



North Dakota Healthcare Emergency Preparedness Conference

**Protocols & Assumptions
Vs
Lessons Learned**

Quotes From Session Earlier

- “You Never Know What’s Going To Happen Until Your In It”
- “The things you think you have on hand you don’t”

History

Looking Back

- In 2006, in the wake of Hurricane Katrina, the Office of the Assistant Secretary for Preparedness and Response (ASPR) was created
- Objective was to lead the nation in preventing, preparing and responding to public health Emergencies and Disasters
- Over the last 8+ years, Millions of \$'s have been spent in the pursuit of this objective
- Spending has been across a board spectrum of preparedness priorities ...
- Mile Wide... As deep as the funding allowed

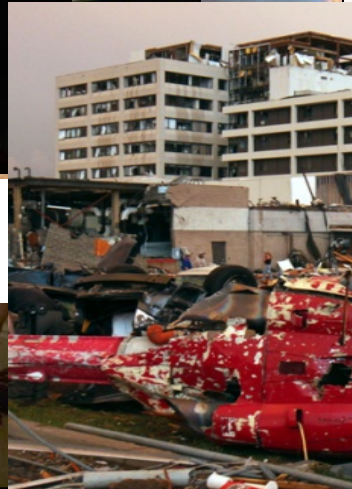
**Many Lessons Have Been Learned
The Greatest Lesson Has Been...**

Lessons Learned

It is not a matter of **IF** a large area wide disaster will occur ... but **WHEN** History Has Proven this



2012 - Super Storm Sandy
NYU & Bellevue Hospital Evacuation



EF5 Tornado – Oklahoma City
Twice in 2013

Loma Prieta Earthquake
San Francisco Bay Area



**Through These Events Critical Gaps Have Been Identified ...
Here Lies our CHALLENGE!**

The Challenge

- Our industry is great at sharing the lessons learned by others that learned them the hard way ...
- We are great at sharing best practices
- The Challenge ...
STOP Just Learning - Start Applying
- Ask yourself Are our plans based on old assumptions and protocols **OR** have I implemented the Hard Lessons Learned by Others

Emergency & Disaster Planning



Can You Ever Be To Prepared?

Inside –
A roaring,
scrambled
nightmare...



...and the real need to
evacuate. Simple?

Definitions

- Its About Moving People
 - Non Ambulatory....
 - People who cannot SAFELY walk through debris or traverse stairwells without assistance AND without posing a risk to themselves or others
 - Sedation, elderly, amputee, post op, pre op, epidural, disorientation, Psych (NYU 100%) ...
 - Ambulatory

What is Evacuation?

- Shelter in place *“room of refuge”*?
- Horizontal movement *“behind the fire door”*?
- Leaving your floor or building *“going out”*?

- **Answer: All three**

- **Hope for the best and plan for the**

- If you have not invested in plans, drills AND the necessary equipment to evacuate your building. YOU NEED TO... anything else is asking for failure, injuries and potential law suits

Evacuation Plans – Patient Movement?

- Describe a process for determining the order in which patients will be evacuated or pre-determine the order. (Geographic areas, patient acuity, medical specialty area, or other)
- Describe a process to identify rooms that have been cleared. (i.e. labels on the door of the rooms)
- Designate the “safest” location in the facility, based on a variety of scenarios (i.e. flood, structural damage due to tornado, other scenarios as identified in facility or community vulnerability assessments) if certain patients cannot be evacuated or evacuation cannot be accomplished in an appropriate time prior to the event. Alternatively, describe the process for rapidly determining the best safe area during the disaster)
- Identify an evacuation staging area for transport of patients from the building
- Identify any supplemental transportation vehicle in addition to ambulance services that your hospital or community could use to evacuate patients.
 - ND Hospital Template Evacuation Plan

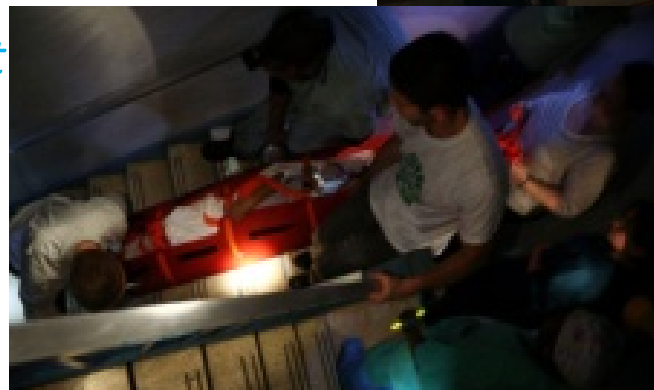
These Lessons Are...

Disaster Tested – Disaster Proven

- New York City – Hurricane Sandy forced the Evacuation of NYU Langone Hospital

*“It is critical to prepare your facility for the worst case scenario. **There are many lessons we have learned** from catastrophes like Hurricane Katrina, the Joplin tornado and now Super Storm Sandy. **Our job as emergency preparedness professionals is to apply these lessons to our plans.**”*

*Kristin Stevens
Director Emergency Management
NYU Langone Medical Center*



Protocols & Assumptions Vs Lessons Learned

Protocols / Assumptions:

- We can always move horizontally
- We can move to our other building
- I have conducted some drills with my staff

Reality: Must plan for the worst case scenario

- Plan for the ONE thing you think will never happen (NYU)
- Practice – Realistic drills ...
 - Darkness (NYU), limited resources (Joplin)
- Plan to go vertical
 - Many situations have had to. Practice it
- You will be on your own ...10 min to 10 hours plus (Every minute may count)

Protocols & Assumptions Vs Lessons Learned

Protocols / Assumptions: We are prepared ...

- We have tents, cots and satellite communications
- We have transportation arrangements to move our patients to alternative care sites

Reality:

- If cannot get your people out you don't need anything else...Patient/Resident Movement
- Transportation starts at the bed (NYU)
- Focus plans on the basics ... first thing is get people out safely and quickly mitigate the immediate threat
- Keep it simple (Joplin)



NYU-Langone had transportation covered ...

The Need to Evacuate

Protocols / Assumptions: Outside Support Is Coming

- “The fire department is only a mile or two away and they will be here quickly to help us after a disastrous event ... They said they would”
- “We have fire blocks and doors so we plan for horizontal evacuation or shelter in place”

Lessons Learned:

- When time is critical, you cannot wait for first responders (OK)
- Best Case Scenario – Fire department might be there, however
 - Area Wide, have other responsibilities ... Joplin & NYU
 - Depending on the situation, their protocols will not allow them into the building
- Fire Houses are not protected in Area Wide Disasters

Lessons Learned:

- Firehouses get hit too
- People will need to be safely and effectively evacuated from your building(s).
- Evacuation of your facility is your responsibility ...
Risk of life and possible litigation
- You will be on your own at least initially and potentially for some time.
- Can't plan or rely on immediate First Responder help...It took 18 hours for an organized response team at Mercy



The Need to Evacuate

Protocols / Assumptions:

- “We will never have to **fully** leave our building”
- *“We have backup generators to ensure we can shelter in place”*
- *“We will be able to use our elevators”*
- *“Our facilities are built to withstand ... we will never go vertical” (NYU)*

Reality:

- Do not over rely on technology or ability to sustain
- Mercy Hospital in Joplin and NYU had back up generators ...
- What man makes ... Mother Nature can break (every major disaster has proven this)
- Elevators are NOT an option in any evacuation scenario ... too dangerous and too slow (Joplin, NYU, Bellevue-NY)
- Must Plan for the Worst ...if you do you can handle everything less (NYU)

Protocols & Assumptions Vs Lessons Learned

Protocols / Assumptions:

- “Don’t Really Need “Evacuation” Equipment”
- “We are going to use beds, wheelchairs ...”
- ”We are trained in the sheet drag and carry method”
- “We are a one story building, we can wheel our patients out”

Reality:

- Wheeled devices do not roll through debris
- Carrying or sheet dragging your patients should not be in your plans ... the average weight of your non ambulatory patient is 240lbs.
 - Many floors are carpeted
 - Building made of glass
 - Carrying down stairs near impossible
- Must insure you have the right equipment for your situation ...



What Devices are Available?

- Evacuation Chairs: evolved from the fire industry
 - Must lift people into the chair (strong resources)
 - Wheeled devices do not roll over debris
 - Forces patients into a sitting position
 - They are heavy... 30 pounds
- Mattress Sleds:
 - Focused on comfort
 - Won't fit down many stairwells
 - Have to have one for every bed
 - Does not address those patients and visitors not lying in a bed



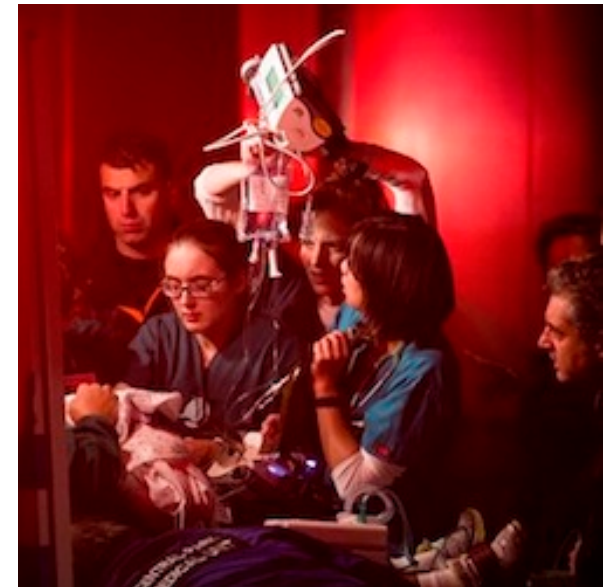
What Devices are Available?

- **Evacuation Sleds**: Most versatile of all products
 - Easy to transport anywhere in your facility
 - No lift product...Slides over debris
 - Versatile people movers
 - Close quarter movement
 - Intuitive
 - Cost effective
 - Most widely used evacuation device ... Over 70,000 Med Sled® Evacuation Sleds alone

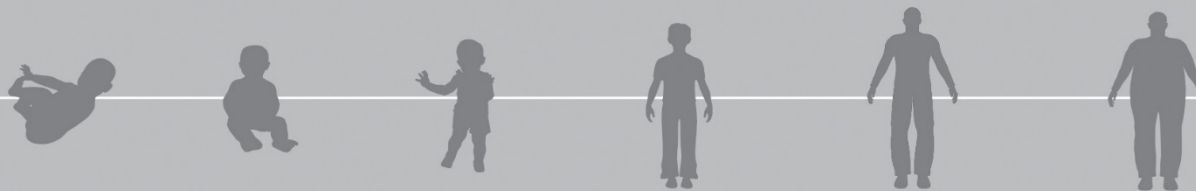


Protocols & Assumptions Vs Lessons Learned

- **Protocols/Assumptions:**
 - Nurses will carry babies out in their arms
 - Parents can carry their children out
- **Reality** - Pediatric non-ambulatory need different equipment
 - It took 6 employees to evacuate 1 NICU baby at NYU. Intubation, O2, IV's, Pumps....
 - Pediatrics are complicated 30 to 300 pounds



800
GRAMS-
800
POUNDS



- You need devices that fit your smallest NICU baby to your largest patients ... and everything in between
 - Devices to accommodate life sustaining equipment
 - ICU pumps, O₂, IV's, Ventilation....
 - Hands free devices for intubation (NICU)
 - Bariatric devices
 - Integrated product solution to minimize cost of training

Evacuation Equipment Requirements

Fully Integrated Solution ... 800 grams to 800 pounds

Adult Device	Pediatric Device	Storage Device
<p>Standard Sled</p> 	<p>Youth Sled (<60")</p> 	<p>10 unit Storage Device</p>  <p>#SD10 10-Sled Unit* 36"W x 9"D x 75"H</p> <p>+ Accommodates (10) MS36 Sleds stacked horizontally</p>
<p>Bariatric (300lbs+)</p> 	<p>Toddler (6 to 24 Months)</p> 	<p>4 Unit Storage Device</p>  <p>#SD4 4-Sled Unit* 18"W x 9"D x 75"H</p> <p>+ Accommodates (4) MS36 Sleds stacked vertically 2 on top of 2</p>
	<p>Infant Insert (0 to 5 months)</p> 	<p>2 & 6 Unit Bariatric Storage Device</p>  <p>#SDR2 2-Sled Bariatric Unit* 18"W x 9"D x 48"H</p> <p>+ Accommodates (2) MS48 Sleds positioned side-by-side (alternate option: 1 MS36, 1MS48)</p>
	<p>NICU/PICU Evac. Basket (Hands-On Life support)</p>  	<p>2 Insert & 2 Standard Sled Storage Device</p> <p>6 & 12 Unit Evac. Basket Storage Device</p> <p>Evac. Basket Extraction Rack System</p> 

- Med sled® is the preferred evacuation device nationally for a reason

Protocols & Assumptions Vs Lessons Learned

Protocols / Assumptions

- "We can reuse the equipment we have"
- "We only have to cover the over night bed areas"
- "We can only buy so much with the grant funds we have"

Reality:

- This has been a "Lesson Learned" in every major disaster in the last 10 year (Joplin, NYU, Bellevue) ...
 - None had enough equipment ... following the event, they became evacuation ready
- "Some equipment" is code for ... We do not have enough equipment
- People and patients are everywhere. From the bathroom to the boardroom
- Government funding, or lack of, should not dictate or drive your preparedness or risk
- Evacuation Readiness Assessment ... A Best Practice



NYU-Langone Had Transportation covered ...



Readiness Assessment Process

Step 1: Information Gathering / Establish Standards

Work with the EP Manager to gather hospital floor plans, patient census data and facilitate consensus on hospital specific assumptions.

Hospital Evacuation Equipment - Needs Assessment - Example

Data Collection. We work with the EP Coordinator to develop non ambulatory percentages. To do this we take into account your hospital's unique and specific hospital information. This includes:

- Facilities layout
 - # buildings
 - # exterior exits point
- Facilities design / fire breaks / exits ...
- Occupancy Rates
- # of beds by patient care
- Non ambulatory estimates by patient care
- Staff size ...
- Hospital visitors

* This step typically takes ~30 min ... 1 to 2 hours for large complexes

Non Ambulatory Consensus Development: Once this is completed, we will work with you to develop a consensus on the non ambulatory rate assumptions by patient care classifications. Below is a **first pass** at the non ambulatory rates. We need to discuss this further to develop a consensus on the percentages.

Bed Classification Assumptions	% Non Ambulatory	Hospital 1
ICU	100%	100%
PACU	100%	100%
OR / Trauma	100%	100%
Labor & Delevery	50%	75%
New Mothers	50%	50%
Neonatal (3 infants / Sled)	30%	30%

Higher ... on 12th floor

Floor by Floor Survey: We will work with you to complete a floor by floor survey (# of beds by patient care).

Beds		Sleds
0	Floor Descr	0
	Exits	# of Beds by coverage requirement

Calc: Total # of Beds on the floor

Calc: Total # of sleds required

Entered: # beds at ... 100%

Entered: # beds at ... 75%

Entered: # beds at ... 50%

Entered: # beds at ... 30%

Entered: # of Sleds per exits 1

* We complete this step and provide the analytics for your review. You can review the assumptions and the # of beds to evaluate various what if scenarios.

Readiness Assessment Process

Step 2: Complete Individual Hospital Needs Analysis

Applying the hospital's specific information and assumptions the Readiness Assessment analysis each units evacuation equipment needs ... Bldg By Bldg, Floor by floor, Unit by Unit

Floor #	ABC Hospital - East				ABC Hospital - West					
	Beds	North Wing		Sleds	Beds	South Wing		Sleds		
5	42	Mothers (Pre/Post), New Born		28	42	Mothers (Pre/Post), New Born		28		
	2	22		20	2	22		20		
	Exits	# of Beds by coverage requirement			Exits	# of Beds by coverage requirement				
4	16	In Patient Rehab / Dialysis		12	22	PACU		22		
	2	16			2	22				
	Exits	# of Beds by coverage requirement			Exits	# of Beds by coverage requirement				
3	45	Cardiac Care		23	20	Cardiac		15		
	2	20		25	2	20				
	Exits	# of Beds by coverage requirement			Exits	# of Beds by coverage requirement				
2	45	SAC/SICU		44	58	Cath/CICU/Resp/GI/OR		52		
	2	43		2	2	49		9		
	Exits	# of Beds by coverage requirement			Exits	# of Beds by coverage requirement				
1	0	Reception / Ofc		2	0	Reception / Ofc/ER?		2		
	2				2					
	Exits	# of Beds by coverage requirement			Exits	# of Beds by coverage requirement				
	North Wing Total				South Wing Total					
	148	Room Totals		109	142	Room Totals		119		
	2	65	36	0	47	2	93	20	0	29
		# of Beds by coverage requirement				# of Beds by coverage requirement				
	ABC - East Totals				ABC - West Totals					
	229	Room Totals		153	229	Room Totals		153		
	2	98	20	22	89	2	98	20	22	89
		# of Beds by coverage requirement				# of Beds by coverage requirement				

How I Determine Evacuation Readiness?

- Simply ask questions!
 - How would you evacuate today?
 - Elevators not working
 - Had to get to ground floor
 - Did you know you had equipment?
 - Do you know where it is?
 - Do you know how to use it?

Protocols & Assumptions Vs Lessons Learned

Protocol: Caching Evacuation Equipment

- "We can share equipment between facilities"
- "We will store all the equipment in EP Storage unit and deploy when needed"
- We have NO room on the floors... old buildings

Reality:

- Caching evacuation equipment dramatically increases your risk ...Time to (Bellevue) and ability to (Joplin)
- Evacuation Equipment should be allocated at the floor and unit level
- Even at the unit level ... never put all of your equipment in one location (firewall)
- Evacuation equipment is an immediately need...

Area Wide Planning & Collaboration

- **Planning:** We operate like a coalition.
 - “We have a good group that meets regularly”
 - “We do some group buys and share ideas and our plans”
 - “We work closely with our Fire & EMS”
- **Reality:**
 - Area wide planning and collaboration is a critical
 - Pre defined where your patients are going ... can they handle them (ICU, NICU, Psych ...)
 - Common language / codes... integrated communication ... hospitals code, classify and speak different languages (NYU ICU Patient, NICU Level 3, Trauma Level 1 Vs 3)
 - Simply transferring records is a very difficult task
 - Associations/Coalitions must Plan, Practice, Drill ... Be Prepare as a group for Single Facility and Area Wide Disasters

Managing the Risk

- **25 million settlement reached in patient deaths after Katrina**
 - The settlement alleged that the hospital **failed to prepare for and respond sufficiently to a foreseeable disaster.**
 - St. John's in Joplin MO is fielding lawsuits tied to emergency preparation and evacuation
- Joplin, Super Storm Sandy, and OK are not a once in a life time event ... in 2009 there were 69 hospitals that had to evacuate out of the building (*periodical: Disaster medicine 2009*)

Liability and Risk Assessment

- We have a responsibility to get our people to safety.
What's in your mission statement?
- Our world is one of the highest litigious environments.... Risk management progression
 1. Knowing we have a problem and we have “best efforts” to resolve it
 2. “Not” knowing we have a problem ...
(Not a viable excuse after 10yrs and millions of grant dollars being spent)
 3. Knowing we have a problem and “avoiding it”

The Alternative

- **EVACUATION TECHNIQUES – BOTTOM LINE: GET VICTIMS TO SAFETY ANY WAY YOU CAN. PROTECT YOURSELF AND THE VICTIM – MOVE QUICKLY AND CALMLY TO SAFETY.**
-
- **CARRIES**
-
- **SIDE-BY-SIDE COME-A-LONG:** This is used for a victim who is able to walk but just needs manual assist. Put victims weaker side next to your body; put the victim's arms over your shoulder, hold his / her wrist, wrap your other arm around his / her waist and walk.
- **BLANKET DRAG:** This is used for the resident who cannot walk. One person can perform this. Look at the victim's size, your size and strength.
- Push the bed up against the wall or lock the brake.
- Have the bed in the lowest position possible.
- Lay the blanket on the floor.
- Kneel on one knee using your other knee as a midpoint between the floor and the bed.
- Gently lower the victim onto your raised knee and ease him / her into the lying position lifting him / her lower body slide off your knee first - protecting his / her neck and head.
- Grasp blanket up around head / shoulder area and drag him / her to safety head first.
- **HIP CARRY:** Works well for smaller victims or someone who has had abdominal surgery.
- Lock the bed or push against the wall in the highest position.
- Back up towards the bed and grasp the Resident wrist with your hand that is the closest to the head and bring it around to your shoulder.
- Put your other hand and arm around the Resident's back and hold on tight in the auxiliary region.
- Wrap other arm around the victim's knees and lift the Resident.
- Go sideways through the doors.
- To ease this person down, back their buttocks against a wall and slide down the wall.

Alternatives Continued

- **TWO MAN CARRIES**
-
- **1. Swing Carry: Assist Resident to a sitting position on the edge of a locked bed, (waist high).**
- **Have a rescuer get on each side of the victim and put the victim's arms around his / her own shoulders.**
- **One of the rescuer's nearest the victim then goes around the victim's back (either grabs the other rescuer's wrist or grab onto the victim at the waist).**
- **With your other hand, each rescuer reaches under the victim's knees and clasps the other rescuer's wrist.**
- **Lift together and carry the Resident to safety.**
- **Lower to the floor by kneeling with the leg closest to the victim and lowering Resident's feet first.**
-
- **2. EXTREMITY CARRY: One rescuer at the top of the victim; the other is between legs at knee level.**
-
- **Lock the bed up against the wall. Bed at waist height.**
- **Bring victim to the sitting position.**
- **Top rescuer gets into position first – putting their arms under the victim's arms and clasping their own hands.**
- **The bottom rescuer then backs between the victim's legs so he can grasp the victim's legs behind the knees.**
- **Together – they now can walk.**
- **This works well for long distance carries.**
- **To lower – foot end first – rescuer between legs lowers down to the knees and places the victim's feet and legs down.**
-
- **REMEMBER NOTHING IS ENGRAVED IN STONE WHEN IT INVOLVES GETTING A RESIDENT TO SAFETY. EVERY SITUATION IS DIFFERENT AND MUST BE HANDLED THAT WAY. - SITUATION TO SITUATION.**
-
- [Fire Safety and Evacuation Plans - Minnesota Department of Health](http://www.health.state.mn.us/divs/fpc/engineering/fireevacplans2.pdf)
- www.health.state.mn.us/divs/fpc/engineering/fireevacplans2.pdf

Conclusion

- **We Have Learned Many Lessons**
- **The Challenge ... Applying the Lessons Learned**
 - **Change your paradigm: *It is not a matter of IF ... but WHEN***
 - ***Never develop plans based on a “that will never happen to us” assumptions***
 - ***When you plan, train or run a drill ... Base them on realistic scenarios ...
“Plan for the Worst event that you can imagine”***
 - ***Having Enough of the Right equipment in the Right locations is paramount***
 - ***Equipment dictates your success in crises***
 - ***Interdependencies between Hospitals and First Responders is a critical element of your Area wide planning ... Consistency and standardization of processes and protocols***
 - ***Don't let the government or grant dollars dictate your readiness***

Questions?

Emergency & Disaster Planning



Can You Ever Be To Prepared?

Well Maybe ...

Your job is a very difficult one...

*"... is to prepare thoroughly at times when
it seems nothing could go wrong."*

Jeff Hamilton, Director EP - St. John's Mercy

If you over prepare ... you waist money

If you under prepare ... you risk lives



Med Sleds. are Disaster Tested...*Disaster Proven*



Joplin EF5 Tornado
Mercy Hospital



Superstorm Sandy
Med Sleds Evacuation



Superstorm Sandy
NYU Med Center

"...Our Med Sleds and planning were pivotal to our successful overall evacuation strategy during Superstorm Sandy."
Kristin Stavers - Director of Emergency Management, NYU Langone Medical Center

"...The Med Sleds worked exactly as designed, allowing healthcare providers to evacuate non ambulatory patients when time was critical."
Charles Coppia - Battalion Chief, City of Joplin Fire Department

Is Your Facility Properly Prepared? Let Med Sled. Help You Prepare for the Worst

	EQUIPMENT	SKU	RETAIL PRICE	CONFERENCE PRICE
Evacuation Equipment	Standard Adult Med Sled,	MS36	\$380.00	\$365.00
	Bariatric Adult Med Sled,	MS48	\$410.00	\$395.00
	Youth Med Sled, (under 60" tall)	MS28	\$365.00	\$350.00



MS28



MS36
All Med Sleds come in a compact storage bag



MS48

ORDERING INFORMATION

+ **QUANTITY DISCOUNTS OFFERED FOR A LIMITED TIME. ORDER NOW**
+ **Contact: Andy Stann at 314-223-7305 or astann@medsled.com**

Special Pricing
a available through
September 30, 2016

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Contact Information

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Joplin EF5 Tornado LTC Impact

- Impact to Joplin LTC Facilities Six (6) Skilled Nursing Facilities (SNFs) in Joplin.
- 3 LTC Facilities sustained minor damage, power outages, etc.
- 3 LTC Facilities were completely destroyed.
- The Greenbriar was impacted the most with a direct hit.
 - 14 Residents and 1 Employee died during the storm.
 - Not all residents could be moved from their rooms, evacuation areas hit.
 - Keith Robinson, CNA, died shielding two residents who also perished.
 - 7 residents have since passed away, some due to injuries or trauma of the day.
- The other facilities destroyed were the Meadows Care Center and Joplin Healthcare Center. While no deaths or major injuries, they required complete evacuations under tremendously trying circumstances.
- Of the 3 destroyed, there were 332 licensed beds and census that day of 265. Thus, 251 residents required permanent relocation to other facilities.
 - Dolan, Jon (2011) MHCA “Public Health and Medical Disaster Response In Action: The Joplin Story”

Concord Place Retirement and Assisted Living Community

- Evacuation Chicago, IL in July 2012
- 16 Story, 325 Residents
- Power Outage
- A general assumption is that an evacuation will only occur during a fire, a hurricane, or a building collapse.
- Stair Chair used by Fire Department
- Lesson Learned: For stairwell evacuation... Consider purchasing and storing hospital-type evacuation sleds or other devices at the facility.
 - Farlow, Brenda (Jan 2014) **EVACUATING A SENIOR LIVING CENTER: WHAT DOES IT REALLY TAKE? FIRE ENGINEERING MAGAZINE**

Greenbrier Nursing Home

