Continuity of Operations in the Clinical Laboratory

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Objectives

- Define “continuity of operations (COOP)”
- Explain the need for COOP planning in the clinical laboratory setting
- Describe the components of a COOP
- Describe resources available for developing a COOP

Clara Barton Hospital
Hoisington, KS - 2001

- Roofs and walls were strengthened
- New emergency generator
  - Large enough to provide power to entire building
  - Existing generator served only some areas of the hospital
  - Protected
  - Tested every Monday

COOP and Disaster Plans

- Disaster plans
  - Generally external emergencies
  - No effect on normal operations
- COOP
  - Internal or external emergencies
  - Complex effects from other incidents
  - Directly affecting hospital operations
COOP Benefits

- Good business practice
- Enables an “all-hazards” response
- Maintains essential functions
- Protects critical resources
- Minimizes disruption to other services
- Enables timely recovery

COOP Planning Objectives

- Chain of command (HICS)
- Partnerships
- Essential Functions
- Staffing
- Supplies
- Specimen Transport
- Clinical Information (LIS)
- Safety
- Communications

Regional Annex L

- Supplement to the Regional Plan for the Healthcare System Preparedness Program (HSPP) grant
- Regional laboratory resource
  - Laboratory Response Network
  - Laboratory Emergency Preparedness
  - Minnesota Laboratory System
  - State and Regional contact information

Components of COOP

- Policies & Procedure
- Prioritized Testing Menu
- Staffing Plan
- Communications Plan
- Evacuation/Transfer of Service Plan

Building a COOP: Hazard Vulnerability Assessment (HVA)

- Identify potential threats
- Determine likelihood and severity
- Calculate risk
- Risk = Likelihood x Severity

<table>
<thead>
<tr>
<th>Threat</th>
<th>Likelihood</th>
<th>Severity</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power failure</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Water main break</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Tornado or Severe thunderstorm</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Supply shortage</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Acetone spill</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Example: Fire in the Lab

- Reduce likelihood:
  - Grounded electrical outlets
  - Minimize flammable chemicals
  - Safe practices
  - Training
- Reduce severity
  - Fire extinguishers
  - Sprinkler systems
  - Smoke compartments
  - Evacuation routes

Building a COOP: Policies & Procedures

- Identify essential functions
- Awareness and notification
- Incident Assessment
- Use plans based on HVA, 96-hour rule

Building a COOP: Policies & Procedures

<table>
<thead>
<tr>
<th>Priority 1</th>
<th>Service Priorities</th>
<th>Recovery Times</th>
<th>Pan Flu Service Priorities</th>
<th>Pan Flu Recovery Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service that can be performed immediately (within 24 hours)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Service that can be performed within 1-7 days</td>
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<tr>
<td>Service that must be performed within 1-7 days</td>
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Building a COOP: MDH Influenza - example

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<tr>
<th>Priority 1</th>
<th>Service Priorities</th>
<th>Recovery Times</th>
<th>Pan Flu Service Priorities</th>
<th>Pan Flu Recovery Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services that must remain uninterrupted or that must be resumed immediately</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Services that must remain uninterrupted or that must be resumed immediately</td>
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</tr>
</tbody>
</table>

Building a COOP: MDH Influenza - example

<table>
<thead>
<tr>
<th>Priority 4</th>
<th>Service Priorities</th>
<th>Recovery Times</th>
<th>Pan Flu Service Priorities</th>
<th>Pan Flu Recovery Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services that can be deferred for more than one month</td>
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</tbody>
</table>

Building a COOP: Evacuation/Transfer of Service

- Defined triggers for evacuation
- Defined process for shut down
- Identify partner reference labs
- System for notifying care providers
Building a COOP: Communications Plan

- Clear process for contacting staff
- Internal and external
- Includes receiving orders and reporting results (LIMS downtime)
- Redundant systems
- Regular updates

Building a COOP: Staffing Plan

- Clearly define who does what (HICS)
- Use position titles instead of names
- Reassign staff from low-priority areas
- Provide mechanism for staff training
- Ensure staff know how to respond
  - Personal preparedness
  - Psychological first aid

Hospital Incident Command System

Operations Section

COOP Staffing Plan: Personal Preparedness

- Make a plan – your own personal COOP
- Get a kit – food, water, supplies
- Stay Informed – radio, TV, web
- Resources:
  - www.codeready.org
  - www.ready.gov
  - www.redcross.org

COOP Staffing Plan: Psychological First Aid

- Education, training, and drills provide empowerment
- Recognize physical and behavioral reactions to stress
- Oxygen mask model
- Nancy Carlson, MDH Behavioral Health Coordinator
  nancy.j.carlson@state.mn.us
COOP Resources

- Regional Annex L
- CLSI document X04-R: Planning for Challenges to Clinical Laboratory Operations During a Disaster
- HICS courses: http://training.fema.gov/EMI/IS-100.HC, IS-546.a
- MLS Website: health.state.mn.us/MLS

Facilitated Discussion

- Assign groups
  - Note taker
  - Spokesperson
- Review facility description
- Review scenario
- Complete questions
- Group discussion

Facilitated Discussion

Scenario 1

During the evening shift, a severe thunderstorm develops in your area. The hospital is struck by lightning, knocking out power to the entire facility. The backup generator activates normally, restoring power to all instruments and equipment on the backup circuits. However, overhead lighting and ventilation systems are not on emergency backup power and will not be restored for at least 48 hours.

Facilitated Discussion

Discussion

- What were your key findings for each of the 5 COOP components?
- Describe any pre-planning steps that could mitigate the effects of this situation.
- What kinds of education, training, or exercises would be important for this situation?

Facilitated Discussion

Scenario 2

While performing routine maintenance, a telecommunications company mistakenly cuts a major telephone cable trunk serving your city, resulting in a total loss of telephone and internet service. The outage also affects cell phone service in the area due to the volume of calls and data traffic on the cell network. Service is expected to be restored in your area within 12 hours.

Facilitated Discussion

Discussion

- What were your key findings for each of the 5 COOP components?
- Describe any pre-planning steps that could mitigate the effects of this situation.
- What kinds of education, training, or exercises would be important for this situation?
Scenario 3

As the result of unusually cold weather, a water main freezes and bursts on the upper floor of your building during the overnight hours, resulting in significant flooding of the core testing area of your lab. The DI water supply, as well as the house water supply to restrooms and drinking water taps, will be shut down for at least 2 days until the pipe can be repaired.

Discussion

• What were your key findings for each of the 5 COOP components?
• Describe any pre-planning steps that could mitigate the effects of this situation.
• What kinds of education, training, or exercises would be important for this situation?

Scenario 4

While taking inventory in the store room on the day shift, a technologist accidentally drops a case of four 2-liter bottles of acetone. The bottles crack, spilling 8 liters of acetone throughout the chemical storage room and underneath the door into a hallway connecting the laboratory to the rest of the hospital.

Acetone Facts

• Organic solvent
• Highly flammable liquid
• Evaporates quickly, hazardous fumes
• Forms explosive mixtures with hydrogen peroxide and acetic acid

Discussion

• What were your key findings for each of the 5 COOP components?
• Describe any pre-planning steps that could mitigate the effects of this situation.
• What kinds of education, training, or exercises would be important for this situation?