

Disaster Readiness- Restoring the Joplin Health Care Campus After Tornado

Recovery Process/Lessons Learned Handout

-Disaster Zone Immediate Response Steps (Weeks 1&2)

- 1) Evacuation/Triage
- 2) Emergency Care
- 3) Search and Rescue/Establish Security
- 4) Risk Assessment / Mitigation
 - Joplin situation had:
 - Severe water infiltration
 - No lighting
 - Massive debris and glass shards in all circulation spaces
 - Falling debris interior and exterior (lasted about one week after tornado)
 - Potential safety hazard – slips/trips/falls
 - Confined spaces with low O₂ level (hazard for search and/or investigation)
 - Biohazard and sharps risks
 - Need to consider:
 - Utility services – ensure shut down: gas, electricity, water, oxygen
 - MRI Machines – magnetic fields and cryogen venting
 - Refrigerant venting from chillers
 - Friable asbestos
 - Residual UPS power
 - Radioactive materials
 - Compressed gasses and leaks
 - Grounds – fuel leaking from cars
 - Stored chemicals
 - Life safety pathways blocked
 - Elevator(s) car position and entrapment potential
- 5) Urgent Recovery Items
 - Life critical patient care supplies and equipment
 - Computer room servers
 - Nuclear material from cancer center
 - Narcotics
 - Medical records (oncology patients)
 - Security DVRs
 - HR records
 - ATM and cash registers
 - Release liquid O₂ from tanks
 - Pathology specimens

- Prosthetics
- Pharmaceuticals
- Biohazards
- Sacred religious items

-Disaster Zone Stabilization Steps (Weeks 1-16)

- 1) Mobilize Contractors for Cleanup
- 2) Establish Onsite Command Center (construction trailers) and energize communications systems (data, cell, land lines, etc.)
- 3) Improve Security of Site
- 4) Building Assessments
 - Structural teams
 - MEP engineers
 - Environmental surveys
 - Establish PPE requirements for building access
- 5) Additional Recovery Items
 - Major Medical Equipment
 - Building Contents
 - Vehicles (co-worker, patient, visitor, etc.)
 - Medical Records
 - Personal Items

-Lessons Learned

Communication

- Have alternate off-site command center in addition to the designated on-site command center. If possible, have disaster trailer/supplies stored off-site.
- Work with your local and State agencies to keep updated contact information (disaster preparedness).
- As part of disaster preparedness, work with cellular service providers (and other key service providers) to have plans in place for temporary/mobile services
- Establish alternate forms of communication in case electronics don't work. We used in person huddles three times/day.
- Establish a location, or perimeter, for media. Control those authorized to talk to the media; keep at leadership level in lieu of on-the-ground team actively performing recovery efforts. Signage adjustments to indicate hospital is closed...go out to major highways and cover signs, etc.

Safety/Well-Being of Responders

- Take care of yourself and those working with you
 - In a large-scale disaster, responders have to deal with a lot of stress (emotional, physical, etc.) and their sense of commitment to help can lead to deprivation of key needs such as:
 - Sleep
 - Nourishment
 - Human connection (care)
- So, establish work shifts, food/drink stations (establish process ahead of time with vendors), and promote in person huddles (comradery is important). Secure separate break room at local hotels to provide a place for Responder escape and recharge.
- Make sure responders have proper PPE. Ours was established as steel toe boots, Tyvek suits, dust masks, gloves, hardhats and safety glasses.

Security

- Immediately declare/post that damaged buildings are off limits until initial assessments are complete.
- In general, items in the building are a temptation for recovery workers. There will be a lot of folks in the building(s) and you can't watch them all the time. Unfortunately, we experienced people stealing in our situation. Look to secure things like:
 - 1) Personal items – we established a location where anyone that was on duty when the tornado hit could come and allowed to retrieve any purses/wallets/valuables they may have left behind (we used responders/security personnel to go into the damaged buildings to retrieve items.
 - 2) Narcotics – remove and secure them (probably already secure in Pyxis machines but need to account for them and follow chain of custody since the hospital is evacuated)
 - 3) Cash
- Set up check-in/receiving area at onsite command location.
- Not everyone that shows up to help has the best intentions. Establish a check-in location for all that want to volunteer/offer services and ensure due diligence on credentials. As much as possible, use local contractors for recovery efforts.

Resources

- Be cautious when hiring big national recovery firms that show up to offer help. If they're a trusted vendor for the Owner then they're probably ok. Those types of companies can be storm chasers and only there to take advantage. In the case of Joplin I found we were much better off to use local trusted contractors and laborers to do the clean up and dry out work.
- Be very cautious of anyone offering help if you didn't call them or if you don't already know them. People offering temporary offices/trailers/tents or any "get you through" products many times are storm chasers looking to inflate the costs and make a buck.

- Cost tracking and sign-in sheets – immediately start having contractors and any vendors involved do a daily sign in/sign out of all the workers along with any invoice and delivery ticket tracking. If possible, establish rates with the contractors before work starts. We assigned a full time person from the onsite construction team to handle this task. This is a critical component of getting paid from insurance companies (and FEMA) and can't be understated of its importance.

Assets- Recovery/Reuse

- Overall, analysis of damaged assets for insurance purposes will be very time consuming. If possible, don't remove any items until witnessed, photographed, and inventoried. Hopefully there was a good system of inventory prior to the storm.
- The timely analysis of damaged medical equipment is a challenge with insurance coverage. Typically, in the world of healthcare, if a piece of medical equipment gets wet and isn't dried out immediately, then it is not fit for patient care. This doesn't always align with the insurance company's view. So, you need to establish an efficient process with your insurance company to analyze whether or not the item gets repaired/reused or deemed destroyed in the storm. This was a huge task for us in Joplin. In an effort to complete this analysis as quickly as possible, and mitigate additional damage, we agreed to move items offsite (as much as possible) for the hospital's bio-med staff to evaluate each piece, discuss with an onsite insurance adjuster, and together determine whether or not it should be put back in service. Everything from beds, to IV pumps to whatever can be practically moved. The big items were mitigated in place (CT's, MR, rad machines) with tenting the rooms and providing dehumidification.
- The securing and/or disposal of the non-narcotic pharmaceuticals, bio-hazards, chemicals, etc. was an important focus. There are companies that specifically handle these types of items (we used Clean Harbors) but getting it contained, inventoried and disposed of, if ruined, to get it out of the way of restoration is important.
- Medical records needed to be quickly retrieved, inventoried, and restored (we used Iron Mountain).
- We had a lot of damaged vehicles to deal with. We ended up sorting them out with a front-end loader and putting them in parking spots in a dedicated area of our parking area. We made a fenced-in area onsite with its own entrance and posted a guard to let all the various insurance adjusters (and associated tow trucks and owners) come and go. We were thinking again of looters and trying to keep the vehicles secure.