



***Major Earthquake  
Response & Lessons Learned  
by a Critical Access Hospital***

**Ridgecrest Earthquake Sequence**

Stephanie Meeks, MBA, CHEP, HACCP  
Emergency Management & Regulatory  
Compliance Manager  
Ridgecrest Regional Hospital

# What we were preparing for...

## Up to July 3, 2019 – HVA Top 5

- Communication Outage (3X's in 2018)
- Workplace Violence/Active Shooter (2007)
- Power Outage (extreme heat & cold 2006)
- Sewage/Water systems down (2018 sewage event)
- Earthquakes (1990's minor temblors)

**San Andreas Fault Event – Absolutely**

**Ridgecrest Epicenter to a Major Earthquake Event – Never even crossed our minds**



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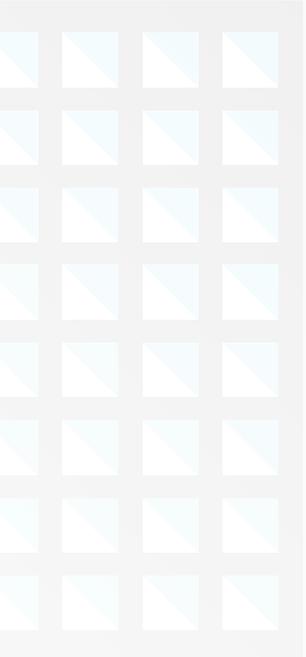


Built but not assigned building number yet

Center Professional Pharmacy



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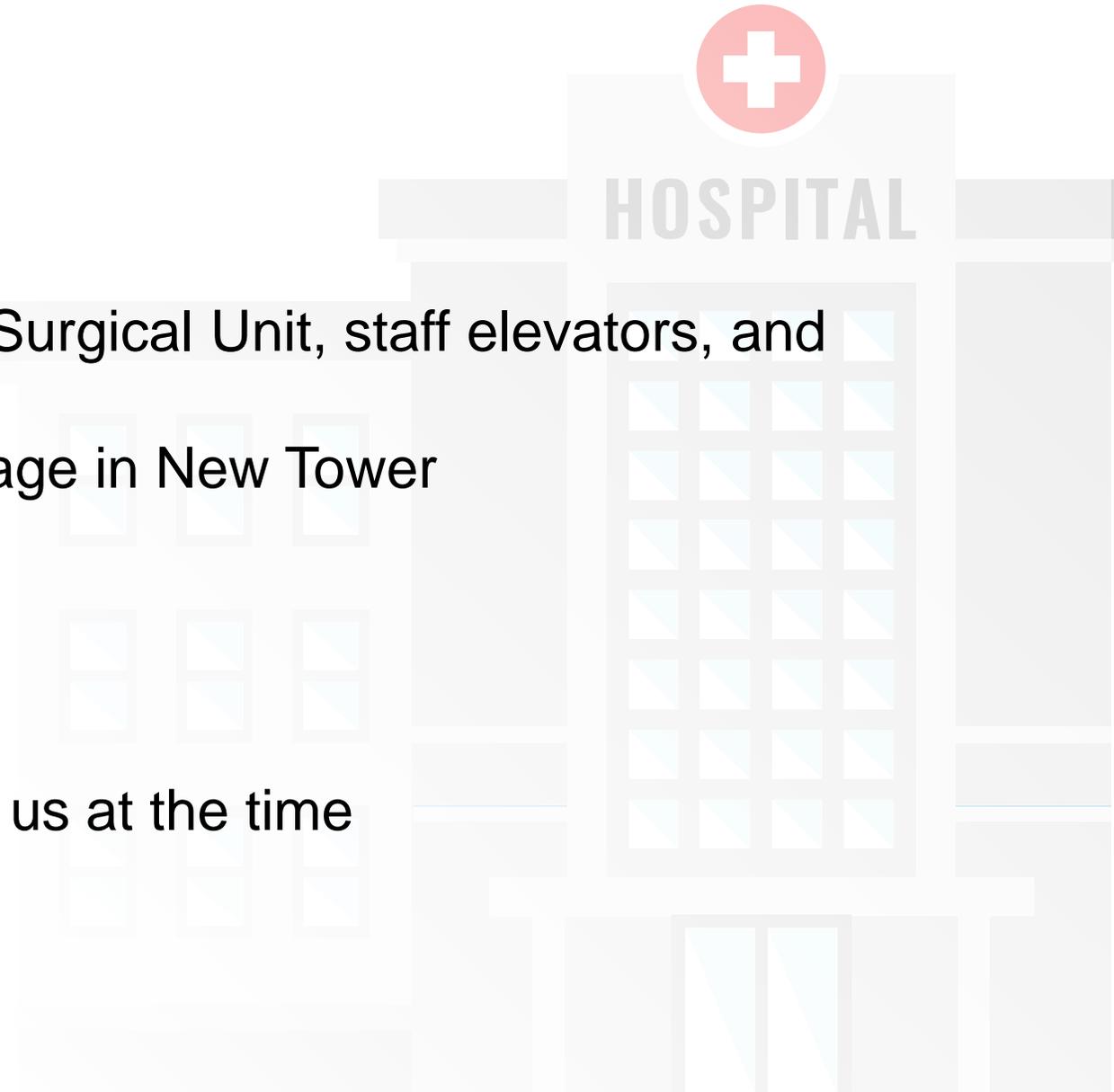
# July 4th – 6.4 Quake 10:33 am

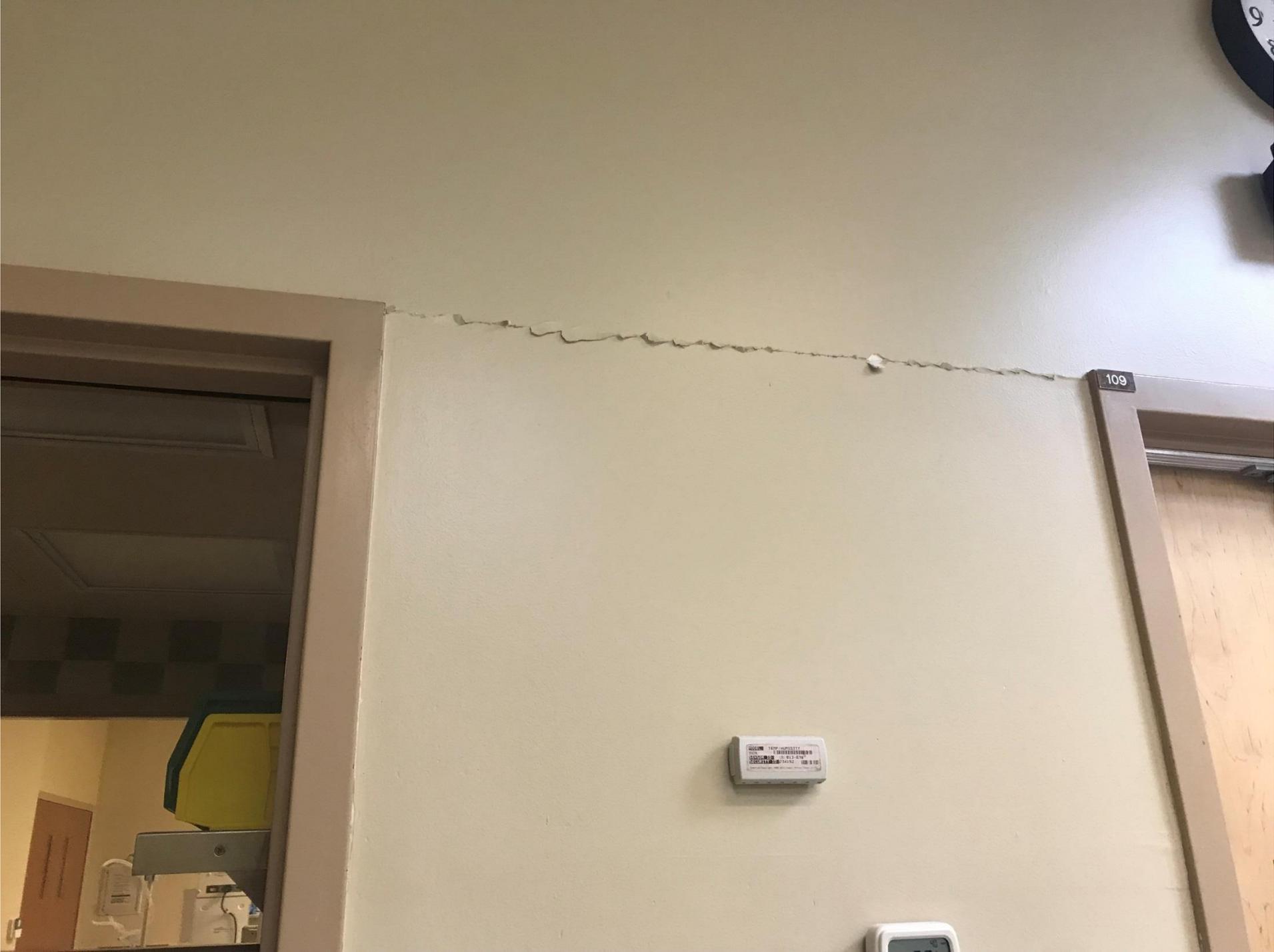


# Arrival at Hospital 10:45 am

## Initial Physical Assessment

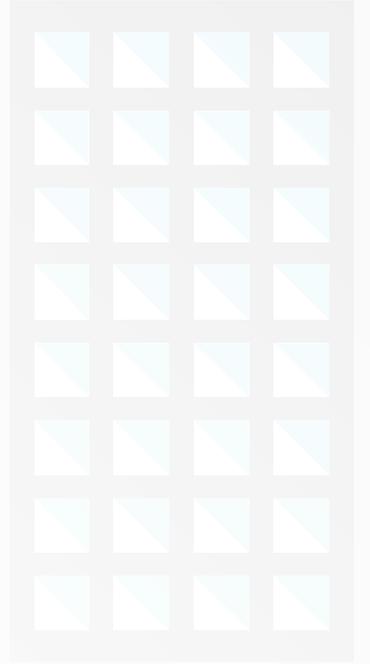
- Fire alarm activated but no fire
- Major water leaking into Medical/Surgical Unit, staff elevators, and Operating Rooms
- Visible drywall cracking and damage in New Tower
- Water leaking in ER waiting room
- Maintenance yet to arrive onsite
- Staff visibly shaken
- Walk-in patients arriving rapidly
- Quick leadership gathering – 3 of us at the time







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State of California  
 Department of Public Health

*(Faint text, likely a list of regulations or a public health notice)*

*(Faint text, possibly a notice or document)*

*(Faint text, possibly a notice or document)*

State of California  
 Department of Transportation  
 Division of Aeronautics

**HELIPORT PERMIT**

REGIOCREST REGIONAL HOSPITAL HELIPORT

*(Faint text and fields, including a date of 06/19/2004)*

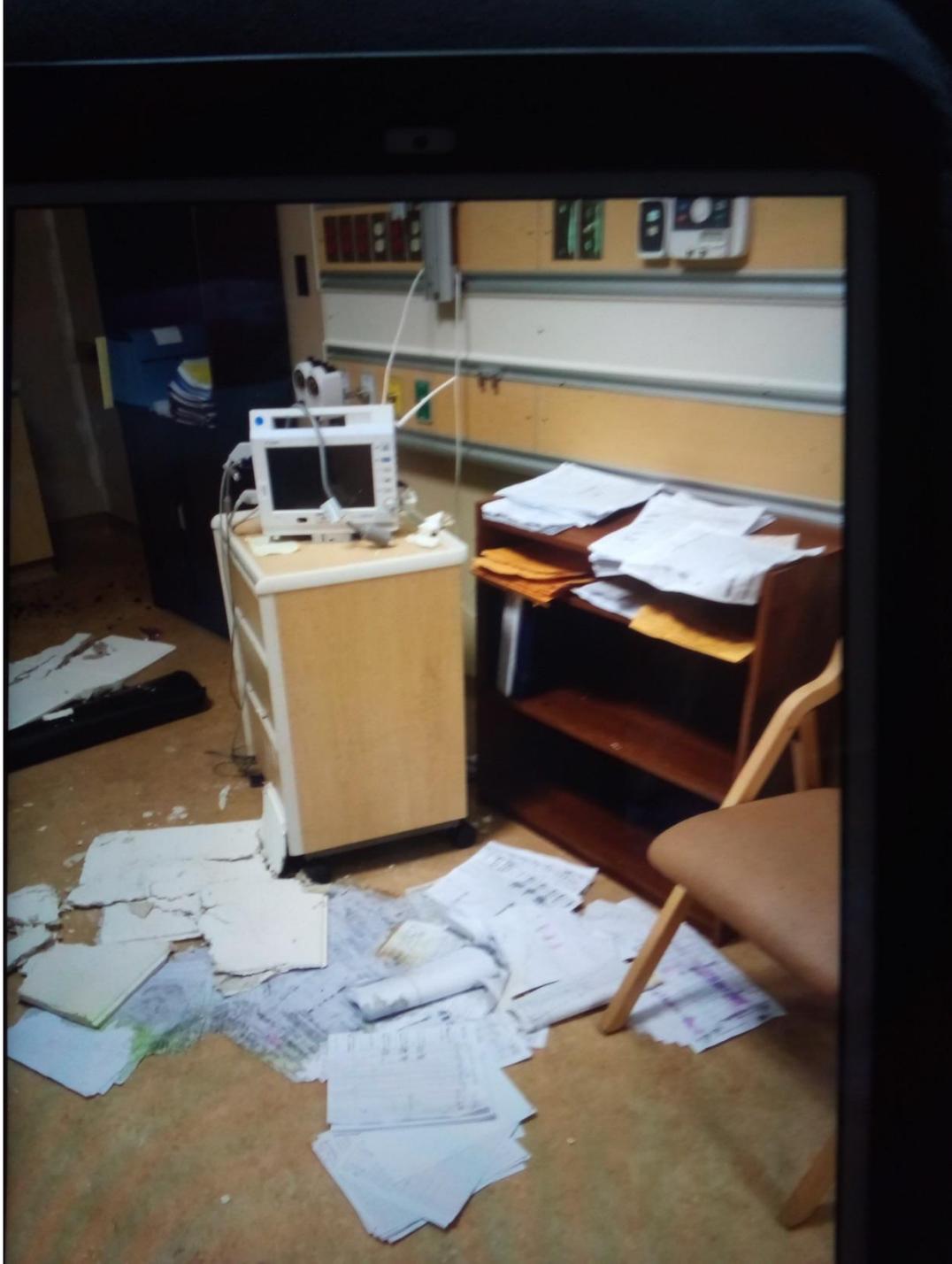


CERTIFIED UNIFIED PROGRAM MEMBER



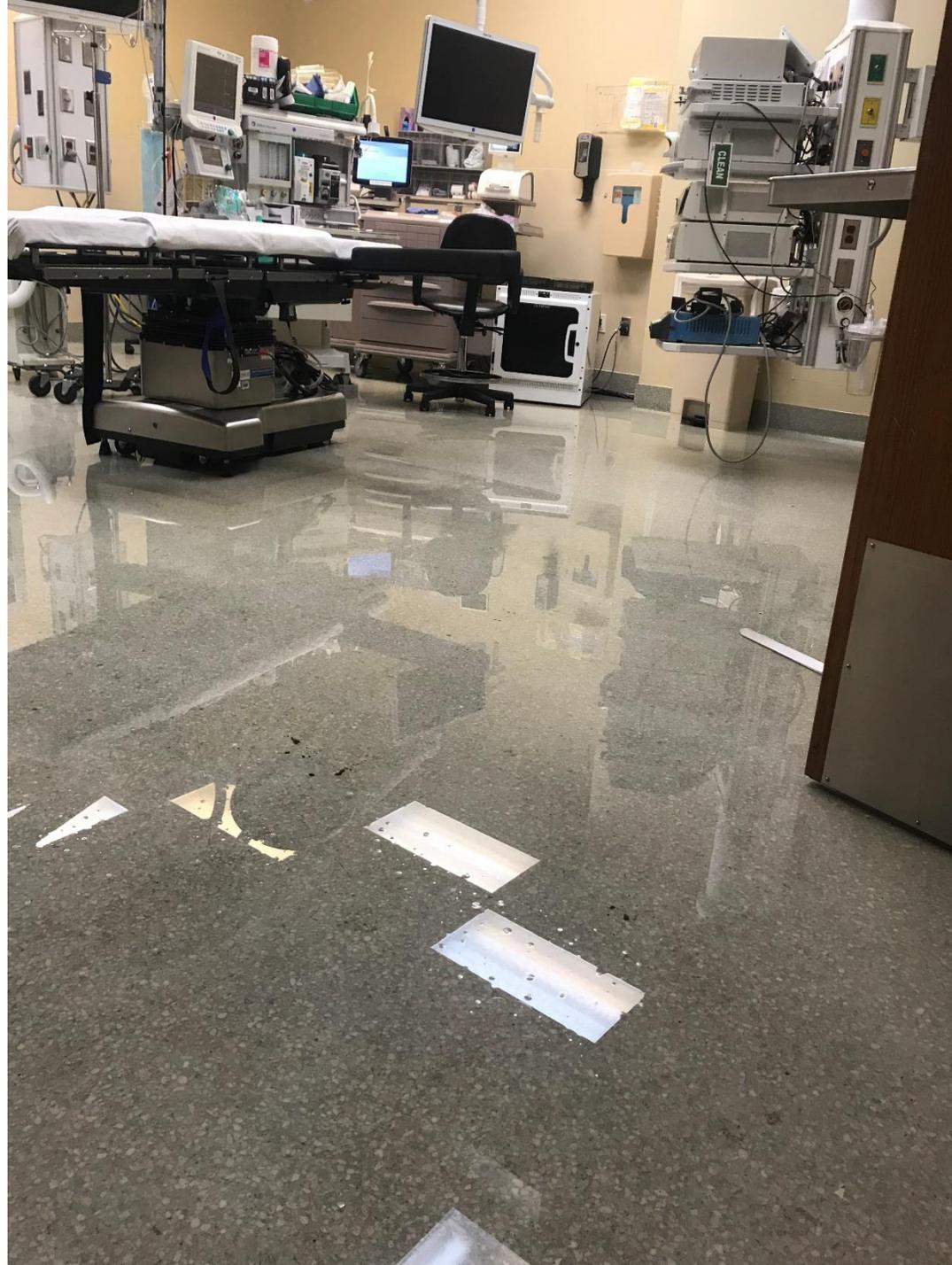
TAL



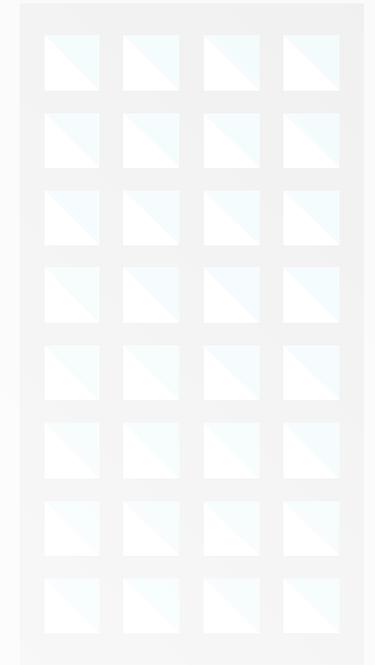


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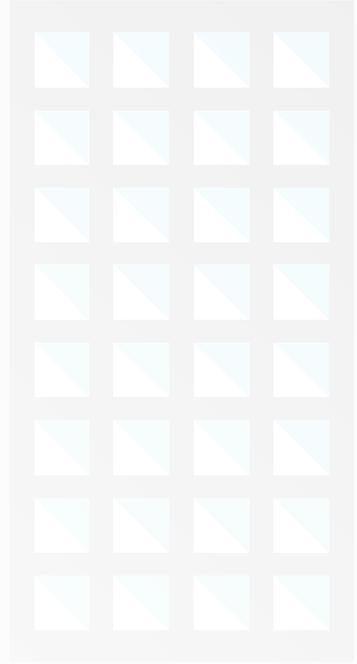


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# Decision to Evacuate 11:30 am

## Census

- 15 Med/Surg Patients on 2nd Floor
- 2 ICU Patients on 1st Floor
- 4 Cuplets in Maternal/Child (1964 hospital building)
- 7 Patients in ER – Low Acuity
- 12 Residents in Transitional Care Unit (1964 hospital building)
- 55 Residents at SNF building adjoined to hospital – Did not evacuate

## Staffing

- Bare Bones...Holiday Staffing was minimal

## Resource Request Pathway

- We used ReddiNet – an online program designed to communicate needs to the County EMS system in the event of a disaster.



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# Evacuation – a note on pre-planning (2012)







# Evacuation – a note on pre-planning



# Evacuation Demonstration



Take Pictures





**The ONE thing I wish I had...**



# Evacuation



# Evacuation



# Evacuation



# Evacuation



# OSHPD Contracted Engineers



Onsite by 4:00 pm to assess facility and give damage report.



# Transfer of Patients



Ambulance strike teams from Bakersfield, 100 miles away, were deployed to transfer patients out of Ridgecrest.

Request for strike teams – 11:30 am  
Last patient out – 8:20 pm



## Thursday Evening July 4th

- Leaders onsite meet with CEO/IC and review action plans for following day with clean-up, building repairs, closing of service lines.
- ED remains open to walk-in patients.
- Clinics remain closed, staff to contact all clients.
- All elective non-emergent labs and imaging cancelled.

## Friday July 5th

- Early morning meeting with CEO/IC to review daily activities, new developments and intel coming in from USGS, Naval Base, and City Command.
- Visitors arriving such as UC Irvine, Cal-EOS, OSHPD, Environmental Health Dept, etc. Expect all regulators to arrive unannounced.

## Friday July 5th, Continued

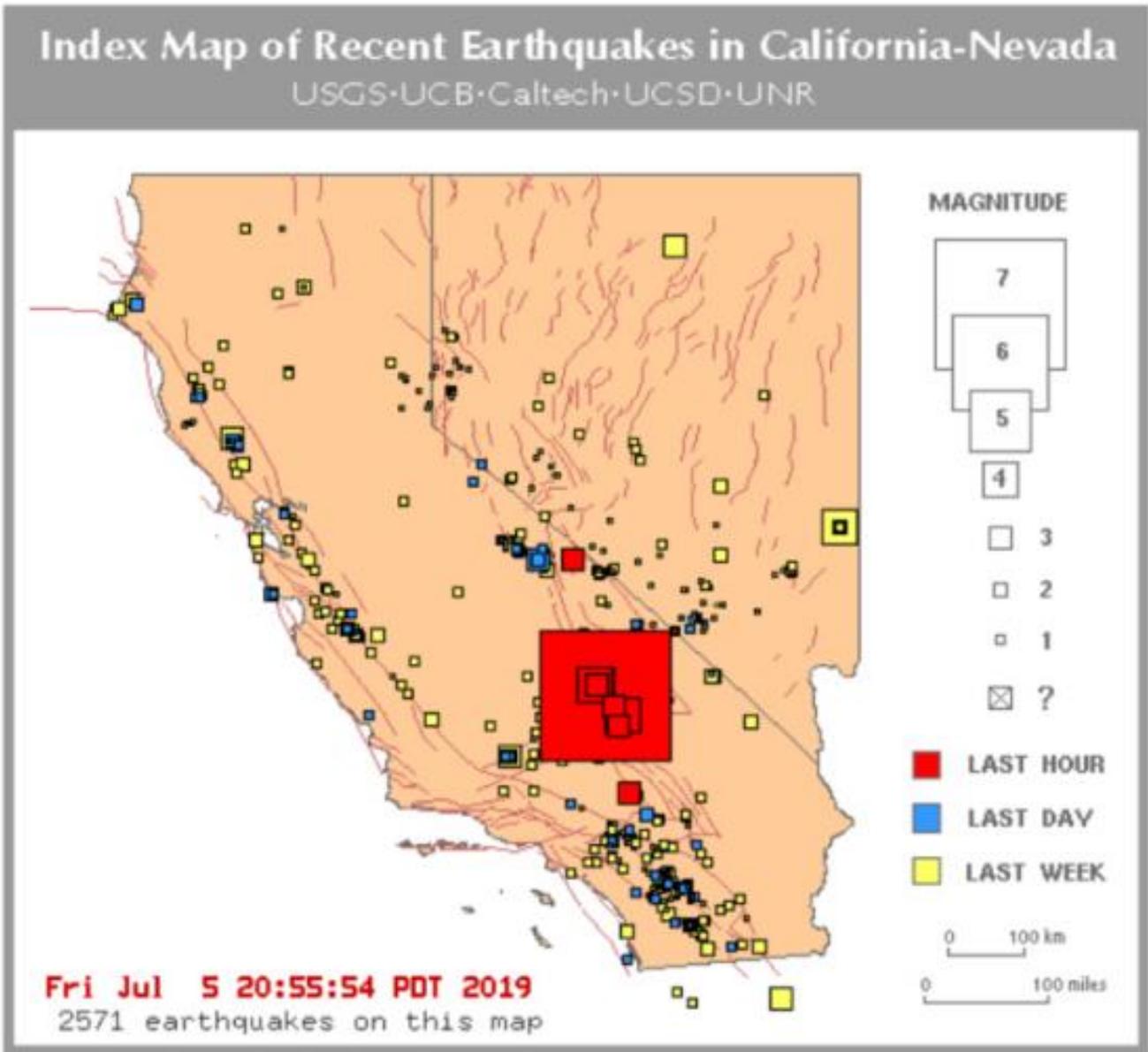
All hands on deck to patch, mud, and paint patient rooms, clean Operating Rooms, and get the hospital ready to repopulate as soon as possible. Finished for the day around 7:30 pm...we all left, exhausted.



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# July 5th – 7.1 Main Fault Rupture 8:19 pm





# Emergency Department Evacuated

Emergency Department remains open to walk-in patients.

Road closures cause uncertainty of patient surge.

Most walk-in patients were from existing health issues & medication needs.







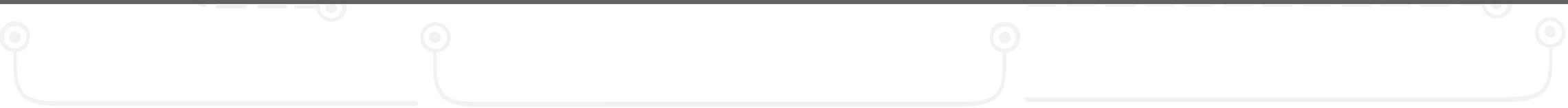






## Be Ready for...



- Mass media presence
  - Influx of Dignitaries
  - Regulatory visits from every, single, regulator you have
  - Universities – Programs specific to seismic issues, students wanting tours & interviews
  - Surge of “seismic tourism” – people wanted rooms in town just so they could feel an earthquake
  - Increase in crime, looters from out of town
- 









# July 6th & 7th

## Command Remains Open

- Staff start to put units back together.
- ED moves back inside building, remains open to walk-in patients.
- Many conversations with our state licensing division, initial goal to repair and repopulate.
- Head physician of state determines the need to re-open immediately.
- Now have less than 16 hours to make old ICU & Med/Surg (1964 & 1986 construction) operational.
- Terminal cleaning of OR rooms not impacted by water.
- All hands on deck through the night, state surveyors and OSHPD arrive at 10:00 am Sunday morning....hospital fully operational by 10:30 am.



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# Road to Recovery & Repopulation

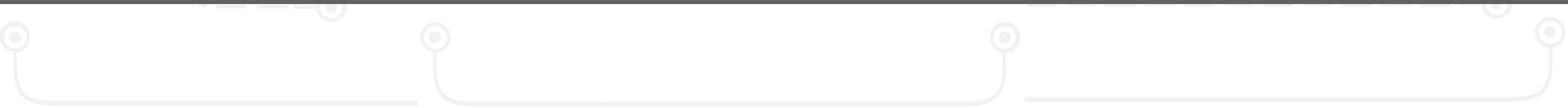


OSHPD gave us 6 green tags for our main facility listing repairs needed prior to reopening and repopulating patient care areas.

CEO works closely with OSHPD to receive approval on building code changes to allow flexible plumbing at heating coil junctions.

CEO and CFO work on compiling all needed insurance documentation.

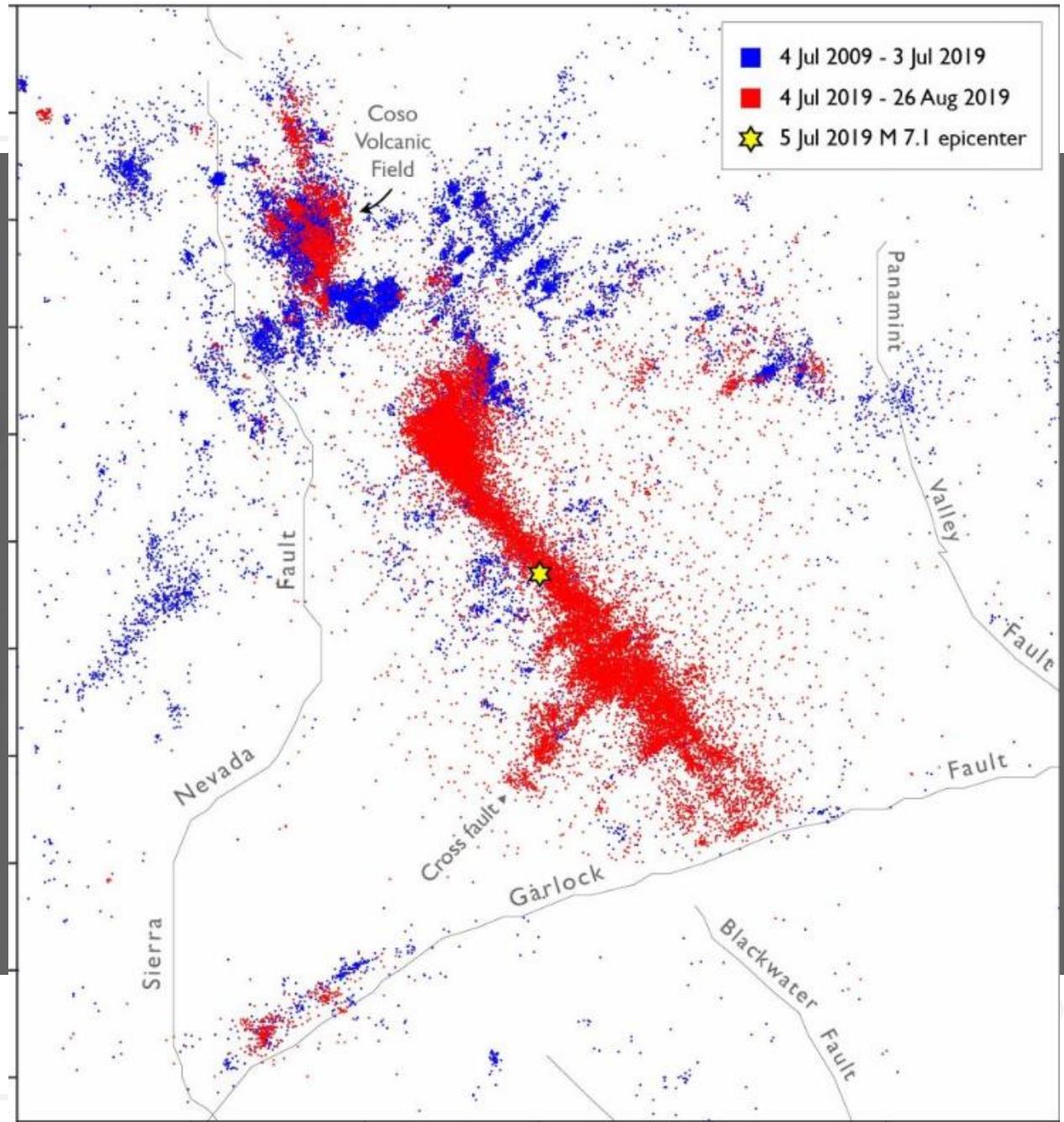
We continue to have MANY aftershocks of magnitudes great enough to cause additional damage.



# Be Ready For...Aftershocks

July 4 - Aug 26, 2019:  
Over 43,000 aftershocks

1,000	3.0-3.9 Magnitude
105	4.0-4.9 Magnitude
6	5.0-5.9 Magnitude



# Resources for Recovery



## Forms & Documentation

- Start the process with your County's Medical and Health Operational Area Coordinator (MHOAC) to submit to California Office of Emergency Services (CalOES) who will then check and send it to FEMA. – Your MHOAC will cover the cost of patient transport **ONLY** if you coordinate with them.
- 1135 Waivers if necessary – we did not use.
- Remember that Hospital Incident Command System (HICS) forms that were used in the response were originally designed for all responders by FEMA and were adapted to hospital needs with FEMA approving all changes, so are helpful for reimbursement documentation. FEMA was not activated for this event.

# Resources for Recovery

- Track everything...employees, patient movement, resources used, cost of repairs. Business Continuity Insurance will want all of these tracked expenses.
- California Hospital Association has a white paper titled Preparing Hospitals for Disaster – A Financial Perspective.
- Stay connected with your local licensing office, they are very helpful during this phase.



# Repopulation

ICU was first to repopulate in main building on September 7<sup>th</sup>.

Medical/Surgical Unit repopulated several months after the earthquakes, due to the extent of water damage, on October 24<sup>th</sup>.

DP/SNF repopulated November 8<sup>th</sup>.



# Moving Forward - Supplies

New military grade field hospital shelters with environmental controls, generators, and additional supplies have been purchased.

Next event, if able, we will shelter in place and discharge if acuity of patients allows.

Goal to be self-sustaining through event rather than relying on external resources and transfers.

WESTERN  
SHELTER

1935 SHELTER SYSTEM





Kern County EMS Department  
Mass Casualty Module

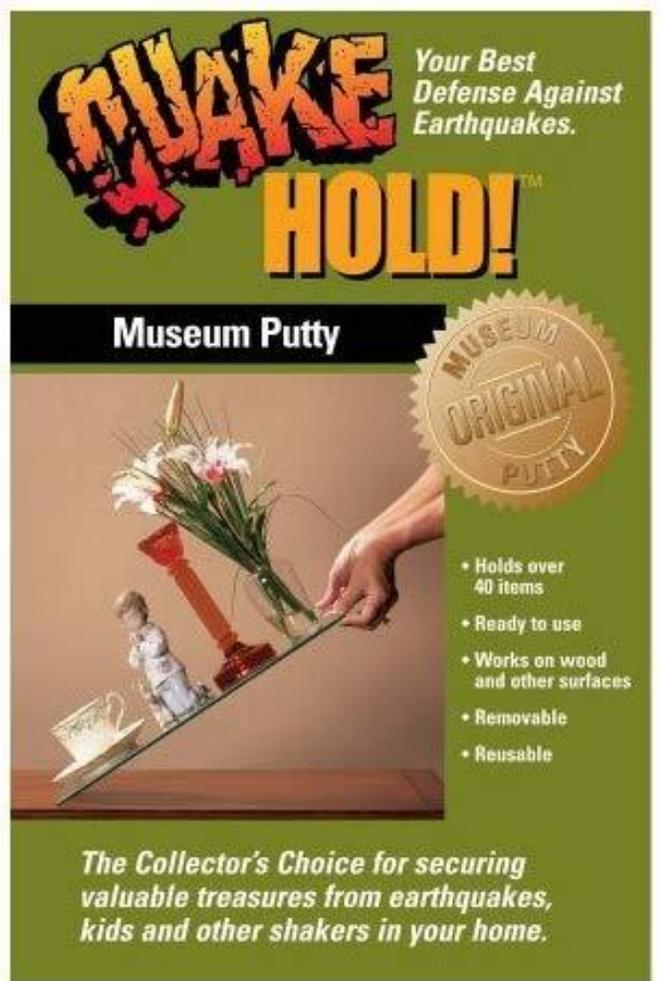
RACER

# Moving Forward - Supplies



# Moving Forward - Buildings

Get your staff prepared for falling objects, building awareness, and their role during an event.



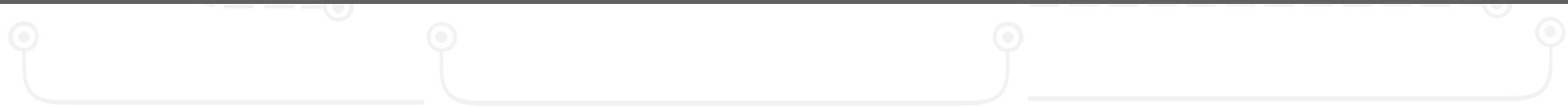
## Moving Forward - Planning



Connecting with 3 Healthcare Coalitions not just the county we are in as we transfer patients to multiple counties.

Continuous updating of our Emergency Operations Plan as we make decisions regarding resources, staffing, and business continuity.

Additional training for leadership in HICS, crisis communication, and continuous readiness for the next event.



# Collaboration is KEY



