Impact of Catastrophic Regional Disasters: Joplin and Beyond

Emergency Management Summit for Long Term Care

Presented by:
Scott Aronson

Russell Phillips & Associates, LLC
Fire and Emergency Management for Healthcare Facilities

Recent Disaster Incidents (*RPA On-site Assessments)

- *Tornados in Tuscaloosa & Moulton, AL (4/27), Joplin, MO (5/22) and Springfield, MA (6/1)
- *Earthquake in the Northeast US
- *Hurricane/Tropic Storm Irene & Lee Flooding
  - 7,000 patients/residents evacuated in NY alone
  - CT hospital evacuation – generator fire
- *Wildfires – All over
- *Snowstorm/Power Failure – New England Oct/Nov

The Joplin Experience
May 22, 2011 - 5:41 PM

Joplin Tornado
May 22, 2011, 5:41 PM

- Healthcare Delivery System:
  - 2 Acute Care hospitals – 756 licensed beds
    - 389 beds (Freeman – plus 32 SNF)
    - 367 beds (St. John's)
      - 187 patient on the day of tornado and ~25 in ED
  - 6 Skilled Nursing Facilities – 692 licensed beds
    - Greenbriar – 120
    - Meadows Care – 120
    - Joplin Healthcare Center – 86
    - Joplin Health & Rehab – 120
    - NHC Joplin – 126
    - Spring River Christian Village - 120

Kansas City Star Article, 6/20/11

The Emergency Department physicians on duty looks up and sees a security guard tearing down the corridor.

"Take cover!" the guard shouts. "We're gonna get hit!"

• • •

Wind roars with such force the steel beams supporting the hospital's top floors twist four inches.

Glass explodes from every window; the air turns cold; lights flicker and die. The building jolts and is cloaked in blackness. Both generators, main and backup, have been blasted from their foundations.

Water pipes burst, showering everything. Ceilings cave; wires hang in the air like spider webs and spill on the floor. Explosive natural gas spews from broken pipes on the lower floors.

Tornado Impact – That Evening

- **Hospitals: 367 of 756 licensed beds gone**
  - St. John's Hospital: CLOSED
    - Before: 9 story building with 367 licensed beds
    - After: 3 tent field hospital with 60 beds, 20 for ER and 40 for patients
    - Today: Temporary Hospital (opened Sunday, April 15, 2012)
  - Freeman: 389 beds
    - 361 staff had homes destroyed out of 4,300
- **Nursing Homes: 326 of 692 licensed beds gone**
  - Greenbriar – 120 (CLOSED – 14 fatalities: 1 staff/13 residents)
  - Meadows Care – 120 (CLOSED)
  - Joplin Healthcare Center – 86 (CLOSED)
  - Joplin Health & Rehab – 120
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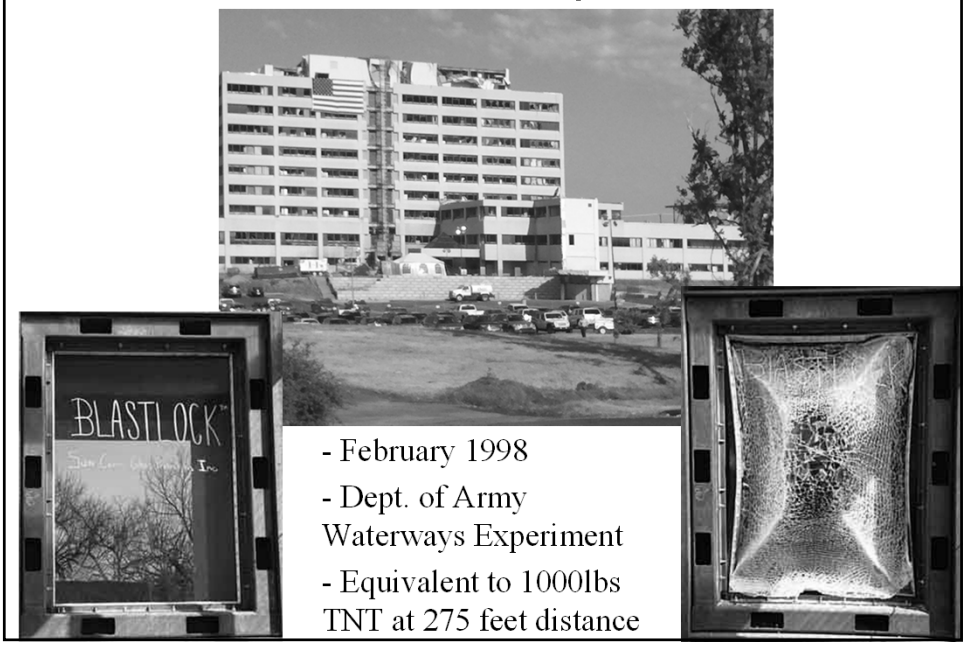
Tornado vs. Earthquake

- Drop, Cover & Hold
- Move Patients into central corridors away from windows / doors to exterior
  - If unable to do so (e.g. higher acuity): Move away from windows and cover with blankets / overbed tables
    - *If unable to do so: Cover patients with blankets*

By all means, don't stand in a door frame that has a door on it!

Window Impact



- February 1998
- Dept. of Army Waterways Experiment
- Equivalent to 1000lbs TNT at 275 feet distance

Hospital Impact

- St. John's Hospital Evacuation
  - Fires and exposed electrical throughout
  - Evacuation of all patients in 90 minutes (~187)
  - Generator failure – destroyed (roof lands on the powerplant
  - Vertical evacuation completed in dark stairwells (NFPA 99 potential issue on lighting)

Hospital Surge

- Freeman Medical Center
  - Surge (41 ED treatments beds):
    - 20 Minutes: 200 patients
      - 120 criticals
    - 90 Minutes: 700+
    - 3 Hours: 1000+
      - ~1,500 – 1,700 total treated
  - Largest Single Influx of Patients in the US (on record)

Experience of an LTC Facility

- Roof lifted off building and dropped back down
- Staff ears popping from the pressure
- Exterior glass shattered and flew 25 – 30 feet
  - All agreed – time permitting, put mattresses by end of corridor doors / windows if patients in hallway
  - Closed blinds reduced shatter spray
- Ceiling collapsed over exterior beds
  - Needed to shut down sprinklers due to water issues and no maintenance on-site

LTC – Immediately Post Strike

- Moved patients away from flowing water (sprinklers)
  - What is your shut-off valve strategy on a Sunday evening?
- Gas odor strong on exterior of building
  - Concerned about evacuating outside
  - What is your procedure for HVAC shutdown / containment?
- Coordination of staff by Nursing Supervisor and Charge Nurses–no leadership for 1+ hour
  - What was the Incident Command System used?
- Staff Calm → Residents Calm

LTC Experience, cont'd

- Family members were put to work or took resident home
- Only 1 staff member went home
- Many off-duty staff reported to the facility
- Large influx / surge from community
  - Assumption that a "healthcare" facility can provide treatment
- Established external treatment and triage area
  - Recommendation: No additional supplies needed
  - Addressed lacerations, missing limbs, etc.

Complete Evacuation

Components of a Full Bldg. Evacuation Plan

- Activation of Plan and Labor/Personnel Pool
- Establishment of Internal Holding Areas
- Resident Preparation on Units
- Marking of Resident Rooms (evacuated)
- Coordination of Transportation
- Determination of Receiving Sites
- Resident Tracking (internal and external)

Joplin Evacuation Reality

Emergent Situation	Immediate Threat

■ Resident Preparation on Units
  ■ Meds & Personal Belongings in bags / Charts on laps
  ■ Marker with last name on arm
	■ Resident moved vertically – all means employed

■ Marking of Resident Rooms
  ■ Checked over and over again (Door Tags Recommended)
	■ Marking of Resident Rooms
	  ■ Checked over and over again

Joplin Evacuation Reality

Emergent Situation

- Determination of Receiving Sites
  - No coordinated support
- Coordination of Transportation (Residents)
  - Pick-up trucks and 4 door sedans
    - All POVs destroyed at facility
  - EMS on-scene 2 hours post event
    - 1st ambulance transport at midnight due to disaster

Immediate Threat

- Determination of Receiving Sites
  - No coordinated support
- Coordination of Transportation (Residents)
  - Pick-up trucks, 4 door sedans and carried
    - All POVs destroyed at facility
  - Minimal EMS Capabilities in early phase due to community/infrastructure impact

Joplin Evacuation Reality, cont'd

Emergent Situation

- Coordination of Transport. (equip)
  - Pick-up trucks
    - Mattresses, wheelchairs, meds (beds - next day)
    - 30 minute cycle
- Resident Tracking
  - Census Log - both ends
  - No Resident Evacuation Tracking Forms used

Immediate Threat

- Coordination of Transport. (equip)
  - Pick-up trucks / Box Trucks
    - Salvage Operation
- Resident Tracking
  - None in initial window

Joplin Evacuation Reality, cont'd

- Theft
  - Emergency Kit with emergency meds stolen b/w 2 - 5:00 AM
  - Lesson Learned: Monitor facility 24/7 after evacuation
- Go-Kit (needed)

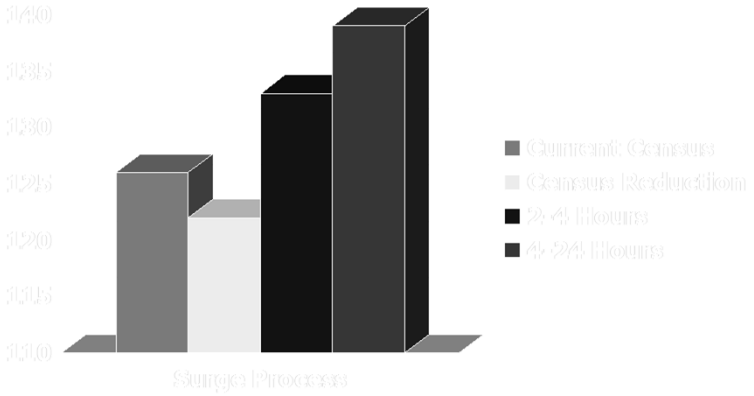
Pilgrim Rehab Example: 2011

Influx of Residents / Surge

- Resident Placement (Internal)
  - First Hours – Residents on mattresses on floors in 3 primary locations
    - Maximum of 40 in a single dining room
  - Resident Names – Tape on floor with names
    - Failed: Went to using name on forearm only
  - Day 2 – Established zones for types of residents

126 Bed LTC - Surge Process

- Standard Process (24 hour period)
  - Discharges → Additional Beds → Surge to 110% or 139 Residents (rare event to go higher than 110%)



Water

- Failure
  - Water Plant hit and limited to no water pressure
  - All bottled – drinking never an issue
  - Toilets – Force flush only / barrels placed on all floors
    - What is your strategy to address bucket brigades, barrels on resident care units, mechanism to distribute water to resident rooms (force flush)
  - Tankers brought in for fire protection and other utilities – Fire department handled

Family Interaction & Personal Belongings

- Family helped care for residents and relocated with them
- Issue: Facility names sounded similar
  - Joplin Healthcare / Joplin Health & Rehab, etc.
  - Frantic family checking all LTC facilities
- Personal Belongings – Staff salvaged things and brought over in Uhauls over next few days

Resident Relocation / Staff Support

- Social workers
  - Communication with families (as phones restored or face-to-face)
  - Approval for relocation outside area
    - 1 – 4 hours away
- Outside Region Receiving Facilities
  - Sent vehicles with clinical staff
- Staff from Corporate Groups
  - Daily trips with supplies to supplement Joplin teams (2 nurses, 4 CNAs & supplies)
  - Reserve hotel rooms ASAP (9pm that evening)

Communications

- Satellite Phone – Failed (projectile)
- Landlines – Failed
- Cell Phones – Failed (1 type worked from roof)
  - Text Messaging – Usually Worked
- Internet – Failed
- 2-way Radios - Worked
- Runners – Worked
- HAM – Amateur Radio Providers
- Gov't Emergency Telecommunications System (GETS) Cards

CMS / Payment

- 1135 Waiver via Missouri Dept of Health & Human Services
- 2 of 3 Evacuating Facilities
  - Discharge and admit at receiving locations
- 1 Facility: Corporate Group with out of Region locations
  - Residents still billed as if at evacuated location
  - Outside CMS 30 day window instituted post FL in 9/30/2007 CMS FAQ
- One receiving facility
  - Denial of payment for new admissions waived

The New England Storms of 2011

January 2011 midweek wallop

A major nor'easter walloped Massachusetts on Wednesday morning, one that has brought nearly two feet of snow to parts of the state.

Earthquake	Warning: None	Immediate Actions
Tornado	Warning: Limited	Immediate Actions
Hurricane	Warning: Extended	Extended / Decompress
Snowstorm	Warning: Extended	Minimal: Watch & See

Hospital & LTC Mutual Aid Plans

- Place and support continuity of care of **evacuated** residents
- Provide **supplies/equipment/ pharmaceuticals** as necessary
- Assist with **transportation** of supplies/ staff/equipment/evacuated residents/families
- Provide **staffing** support (whether a facility is evacuating or staying)

Regional Medical Coordinating Center/
Long Term Care Coordinating Center

Operating in MA and CT

Function of Coordinating Centers

- Assist and coordinate patient placement
- Support patient tracking - "**Close the loop**"
- Assist with obtaining staff, supplies and equipment
- Assist with transportation of staff, supplies and equipment
- Interaction with local, regional and state agencies

ENSURE EVERYONE IS ACCOUNTED FOR

Prioritization / Coordination

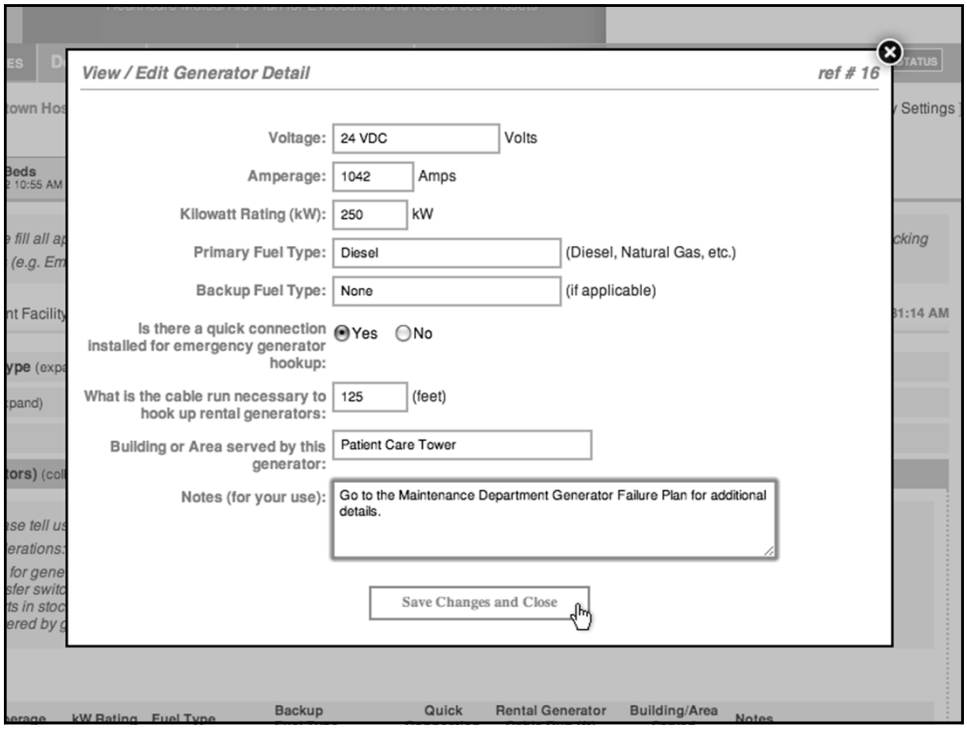
- Facilities Grouped for Tracking
  - **Group 1:** Reported No Issues (no actions taken / not called)
  - **Group 2:** Reported Issues (communicated with between 1-2 times daily for situation updates and resource needs)
  - **Group 3:** Did Not Report – Considered "**at risk**" until communicated with
    - Drains resources when the facility is "OK" and did not report

Actions in Irene and Halloween Storm

- **Reporting:** Online Emergency Reporting completed
- **Situation Report:** Provided 1-2 Times Daily to DPH and Regional Partners (submitted to CMS/HHS)
- **"At Risk":** Members Communicated with
  - CT: 21 out of 91 (Irene) / 62 (Alfred) / 118 bed vent hospital
  - MA: 47 out of 447 (Irene) / 54 (Alfred)
- **Activation:** Full stand up on multiple occasions for potential or actual Evacuating Facility
  - **IRENE NOTE:** In CT - 4 of 91 had generator failures at one time or another (4.4%)

Emergency Generators (failure)

- How deep have you gone?
  - Service Patient Care Towers
  - Service areas with High Acuity Patients
  - Do they parallel each other for redundancy
  - Do you have a quick connection pre-wired with transfer switch?
    - Voltage / Kw / Service Amperage
    - Cable Run (in feet to the electrical service)
    - Fuel Source
    - Exact Location on Campus (back-up)



Hospital Decompression

Frail Elderly / Medical Equipment / Clinical Needs

1. Standard Discharges
2. Medicare Eligible – 3 day length of stay requirement (major hindrance)
3. Medicaid Eligible – PASRR and Ascend
   - Payment under Respite Care provision
4. Private Insurance - 3-5 days / until can return home
5. Private Pay – 3-5 days / until can return home
   - Hospital / LTC rate discussions

Emergency Reporting Information

- Key contact during event
- Beds status and type
- Operational issues and specifics
- Transportation vehicles, capacity & deployment time
- Staff: numbers / type and deployment time
- Resources & assets you can provide
- Resources & assets you may need

National Issue: Consistency in Handling Disaster Events

- Single Facility Event / Isolated Incident
  - Extremely challenging to preplan payer process
  - Fire or other immediate threat emergency forcing evacuation
- Single Facility Event / Regional Impact
  - State typically has exhausted all resources prior to waiver request
- Multiple Facility Event / Regional Impact
  - Easiest to secure 1135 Waiver