The Hospital Laboratory Response to a Disaster:

Joplin May 22, 2011
The Disaster

- **TIME:** Sunday, May 22, 2011 @ 5:41 PM
- **HOSPITAL PATIENTS:** 183 inpatients including 25 ED patients
- **CO-WORKERS:** 117 working at the hospital
- **IMPACT:** EF5 tornado with 200 mph winds, 6 miles long, 1 mile wide band of complete destruction
The Path of the Tornado
The Impact

• Direct hit to St. John’s
• Windows and walls blown out
• Portions of roof pulled off
• Building infrastructure severely damaged
  – Generators destroyed
  – All communication lost
  – Water, sprinkler, gas and sewer pipes disrupted
  – Liquid O2 tanks damaged
• Massive debris throughout building
• 86 physicians’ offices
  – Destroyed or severely damaged
The Evacuation

183 patients in the hospital
- 1 surgery in progress
- 1 patient in PACU
- 24 ER patients
- 28 critical care patients

Three Evacuation Points
- West side of building outside emergency department
- East side of building
- Conference Center – later to Rehab Building

Patients carried down dark stairways on doors, backboards, wheelchairs, wooden chairs and mattresses - 90 min

Medical records already printing
Triage

- Ambulatory and wheel chairs to Rehab Building
- Critical to Freeman Health System emergency dept.
- Emergency tornado injuries treated at street outside St. John’s
Emergency Care

- Memorial Hall emergency - operational for 1 week
- McAuley High School – overflow operation for 48 hours
- Brady Rehabilitation Center
- Medications, medical supplies and personnel deployed
Laboratory Response

• Testing Available
  • Where is it performed

• Staffing
  • Who is trained?
  • How are they trained

• Communication

• FDA
  • Where did all the blood go?

• EPA
Incident Command Centers

- ICC and alternate ICC on campus both destroyed
- Temporary ICC at Rehab Building to complete patient evacuation
- Initial ICC at Clinic in Neosho, MO
- St. John’s Operational Command Center
- Holiday Inn Convention Center

Additional Command Sites
- Joplin City Command Center
- St. John’s Mercy Springfield
- Freeman Health Systems
May 23
THE AFTERMATH
This is my commandment: love one another as I love you. No one has greater love than this, to lay down one’s life for one’s friends. You are my friends if you do what I command you. I no longer call you slaves, because a slave does not know what his master is doing. I have called you friends, because I have told you everything I have heard from my Father. It was not you who chose me, but I who chose you and appointed you to go and bear fruit that will remain, so that whatever you ask the Father in my name he may give you. This I command you: love one another.”

The Gospel of the Lord.
May 24

Lynn Britton challenged the team:

1) We will have a hospital back in operation in a week.
2) Locate all co-workers and attend to their needs.
3) All co-workers will remain employed indefinitely. Begin now to find placement for them and design a talent sharing process that keeps medical expertise in southwest Missouri.
4) Follow up on all 183 patients.
Mercy Rebounds
Within the Week
Stage One Hospital Rebuild

- 60-bed tent-based hospital on the St. John’s campus
- Full imaging capabilities
- Operating Room
- Intensive Care
- Emergency Room
- High Complexity Laboratory
| 40x8ft |
|---|--|

**Laboratory**

- **Dedicated 30**
  - Blood Bank
  - Blood Bank Refrig.
  - Blood Bank Freezer
- **What's Left**
  - Serology Workbench
  - x1-Printer
  - x2-Cordless Phone
  - Stretcher

<table>
<thead>
<tr>
<th>STAGE 1</th>
<th>STAGE 2</th>
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<td>15 outlets 310 lbs 6ft x 25 inches</td>
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I need more outlets than first thought - looks like 25 minimum.
Laboratory Services

- EMR
  - Preference list
- Testing In-House
- Express Care
  - Staffing
  - Training
  - Competency
- Communication
- Mayo Interface
Laboratory Compliance

• CLIA

• Joint Commission

• State Surveyor
Laboratory Services in a 8 x 40 Trailer

- Hematology
  - Differentials
- Urinalysis
- Coagulation
- Serology
- Blood Bank
Laboratory Tent

- Blood Bank Refrigerator
- Blood Bank Freezer
- Reagent Freezer
- Reagent refrigerator
- Histologists and Transcriptionist
Chemistry Van

- Chemistry
- Immunoassay
- Esoteric Testing
Constant Change and Challenges

• Generators
• Space for Staff
• Morale of Staff
• Back up for Instruments
• Temperature
Laboratory Moves Again
Compliance with each Move

- Method Validation
  - Precision Verifications
  - Correlation
  - Reportable

- Interfaces

- Documentation
Co-workers
Mercy’s Commitment to Co-workers

$1.3 m unsolicited donations to the co-worker fund

- Co-workers will remain on payroll indefinitely
- Extraordinary effort was made to contact all 2,200 co-workers and volunteers
- Immediate relief – 190 co-workers received $500
- Transportation assistance – rental cars provided to many co-workers for 30 days
- Significant need – 257 co-workers received $490,000

Of 2,200 co-workers, only 100 not back at work today.
Mercy Rebuilds
Steps in Mercy’s Rebuilding Process

**One week after tornado:**
60-bed field hospital, a tent-like structure, is up and running.

**August:**
Modular sectional arrivals on campus and are assembled into hard-sided hospital to replace field hospital.

**Spring 2012:**
Mercy opens component hospital with 120 beds and additional services.

**2014:**
New 327-bed hospital at I-44 and Main opens!
Designing the Component Hospital

Built spring 2012; in service until 2014
We Move again:
The New Medical Campus
The story continues...