

HURRICANE CHARLY – LESSONS LEARNED – August, 2004 – Lee Memorial Health System
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WHAT WORKED WELL:

IT staffing on "A" team was heavy – position to handle anything, take the edge off the organization

- strong IT coverage made it much easier to deal with issues
- addressing spot IT/communication needs (ie getting disaster folks zone phones, pagers, setting up extra command centers, etc.)
- capitalizing on IT staff system/overall knowledge to help with issues, moving patients, go-to/how-to resources
- had staff on duty at every major facility
- have your "best" on duty – can handle whatever comes up
- went overboard on help desk coverage
- deployed clinical informatics staff to floors to help
- were able to offer quick IT solution help to non-IT problems

Waited until the last minute to bring in IT "A" team – helped to minimize staff stress

Employed community voice mail, intranet postings for employee communication for last minute staff communication

Have things for staff to do while waiting on the hurricane

It was great that we had no rising water

Wide Area Network/Local Area Network – fiber is great – super reliable in the storm

System Stability – all systems stayed up

- really took the edge off of clinical operations, significant enabler to disaster coordination
- let the organization stay on normal procedures, stat orders/result processing, etc
- eliminated rework after the fact
- stability of internal telecommunications within staff was invaluable
- wireless zone phones were hot commodities when cell phones got flaky
- wireless workstations (particularly in ED) were great – hallway caregiving
- e-mail was wonderful
- internet was wonderful – knew what was really going on "outside"
- but couldn't use e-mail for broad internal/external communication – too many critical care givers didn't have access

Overhead paging was heavily used for general communication

Traveling (disaster) nursing coverage – getting them trained on the systems on the fly (IT training of disaster staff is not top of mind, but is critical to efficient care delivery)

Power protection/generators

- all network areas were on battery protection and generator power
- workstations/printers were on generator power
- data center inverters/AC were on generator power
- telephony was on generator power

Have remote locations checked first hand as soon as possible – physician offices, etc. – do it as soon as power is restored so that you don't have to make repairs at last minute

Had IT vendors on notice to supply parts, etc.

Validated up-to-date full backups prior to storm – courier issues with off-site storage

Had plenty of extra pagers on site – were able to deploy them quickly when cell phones failed – gave them to the command center staff, and also handed them out to the ER staff so that they could give them to key emergency coverage physicians

Had enough extra workstations/cabling/extra phones etc. on site – were able to set up "war-rooms" quickly when it became clear they were needed

Employee disaster relief fund, support structure, counseling

- set up employee disaster room – internet access, phones, disaster help booklet, etc.
- insurance contacts, fema forms on intranet, etc.

Good staff communication across facilities – particularly critical for capacity management when lockdown was eliminated – knew where available bed capacity was
Used the IT systems to help with realtime capacity management – not intuitive for staff to do in a crisis
Having hospitalists on duty was a blessing – especially when admitting physicians couldn't be contacted – kept the ED from getting bogged down
IP phones were great – allowed us to quickly set up a central scheduling office for physician offices by just rerouting to a computer training room
- also used for hospital-hospital communications during subsequent storms
Used the computer training rooms for a variety of needs – war rooms during disaster, work room for off-site locations after disaster (until their offices were back on line)
E-mail to company – letting them know what to do with their computer gear near windows
Water leak plan (plastic sheeting) in the data center
System downtime preparation for clinicians – printing off key documents at last minute
- printed off manual forms packages for clinical units with downtime procedures
- printed off physician rounds lists
- printed off mars, other computerized clinical chart documents

ISSUES:

Remote data communications was a serious issues – multiple break points in land lines
- remote transcriptionists – very big deal for patient care
- remote service providers – suppliers, labs, pharmacies, etc (we might have connectivity and power, but they don't)
- pay close attention to owned remote locations that may not have the more robust connectivity or power protection (ie some of our employed transcriptionists, business office, finance were in buildings not on the main campuses, didn't have sufficient network redundancy, power protection). Was an issue while the community was getting back on their feet.
Need more reliable method for contacting people when cell phones are disrupted
Didn't check first hand when key decisions were made – Care Center patients – AC/Generator issues
Had spare cell phones, pagers – but didn't have enough
Public communication very problematic – when land lines fail, cell towers fail
- cell phones – fast busys – acted more like voice mail devices
- blackberrys
- telephones
- public tv/radio
- pagers??
Our microwave wireless LAN links suffered severe damage – spares not readily available. Think about where these are used, how to recover
Gave out pagers – which was good – but forgot to include instruction cards (don't forget the small stuff)
Don't assume you will be able to contact anyone, don't assume those you need will be able to travel in – due to housing damage, streets, and damage impact on their own extended family
We did encourage staff to bring their families in – but didn't encourage strong enough - created lots of extra pressure on staff worrying about their families
Didn't have some non-essential IT eqpt. on generator power - we should have had – ie timeclocks (critical for FEMA calculations of costs)
Didn't have lab instruments/instrument interfaces on battery backup/generator power
Main AC Chiller not on generator – lost chilled water – couldn't use MRI
Didn't think about chargers/extra batteries – for zone phones

Hand-off from IT A-team to IT B-team was not good. A-team left, B-team came in later and couldn't find out what was going on

- think about scheduling tag-up point between A-B team – but keep in mind communications will probably be down

Coordination with plant ops regarding generator/power switches could have been better at some of our locations

Should think about intra-campus conference call facilities – maybe also video conferencing facilities. How to make them better, easier to use

Remember, just because a facility has (generator) power doesn't mean it will have air conditioning

OTHER:

Remember after the storm, pressure on the staff increases – more organizational needs as the departments and remote locations ramp up, more personal issues for staff to deal with. But it is good to have the crisis at the hospitals dealt with before one gets to that point

Don't be complacent – you might be getting "all dressed up" for no reason, but being overly prepared took the edge off when the real thing occurred

What would you REALLY DO if your data center flooded?

Think about sustained power loss at outlying locations/clinics/physician offices – and AC. What would you do

Offer to let staff use hospital long distance to let remote family members know they are ok – do anything reasonable to remove stress from staff

The more you can distribute reports over the web/electronically, the better off you will be. Hard to cart paper around when the roads are closed/couriers can't be contacted

Make sure IT staff are assigned where they can get at the technical tools they need – ie we had a key staff member at one campus, and the Softmed tools she needed were not installed on workstations at that campus

If the disaster carries over for several days, garbage/trash pickup, other basics can become an issue. Think about having extra trash bags available