and have coordinated crisis communications plans.
- Providing public education campaigns on pandemic influenza and public and private interventions.


State and Local Funding for Pandemic

- $770 Million
- Competitive and awarded based on innovative approach to planning
- All 50 states currently have pandemic plans

HHS FY 2006 Pandemic Influenza Supplemental Budget (Dollars in Millions)

- Vaccine, $3,233
- Antivirals, $911
- Medical Supplies (PPE, ventilators, etc.), $170
- State and Local Preparedness, $770
- International Activities**, $179
- Other Domestic***, $276
- Risk Communications, $51

*State and local preparedness includes funding for state subsidies of antivirals drugs.
**International Activities includes: International Preparedness, Surveillance, Response, and Research.
***Other Domestic Includes: Surveillance, Quarantine, Lab Capacity, Rapid Tests.
****This chart does not include $30 million in supplemental funding that was transferred to USAID.
## Pandemic Influenza Scenarios
### US Dept of HHS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Moderate (1958/68-like)</th>
<th>Severe (1918-like)</th>
</tr>
</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>64,975</td>
<td>742,500</td>
</tr>
<tr>
<td>Deaths</td>
<td>209,000</td>
<td>1,903,000</td>
</tr>
</tbody>
</table>
Pandemic Implications

- 12 – 18 month duration
- Mandatory and/or voluntary closings of national, state and even local borders
- Public panic and 24/7 media coverage
- Governments will have limited resources to respond
- Even under worst case scenario the world’s population will survive a pandemic
Pandemic Implications

• The global just-in-time economy presents a unique state of vulnerability to a pandemic
• International governments will have limited resources to respond to ongoing impact
• Hope and despair are not strategies
• Business continuity planning is not optional
• We’ll get through it…just like every pandemic in our history
Economic Implications

• As great as 40% of workers out at any time due to illness or other ill family members

• Supply chain collapse

• Disproportionate number of deaths will occur among 20-40 year olds if it is an H5N1 pandemic
Supply Chain Implications

- Product point of origin
- Fuel and transportation
- Production ramp up
- Employees
- Technology
- Cross Industry effects and communication
Anti Virals and Vaccines

- Will not be readily available at the onset of a pandemic

- Anti Virals
  - Tamiflu
  - Relenza Inhaler

- Vaccines are in development and in some laboratory tests show capability against H5N1 – studies are limited
  - Quantities and administration would be a challenge
Federal Pandemic Strategy

The National Strategy for Pandemic Influenza guides our preparedness and response to an influenza pandemic, with the intent of

• (1) stopping, slowing or otherwise limiting the spread of a pandemic to the United States;
• (2) limiting the domestic spread of a pandemic, and mitigating disease, suffering and death; and
• (3) sustaining infrastructure and mitigating impact to the economy and the functioning of society.
Tailored Supply Chain Approach

- Select the offering for medical products that meets the needs of your preparedness plans and particular supply chain

- **Product Acquisition Options:**
  - Segregated Product, Customer Site
  - Segregated Product, Customer Alternative Site
  - Increased Par Levels, Customer Site
• Although no one is able to predict what might happen with the avian flu, Cardinal Health is prepared to respond appropriately to ensure the resiliency of our business against disruption to help maintain the continuity of the supply chain, so our customers can provide appropriate and uninterrupted patient care.

• Preparing for a pandemic influenza has been incorporated into existing corporate, business segment and facility-level continuity plans.
Pandemic Preparedness

• Cardinal Health’s pandemic preparedness plan details policies and action steps for each stage of the pandemic, as defined by the experts at WHO

• A specific plan has been developed to protect and educate “mission-critical” employees to lessen the impact on our business and to maintain service to our customers

• Cardinal Health will implement certain workplace considerations such as telecommuting and flexible hours
Pandemic Preparedness

- Cardinal Health has back-up plans for high absenteeism to ensure that we have critical employees to take orders, pick, pack and deliver.
- We have contingency plans to maintain private fleet capability as well as fuel in event of shortages.
- Cardinal Health has increased key product codes that are aligned with CDC, HHS and APIC guidelines relating to Avian Flu eradication through our manufacturing divisions in order to maintain supply levels.
• We believe that the best supply chain solution is one that allows for the necessary products to be closest to the patients

• Cardinal Health has developed several Pandemic Preparedness Offerings for stockpiling product, without disrupting daily supply chain management
Medical Supplies

• Cardinal Health is working directly with customers to help determine the right products and quantities in preparation for a possible pandemic, utilizing:
  – CDC FluSurge Product guidance for the eradication of avian influenza
  – Cardinal Health product guides

• Other government websites to help you determine product and quantity needs:
  – http://www.cdc.gov/flu/flusurge.htm
  – http://www.cdc.gov/flu/avian/professional/protect-guid.htm
  – http://pandemicflu.gov
  – http://www.cidrap.umn.edu/10points/go.do
Pharmaceuticals

• Pharmaceutical distribution
  – Cardinal Health will work with state and national authorities to coordinate the distribution of vaccines or other pharmaceuticals to health care providers, following government directives.

  – In the meantime, government and pharmaceutical manufacturers are determining the efficacy of vaccines available today and in development to combat a flu outbreak.
A 10-Point Framework for Pandemic Influenza
Business Contingency Planning - CIDRAP 2006

- Emergency management plan and structure
- Employee health and safety
- Internal/external communications
- Security
- Information systems, technology and databases
A 10-Point Framework for Pandemic Influenza
Business Contingency Planning - CIDRAP 2006

- Supply chains/critical inputs and outputs
- Public/media relations
- Legal issues
- Government considerations
- Business continuity/survival strategies
Healthcare Planning Considerations

• Employee Protection
• Surveillance
• Communications
• Education and Training
• Procedures
• Surge Capacity
• Security
• Mortuary Issues
Surge Capacity

*Surge capacity:* Refers to the ability to expand provision of services beyond normal capacity to meet transient increases in demand. Surge capacity within a medical context includes the ability of healthcare or laboratory facilities to provide care or services above their usual capacity and to expand manufacturing capacity of essential medical materiel (e.g., vaccine) to meet increased demand.
FluSurge

Version 2.0

Centers for Disease Control and Prevention

Atlanta, Georgia

START

EXIT&SAVE
FluSurge

Main Menu

Step 1: Determine population of locale by age groups:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19 yrs</td>
<td>1,350,707</td>
</tr>
<tr>
<td>20-64 yrs</td>
<td>1,000,000</td>
</tr>
<tr>
<td>+ 65 yrs</td>
<td>353,154</td>
</tr>
</tbody>
</table>

Step 2: Determine basic hospital resources:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total licensed non-ICU beds</td>
<td>7,300</td>
</tr>
<tr>
<td>% licensed non-ICU beds staffed</td>
<td>100%</td>
</tr>
<tr>
<td>Total staffed non-ICU beds</td>
<td>7,300</td>
</tr>
<tr>
<td>Total licensed ICU beds</td>
<td>759</td>
</tr>
<tr>
<td>% licensed ICU beds staffed</td>
<td>100%</td>
</tr>
<tr>
<td>Total Staffed ICU beds</td>
<td>759</td>
</tr>
<tr>
<td>Total number of ventilators</td>
<td>691</td>
</tr>
<tr>
<td>% ventilators available</td>
<td>100%</td>
</tr>
<tr>
<td>Total number of ventilators</td>
<td>691</td>
</tr>
</tbody>
</table>

Step 3: Determine duration (6, 8, or 12 weeks) and attack rate (15%, 25% or 35%) of the pandemic:

Duration: 8
Attack rate: 35%

Step 4:

Notes:
1. Sample data are from Metropolitan Atlanta.
2. Duration (pandemic duration) refers to the number of weeks you assume the pandemic wave to last.
FluSurge Results

Distribution of admissions: By day, 8 week outbreak
35% attack rate

<table>
<thead>
<tr>
<th>Pandemic Influenza Impact / Weeks</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>Hospital Admission</td>
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<tr>
<td>Weekly admissions</td>
<td>817</td>
<td>1,029</td>
<td>1,543</td>
<td>1,955</td>
<td>1,955</td>
<td>1,543</td>
<td>1,029</td>
<td>817</td>
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<tr>
<td>Peak admissions/day</td>
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<tr>
<td>Hospital Capacity</td>
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<tr>
<td># of influenza patients in hospital</td>
<td>454</td>
<td>766</td>
<td>1,135</td>
<td>1,437</td>
<td>1,488</td>
<td>1,308</td>
<td>1,003</td>
<td>668</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of hospital capacity needed</td>
<td>8%</td>
<td>10%</td>
<td>16%</td>
<td>20%</td>
<td>20%</td>
<td>18%</td>
<td>14%</td>
<td>9%</td>
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<tr>
<td>ICU Capacity</td>
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<td></td>
<td></td>
</tr>
<tr>
<td># of influenza patients in ICU</td>
<td>93</td>
<td>160</td>
<td>302</td>
<td>398</td>
<td>431</td>
<td>419</td>
<td>333</td>
<td>230</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of ICU capacity needed</td>
<td>12%</td>
<td>26%</td>
<td>40%</td>
<td>52%</td>
<td>57%</td>
<td>55%</td>
<td>44%</td>
<td>30%</td>
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<tr>
<td>Ventilator Capacity</td>
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<td></td>
</tr>
<tr>
<td># of influenza patients on ventilators</td>
<td>46</td>
<td>98</td>
<td>151</td>
<td>199</td>
<td>216</td>
<td>210</td>
<td>187</td>
<td>115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% usage of ventilator</td>
<td>7%</td>
<td>14%</td>
<td>22%</td>
<td>29%</td>
<td>31%</td>
<td>30%</td>
<td>24%</td>
<td>17%</td>
<td></td>
<td></td>
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<tr>
<td>Deaths</td>
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</tr>
<tr>
<td># of deaths from influenza</td>
<td>128</td>
<td>213</td>
<td>320</td>
<td>406</td>
<td>405</td>
<td>320</td>
<td>213</td>
<td>128</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of influenza deaths in hospital</td>
<td>89</td>
<td>149</td>
<td>224</td>
<td>283</td>
<td>283</td>
<td>224</td>
<td>149</td>
<td>89</td>
<td></td>
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</tr>
</tbody>
</table>

Notes:
1. All results showed in this table are based on most likely scenario.
2. Number of influenza patients in hospital, in ICU, and number of influenza patients on ventilators are based on maximum daily number in a relevant week.
3. Hospital capacity used, ICU capacity used, and % usage of ventilator are calculated as a percentage of total capacity available (see manual for details).
4. The maximum number of influenza patients in the hospital each week is lower than the number of weekly admissions because we assume a 5-day stay in general wards (see manual for details).
Personal Planning

• Be Aware
• Plan – have conversations now
• 2 week supply of food and water
• Key medical supplies
• Good hygiene
• Social distancing
• Pandemicflu.gov
Working Together

• Communication of needs and expectations at local and regional level

• Guidance for product formularies, quantities, and acquisition options

• Local team meetings and agreement on preparedness path
  – Include State agencies and Strategic National Sourcing

• Consider running drills
Your community counts on you. You can count on your Distributors to ensure that you have the products and solutions you need to be prepared.
Thank you

Questions and Discussion