

Incident Planning Guide: Earthquake

Definition

This Incident Planning Guide is intended to address issues a hospital should consider in planning for response to an earthquake. Some aspects of this planning may be equally useful and applicable to other incidents that could result in damage to the hospital's structural integrity. Hospitals may customize this Incident Planning Guide for their specific requirements.

Scenario

A 6.4 magnitude earthquake strikes the region where your hospital is located at 6:05 am. The earthquake shakes the hospital for almost 40 seconds. Throughout the shaking, light fixtures sway, unsecured items fall from shelves and walls, the lights briefly flicker, and staff and patients are frightened. Several staff are injured, including the night shift supervisor. Within minutes, an aftershock is felt, this time lasting only 10 seconds but causing additional panic. The power remains on, but within minutes utility water to the facility fails. Day shift staff are beginning to arrive, and report to the emergency department charge nurse that there is widespread damage to roadways, traffic lights are not functioning, and sirens can be heard across the area. By 7:30 am, the Hospital Command Center has been activated and staffed, damage reports are being received, utility power systems have failed and your hospital is on generator power only. In addition, the complete loss of water continues. Internal communications function but external communications, including emergency medical services, have been lost. The emergency department is inundated with dozens of patients presenting with minor injuries. There is some damage to exterior walls and a complete structural assessment of the hospital is expected tomorrow. More than 100 outpatient appointments, elective surgeries, and elective admissions were canceled and regular supply deliveries were not completed. A media briefing is scheduled for 10:00 am, and social media is reporting that the facility will have to close its doors to new patients until repairs are complete. There is a need for behavioral health counseling for patients, staff, and visitors impacted by the incident.

Does your Emergency Management Program address the following issues?

Mitigation

1.	Does your hospital address the threat and impact of an earthquake in the annual Hazard Vulnerability Analysis, including the identification of mitigation strategies and tactics?
2.	Does your hospital participate in pre-incident local response planning with public safety officials (e.g., emergency medical services, fire, and law enforcement), local emergency management officials, other area hospitals, regional healthcare coalition coordinators, and other appropriate public and private organizations, including meetings and conference calls to plan and share status?
3.	Does your hospital have multiple methods and equipment for transportation of patients (e.g., chairs, stretchers, backboards, sled type devices, blanket drag, multiple person carry, single person carry)?
4.	Does your hospital and all associated buildings undergo evaluations to identify mitigation activities that would prevent or reduce damage when an earthquake occurs?
5.	Does your hospital utilize earthquake shelving or other means to prevent objects from falling during the earthquake? This may include securing of cabinets, bolting large storage carts and shelving, moving objects off of high shelves, etc.
6.	Does your hospital routinely ensure that all entry and exit points in both clinical and nonclinical areas are kept free of obstruction?
7.	Does your hospital identify areas that would be without power when on emergency generators during a power outage? Are clinical staff informed of the risks and have appropriate risk reduction activities for these areas that are identified?
8.	Does your hospital have a cache of basic emergency supplies, including flashlights, batteries, protective gear, food and water, and emergency lighting? Is this cache routinely inspected? Is the cache easily deployable to assigned personnel?
9.	Does your hospital provide personal disaster preparedness education for all staff regarding earthquake and disaster preparedness?

Preparedness

1.	<p>Does your hospital have an Evacuation Plan that includes:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Defined criteria and procedures to evacuate all or sections of the hospital based on damage assessments? <input type="checkbox"/> Identified evacuation sites for all clinical and nonclinical services? <input type="checkbox"/> Identified locations for both partial and full hospital evacuation? <input type="checkbox"/> Evacuation routes, tracking tools, necessary supplies and equipment, and a secondary site? <input type="checkbox"/> Tools for the Hospital Command Center to track evacuation progress and obstacles? <input type="checkbox"/> Training for staff on the evacuation policy and procedures, including the use of evacuation assist devices, safety considerations, primary and secondary evacuation routes, and prioritization of patients? <input type="checkbox"/> Identification and training for nonclinical staff to assist in partial and full hospital evacuation? <input type="checkbox"/> Training on evacuation equipment for bariatric and special needs patients?
2.	Does your hospital exercise the Earthquake Plan yearly and revise it as needed?

3.	<p>Does your hospital have supplies, including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> First aid supplies? <input type="checkbox"/> Work gloves? <input type="checkbox"/> Safety goggles and helmets? <input type="checkbox"/> "Safesticks" for live wires?
4.	Does your hospital have a process to assess damage to the structure and infrastructure, including damage to heating, ventilation, air conditioning systems, water and sewer lines, electrical and information systems, fuel sources, communications, medical gases, alarm systems, waste and hazardous materials? Are plans in place for alternative sources and systems if any part of the infrastructure fails?
5.	Does your hospital identify and train staff to perform damage assessment due to an earthquake? Are guidelines and reporting tools available?
6.	Does the Hospital Command Center have tools available to track and consolidate damage assessment reports? Are appropriate personnel trained to identify and prioritize repairs to maintain patient and life safety standards?
7.	Does your hospital have procedures to establish redundant communications with public safety officials and local emergency management in the event of loss of normal communications?
8.	Does your hospital address the loss of any or all utilities in planning? Do contingency plans include water conservation, heat reduction, use of portable generators and spot coolers, and sewage and waste disposal?
9.	Does your hospital have criteria and triggers to cancel elective surgeries, procedures, and all nonessential services?
10.	Does your hospital have a plan for contacting personnel (i.e., staff call back lists) and a backup system if primary systems fail?
11.	Does your hospital rely on an onsite landing zone for receipt of critical patients and materials? Is there a plan and procedure in place to rapidly assess the site following an earthquake?
12.	Does your hospital have a structural or seismic engineer on staff? If not, does your hospital have rapid access to a seismic or structural engineer for post-earthquake assessment and guidance?
13.	<p>Does your hospital assess the need and plan for sheltering staff and families? Does the plan include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Provisions for dependent elders, children, and pets? <input type="checkbox"/> Location of rest and hygiene facilities for staff, visitors, and families? <input type="checkbox"/> Sufficient supplies for hygiene, food and water, sleeping, and recreation? <input type="checkbox"/> Food and water for pets? <input type="checkbox"/> Policy for pet sheltering that addresses identification, vaccines, medicines, bedding, and litter? <input type="checkbox"/> Orientation to the site including safety and security, hours of operations, and feeding options?
14.	Does your hospital calculate supplies needed for daily operations as well as a surge in occupancy for up to 96 hours of self-sustainment?

15.	Does your hospital identify and train sufficient depth in personnel for staffing the Hospital Incident Management Team positions if there are absences due to staff injury or illness?
16.	Does your hospital identify, document, and test redundant contact information for vendors, suppliers, response partners, and key stakeholders?
17.	Does your hospital have technology (e.g., TV, internet, radio) and policies in place to monitor events?
18.	<p>Does your hospital have a Communications Plan that includes:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Pre-incident standardized messages for communicating the risks associated with this incident and recommendations to the public and media? <input type="checkbox"/> Participation in the Joint Information Center in cooperation with local, regional, and state emergency management partners? <input type="checkbox"/> Use of social media for communication, including: <ul style="list-style-type: none"> o Who can use social media? o Who approves the use of social media? o When is the use of social media not appropriate? <input type="checkbox"/> Procedure for notification of internal and external authorities (local, county, region, state)? <input type="checkbox"/> A plan to distribute radios, auxiliary phones, and flashlights to appropriate people and areas? <input type="checkbox"/> A plan for rapid communication of weather status (watch, warning)? <input type="checkbox"/> A plan for rapid communication of situation status to local emergency management and area hospitals? <input type="checkbox"/> A process to identify patients and to notify family members?

Immediate and Intermediate Response

1.	Does your hospital have procedures to determine the status of communication systems outside of the hospital in order to communicate with local emergency management, law enforcement, and fire within the city, county, and region?
2.	Does your hospital have a plan to send a representative to the local Emergency Operations Center?
3.	Does your hospital have a plan to establish alternate care sites and relocate services away from damaged areas?
4.	Does your hospital have protocols to assess and treat injuries to patients, staff, and visitors?
5.	Does your hospital have a plan to secure unsafe areas of the hospital, including mechanisms and supplies to restrict entry to those areas?
6.	Does your hospital have a plan to restrict movement in and out of the hospital?
7.	Does your hospital have a plan to communicate hospital and situation status to staff, patients, and visitors?
8.	Does your hospital have a Surge Plan to manage an influx of large numbers of victims or those seeking shelter? Is it coordinated with the local community?
9.	Does your hospital have a process to assess current hospital surge capacity and initiate discharge procedures?

10.	Does your hospital have a policy and procedure to access the status of the community to ensure the safety of discharged patients?
11.	Does your hospital have a procedure for managing discharged patients whose residences are damaged or when roadways are unsafe?
12.	Does your hospital have a process to inventory available supplies, equipment, and personnel for both short and long term operations?
13.	Does your hospital have a plan to track patients and beds? Does the plan include nontraditional areas used to provide patient care?
14.	Does your hospital have a process for obtaining supply and equipment supplementation, including priority contracts or agreements with vendors for automatic delivery?
15.	Does your hospital have procedures for assessment and documentation of hospital damage and system restoration and repair?
16.	Does your hospital have a process for regularly reassessing the status of the hospital, patient care, and staffing and adjusting the Incident Action Plan and operations accordingly?
17.	Does your hospital have a plan to resupply fuel for the generators to maintain power to the hospital? Are there mechanisms or agreements in place to acquire additional generator support if needed?

Extended Response and System Recovery

1.	Does your hospital have a process for reporting all injuries, system failures, and long-term damage to state licensing and certification authorities as required?
2.	Does your hospital have a policy and procedure to address line of duty death?
3.	Does your hospital have a continuing process to capture all costs and expenditures related to operations?
4.	Does your hospital have a process for submitting costs for disaster reimbursement from insurance carriers, as well as local, state, and Federal Emergency Management Agency disaster relief?
5.	Does your hospital have a policy and procedure in place to recalibrate all medical equipment post event?
6.	Does your hospital have a policy and procedure to return nontraditional areas used in operational support (patient care, rest areas, pet shelters) to pre-incident status?
7.	Does your hospital have Hospital Incident Management Team position depth to support extended operations?
8.	Does your hospital have a Business Continuity Plan for long-term events?
9.	Does your hospital have procedures to collect and collate incident documentation and formulate an After Action Report and Corrective Action and Improvement Plan for submission to the Incident Commander?