Without Water
Managing Through a Crisis

Lillian Morris
  Chief Safety Officer, Charleston Area Medical Center

Featuring:
  Joe Tucker, System Director, Housekeeping
  Dan Brown, Facility Manager
  Nanci Keenan, Safety Manager
  Wanda Marks, Safety
  Dale Witte and Ashley Showen, Marketing and Public Affairs
Lillian D. Morris, RN, MS, CHSP
Chief Safety Officer
Charleston Area Medical Center, West Virginia

Lillian Morris is the chief safety officer for Charleston Area Medical Center, a multi-campus 900+ bed tertiary care center in West Virginia. Ms. Morris is responsible for the comprehensive safety program, including patient safety, risk management, emergency response program, environmental regulatory compliance, infection prevention and employee health. Lillian serves as a Hospital Emergency Preparedness Task Force Regional Coordinator for the West Virginia Hospital Association. She is a certified healthcare safety professional.

Charleston Area Medical Center

General 268 Licensed Beds
Memorial 424 Licensed Beds
Teays Valley 70 Licensed Beds
Women and Children’s 146 Licensed Beds
Objectives

- Describe one healthcare system’s response to a sudden loss of potable water
- Define the key components that contribute to a successful situation response
- Discuss lessons learned and strategies for improving response

Planning for Disaster

- NIMS
- HICS
- Hazard Vulnerability Analysis
  - Flood
  - Chemical Events
- Regional Planning
Not Just Another Day

Impact

Nine county area — 300,000 people
Healthcare Impact

• Hospitals
  – CAMC
  – Boone Memorial
  – St. Francis
  – Thomas Memorial
  – Highland
• Ambulatory services
• Daycare
• Physicians offices
Water, water everywhere and not a drop to drink...
### Timeline Overview

**Thurs. Jan. 9**
- **1000** Community Reports odor
- **1700** Water Ban issued – WV Declared State of Emergency
- **1730** CAMC response initiated — Code Triage
  - ED Surge expected
  - CAMC procedures rescheduled

**Fri. Jan. 10**
- **0700** Water tankers on site

**Sat. Jan. 11**
- **Still no water usage — thankful for flushing**
- **Process in place for off-site resources**

### Timeline Overview (cont.)

**Sun. Jan. 12**
- **Water testing begins**

**Mon. Jan. 13**
- **1000** Hospitals directed to flush systems
- **1630** Flushing complete — water tested

**Tues. Jan. 14**
- **1038** CAMC Hospitals — Code Triage — All Clear
Incident Command—Gaining Control

• Notification
• Incident Command Initiation
  – Information gathering
  – Goal setting
  – Immediate activities
• Frequent briefings — handoffs
• Patient management — documentation
• Communication
• Security
• Challenges

Nanci Keenan
Safety Manager
## MCHM
4-Methylcyclohexylmethanol

### Section III. Hazards Identification

<table>
<thead>
<tr>
<th>Health Effects</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Health Effects</strong></td>
<td>No specific information is available in our database regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound.</td>
</tr>
<tr>
<td><strong>Chronic Health Effects</strong></td>
<td>CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.</td>
</tr>
</tbody>
</table>

### Section IV. First Aid Measures

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye Contact</strong></td>
<td>Check and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.</td>
</tr>
<tr>
<td><strong>Skin Contact</strong></td>
<td>In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiratory problems do not improve.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>INDUCE VOMITING by striking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged; a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.</td>
</tr>
</tbody>
</table>

### Logistics

- **Procurement** — water, ice, alternate patient care and personal hygiene supplies
  - County Emergency Services
  - Vendors
  - FEMA
- **Distribution**
- **Sustaining** — resupply
- **Waste management**
- **Recovery**
Logistics

- Procurement — water, ice, alternate patient care and personal hygiene supplies
  - County Emergency Services
  - Vendors
  - FEMA
- Distribution
- Sustaining — resupply
- Waste management
- Recovery
Clinical Impact

- Emergency Departments
- Surgical services
- Dialysis
- Endoscopy
- Linen services

Communication
Informing, Clarifying, Responding

- Internal
  - Notification
  - Frequent briefings — handoff
  - Patient management — documentation
  - Staff
- External
  - Media
  - State agencies
Operations — Initial

• Control – shut down access to all domestic water use (sanitation flushing allowed)
• Systems impacted:
  – Housekeeping
  – Dietary
  – Central Supply
  – Dialysis
  – Surgery-Endoscopy
  – Lab
  – Linen services
  – Purchasing
Ripple Effect

- Supplying other hospitals
- Offers of Support
Wanda Marks
Safety

Operations — Recovery

• Recovery
  – Flushing
  – Testing
  – Water Pressure
• Lessons Learned
Recovery

- Health Department Inspections
  - Kitchens
  - Daycare
- Ongoing community concern
- Off-site locations
- Thanks — recognition
  - Employees
  - Hospitals
  - Vendors
  - Community
Financial Impact

• Accounting for expenses
• FEMA

Lessons Learned

• Incident Command
• Communications
• Logistics
• Operations
• Regional planning
It Didn’t End There…

- Applications for reimbursement
- Local, regional, national interest
- Changing state regulations on above ground storage tanks

Thank you

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