

**Joplin, MO**  
**Tornado Event: Evacuation & Surge**  
**Analysis**

<b>HICS Area</b>	<b>Occurrence</b>	<b>Comments</b>
<b><i>Affected Facility – St. John’s Medical Center</i></b>	367-bed acute hospital, nine story building	
Activation - 5/22/11	Tornado Warning Received and “Condition Gray” issued	Patient beds moved into hallways, moved furniture and shuttered blinds.
Event	Direct Hit by Tornado 5 – 10 minutes later	
Damage	Tore off roof and top two floors, shattered most windows, fires inside – “imploded”	Gas main break in area.
Utilities	Back-up generator failed	No power for lights, elevators or medical equipment.
Evacuation Order	Concern that building was unstable, not sure of safety, gas main break in area.	Hospital evacuated within 90 minutes. Without elevators, staff slid some patients down the stairs on mattresses.
Communications	Limited cell service, (calls dropping), no outgoing emails at least 24 hours after event.	Only texting and Twitter worked to send and receive messages.
Patients	Many patients injured and five critical patients died. Remaining 183 evacuated to other hospitals.	One kept alive by an employee manually pumping air into his lungs. Patients sent to multiple hospitals.
Visitors	One died.	
Staff Well-being	Many injured and/or lost their homes.	
Alternate Care Site	Set up triage center outside hospital to treat injured residents and direct them to other facilities.	Salvaged supplies from the hospital. Later established a treatment site in a Joplin auditorium.
Records Preservation	winds carried debris (medical records, x-rays, etc) up to 60 miles away	Hospital asking residents who find patient records to hold them until they can be collected.
Public Information Officer	Media showing up at facility. No PR person at ACS.	Media representative “volunteering” in “triage center” across the street from the hospital taking notes on his phone and sending “tweets”. No PR person to ask for permission.
Search	Checking rubble for survivors	
Planning	Six days later, set up a mobile hospital until a more permanent facility can be constructed.	Includes emergency, surgery, imaging, lab, pharmacy, inpatient care.
Infectious Disease	Aggressive fungal infection (zygomycosis) in wounds is causing nerve damage, blindness, brain and lung	

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	blood clots and death.	
<b>Receiving Facility- Freeman Health System</b>	404-bed acute hospital, six stories	Described as organized or calm chaos
Activation – 5/22/11	Tornado Warning Received	Started all generators (10 just in case)
Event	Tornado in area	
Damage	Portion of roof blown off	Rainwater damage
Communications	No phones, cell towers inundated	Couldn't get calls out or call for reinforcements
Surge	Caravans of people started coming	Pickups with wounded, cars with all windows blown out, people on boards, doors, tables,. School busses and truckers (semi) brought injured
Inpatient Care	Downgrade and discharge home some patients to make room for more critical patients.	
Casualty Care	Four triage areas set up	Hundreds of wounded, covered in blankets, sitting in chairs, lying on the floor in rows, blood everywhere. Patients treated on floor and several to a room.
Traffic Control	Vehicles lined up for 10 blocks or more just to get to driveways.	Formed small groups of volunteers to manage traffic so ambulances could get in and out.
Equipment	Emptied 4 conference rooms of the rolling chairs	Approximately 100 used as wheelchairs
Supplies	Brought out all the blankets (people wet) and rolling supply carts	Bandages, cases of bottled water
Food Services	Volunteers in kitchen started making sandwiches	
Labor Pool & Credentialing	Couldn't call for reinforcements, but they just started showing up	EMTs, nurses, doctors, local and out-of-towners. Some couldn't drive, so they walked or hitched rides.
Surge – Increase capacity	Cancelled many elective procedures to accommodate injured Joplin residents and accommodate transferred patients	
Fatalities	Temporary morgue started with first 6 bodies.	
Injured	Smoking and cries of pain, sorrow and some joy (when finding loved ones).	
Utilities	No water pressure (at least 24hours later)	Barely enough water to run sterilizers for instruments, only two bathrooms work in the hospital (not sure why).
Evacuated Patient Disposition	Some treated and released.	Days later, others transferred to a sister facility of St. Johns where access to their EHR was available.
Damage	Water	Rain collecting and running down between layers of roofing, wiring and pipes. Rain delaying repairs, so buckets all over the halls. Some areas of rooms unusable for care.

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		Removed hundreds of ceiling tiles that have gotten wet and were coming down. Fire alarms keep going off due to the wet wiring system. Check each one to make sure there is no fire and then silence it.
<a href="#">Employee well-being</a>	Many employees lost their homes	
<a href="#">Infectious Disease</a>	Aggressive fungal infection (zygomycosis) in wounds is causing nerve damage, blindness, brain and lung blood clots and death.	
<a href="#">Bed Capacity</a>	Received federal waiver to add up to 89 beds to accommodate the extra patients resulting from the tornado (swing beds for less-critical patients)	In addition, Freeman East will add 30 beds and Freeman's critical-access hospital has already added 28 beds.

Explore:

- Backpacks that have six or eight wireless cards in them all connected to different cell tower operators to up the chances of finding a signal at any given time.