Practice Did Not Make Perfect — Lessons from a Rural Hospital Evacuation

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Pete Mercado  
Fire Chief, Calexico Fire Department
Robyn Atadero, RN, BSN, MPH, CEN
Chief Nursing Officer
Pioneers Memorial Healthcare District

Robyn Atadero has been a practicing nurse for over 26 years, with 23 years spent in the Emergency Department. She served as director of emergency services for 12 years prior to becoming the chief nursing officer for Pioneers Memorial Healthcare District in 2012.

Ryan Kelley
Director of Safety and Security
El Centro Regional Medical Center

Ryan Kelley has been an active member of disaster response in Imperial County. As a first-responder, he has served as both a firefighter and paramedic. Mr. Kelley has taught fire science and emergency medical services to aspiring firefighters and EMTs at Imperial Valley College. He has also served as Imperial County Emergency Medical Services Administrator, where he developed and enhanced the Emergency Medical Services system and capabilities. Ryan Kelley was elected to the Imperial County Board of Supervisors to represent District 4 in 2012.
Cedric Cesena
Emergency Medical Services/Bioterrorism Manager
Medical Health Operational Area Coordinator
Emergency Medical Services Agency
Imperial County Public Health Department

Cedric Cesena is the Emergency Medical Services administrator for the County of Imperial. His responsibilities include the coordination of medical and health operations for the county. Cedric came to the County of Imperial after a 19 year career in the fire service where he performed the duties of paramedic, firefighter and fire captain. During the Brawley Earthquake Swarm, he served as the medical health operational area coordinator at the Medical/Health Branch of the operational area emergency operations center.

Brendan Manning, MPH, CEPR, BS, EMT-B
Region VI Disaster Medical Health Specialist
Riverside County Department of Public Health

Brendan Manning is the regional disaster medical health specialist for Mutual Aid Region VI, which covers over 49,000 square miles, over 10.5 million people, and 60 general acute care hospitals. Before coming to California, Brendan served as a Peace Corps Volunteer in East Africa for two years. Brendan has also served as a firefighter/EMT in New York and New Hampshire, where he supported response during severe storms, working with state and federal partners on relief efforts.
Pete Mercado
Fire Chief
Calexico Fire Department

Pete Mercado has worked with the Calexico Fire Department for over 20 years. As fire chief, he is responsible for directing and managing all firefighting, fire prevention and fire service activities for the City of Calexico. Pete is also a certified state fire instructor for Imperial Valley College, where he teaches courses on fire service management, fire technology, hazardous materials and EMS. He is a faculty member of the University of Phoenix where he teaches courses in industrial safety and health care services and management. Pete is a member of the fire safety team for the Auto Club Speedway of Southern California, where he provides fire suppression and emergency medical services.
Objectives

- Discuss precipitating event and facility response
- Discuss impact of not following hospital disaster plan as drilled on local emergency operations and regional response
- Discuss impact of evacuation on neighboring hospital
- Discuss repopulation and repatriation
- Discuss lessons learned and after action improvement plan

Facility Description

- 107 Beds
  - Census of 78 that day, included 10 newborns and 2 NICU babies + 15 ED admits
- 700+ employees
- Region 6
- Level 4 trauma center
- Facility Disaster Risk Assessment: earthquake #1
- ED, ICU, DOU, MS, Surgery, Pediatrics, Perinatal
- 2 story facility: MS/DOU/Perinatal/Pediatrics on second floor
- Ancillary services, ED, ICU, Surgery on first floor
2 Hospitals in Area

Where We Are

Region VI
San Diego, Imperial, Inyo, Mono, San Bernardino, Riverside (LEPC VI)

Brawley Seismic Zone
A predominantly extensional tectonic zone that connects the southern terminus of the San Andreas Fault with the Imperial Fault in Southern California

Disaster Drills
- Earthquake Easter 2010
- Last Drill
- Patient Care Services meeting covered roles and home preparedness-practiced evacuation down stairs with chairs and slides
- ReddiNet
- Administration
August 26, 2012

- Sunday
- 107 degrees
- Key players out of town (CEO, CNO, Disaster Preparedness Coordinator, PIO)
- First quake 10:02 a.m. (3.8), two largest 12:30 p.m. (5.3) and 2:00 pm (5.5)
- By 5:00 pm, USGS recorded approximately 300 earthquakes
- County EMS Medical Director
Facility Damage

- Damage noted in MS, DOU, OB, Surgery, Peds (second floor and west end of campus)
- No damage noted in ICU/ED and Ancillary services (1st floor and more eastern end of campus)
- Cracks in wall
- Fallen ceiling tiles
- Fallen light fixtures
- Door frames separated from wall
- Closets became separated from wall and leaned forward
- Power outage (3 hrs) — generators kicked in
- Shut down computers due to heat and anchoring concerns in server room
- Staff and patients/emotional trauma
- Damage sprinkler heads
- Damaged bulk oxygen anchorage
**Preliminary Partial Evacuation**
- Patients started self evacuation at approximately 12:30 p.m.
- OB physician telling nurses to get patients out... evacuation rolled to MS area
- Stairs, emergency slides and evacuation chairs
- Outdoor areas identified — need to move cars — not practical in quick evacuation
- ICU sheltered in place
- ED remained open — not impacted
- OB screening in ED

**Facility and County EOC Activation**
- County recognition of event
- Several hours to open hospital command center
- Reaching County EOC

**Initial Evacuation**
Communication with Regional and State Officials

- Communication with outside agencies: CDPH
- “Looks like a 3rd world country scene on your hospital campus”
- Calls from outside agencies legitimate?
- Request and coordination of out-of-state resources
- Regional bed availability and patient destinations
- Communication with state and regional partners
- State agency rep at the EOC

Evacuation

- Patient and Physician initiated-ambulatory patients
- Evacuation Order
- Initial evacuation of patients coordinated by on site-staff without coordination of County EOC; ED continued to arrange ED transfers
- Transferred 42 patients
- 2 elopements, 9 AMAs — everyone accounted for
- Transfer sites: ECRMC, local prison, Eisenhower, JFK, SNF, UCSD, YRMC, DRMC
- Used 13 ground and air ambulances
- ED remained open with augmentation of OB screening services
- No initial diversion, kept ICU open for MS level admits after day 1

Coordination with Local Acute Care Facility

- MOU
- Setting up OB screening in ED — OB most impacted
- Coordination of staffing
- Sharing of physical resources
- Employee satisfaction
- Payment of staff
Communication

- Facility Communication during evacuation
- PIO
- Communication with staff home on-call
- Documentation

Post-Event OSHPD Inspection

- Notified on day 1; area compliance officer arrived at 7:00 pm
- Rule out red/yellow tag status
- Team arrived next day
  - 3 structural engineers (DSE), state fire marshal (FLSO),
  - 2 area compliance officers (ACO),
  - 2 regional compliance officers (RCO)
- Will take 18 months to complete all repairs

Repopulation/Repatriation

- CHA repopulation document — time to read it is prior to an evacuation, not during

Repopulated evening of 8/30/12 — ED taken off bypass

Post-Incident Debriefing/Reporting
- Site debrief
- County debrief
- Emotional
- Required reports

Lessons Learned/Action Items

Policies
Hospital Evacuation Plan (Checklist)

Readdress alternate care site areas

www.calhospitalprepare.org/post/hospital-evacuation-checklist
Decision Tree

Training
- HICS
- How to properly open EOC
- ReddiNet
- Radio Use
- Re-drilled
- “Red plugs”
- Forms

Evacuation
- Area leaders
- Medical Records
- Inpatient evacuation with alternate ED triage and treatment sites
- Stairway evacuation drills
Health Unit Coordinator Responsibilities During Evacuation

• Grab admission clipboard
• Grab a copy of the Census
• Bring all patients’ physical charts
• Bring the medication profiles (printed every 12 hours)
• Bring a copy of the on-call list

Charge Nurse Responsibilities During Evacuation

• Place all patient medications (cassette, refrigerator and shelf) in the tackle box located in the medication room and bring with you to temporary MS treatment area
• Bring Care Coordination sheets

Collaboration

• MOU with ECRM and Imperial County
• Walmart
• Staffing ECRM ED and OB
• Let the mutual aid system work for us
Supplies
- Took inventory current disaster supplies
- Purchased radios, AC, TV, storage trailers, tent, cots, lights, generators, white boards
- Identified need for 72-hour cart
- Medication to-go box, pharmacy
- Created summary of medications kept in on-site and nearby campus clinics
- Need to purchase battery-powered or hand-held suction units
- Keys to EOC cabinets

Documentation
- Mandatory for creation of post-disaster reporting and reimbursement
- Review and resupply of HICS documents

Communication
- RediNet
- Personal cell phones invaluable/county contacts/outdoor communication
- Hospital email/website
- Unidentified callers
- Updated staff phone lists
- HR communication with staff re: loss of hours/compensation
- Updated essential phone numbers and posted in EOC
- Electronic Medical Record (EMR) Documentation reliability
- Add hospital EMR capability to alternate care site computers
Facilities
- Initially just OSHPD/Pioneers Memorial Hospital
  - Should have involved preferred contracted design firm to ask questions
- Team arrived next day
  - 3 structural engineers (DSE), state fire marshal (FLSO), 2 area compliance officers (ACO), 2 regional compliance officers (RCO)
- Balance between urgency of repairs and required documentation
  - Recommend more scribes and details of needed repairs

What went well
- All patients evacuated without negative outcomes
- Once established, HCC coordinated well with Imperial County OES