



EERI Policy Position Statement

Earthquake Engineering Research Institute
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Promote Comprehensive, Safe, and Earthquake Resilient Health Care Systems

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EERI Policy Position

EERI urges each earthquake prone community throughout the country to increase its earthquake safety and resilience through the planning and design of its health care systems. Facilities, networks, and systems providing for the health of the community need to care for those who were already sick or had health care needs pre-earthquake, as well as those injured as a result of the event. A holistic systems approach, linked to community resilience planning, is critical and should encompass buildings, site, equipment, infrastructure, staffing, and supply chains. Community resilience is improved when emergency health care and continuity of essential services are provided during the emergency period, and normal, pre-event health care services recover within a very short time.

Background

Health care systems in the United States are insufficiently prepared for moderate to severe earthquake. The 1971 San Fernando, California earthquake resulted in significant damage and partial collapse of hospitals and was a testament to hospital seismic vulnerability. Even after their reconstruction, the 1994 Northridge earthquake caused nonstructural damage which rendered hospitals temporarily unusable.

Since then, design regulations that focused on the resilience of hospitals have improved, however, implementation challenges still remain, putting health care workers and patients at risk. Health care supplier and provider types beyond hospitals that are essential to the health of the community have not substantially engaged in existing efforts to improve seismic resilience. State- and region-wide programs and organizations have yet to be developed, adopted, and implemented in many medium and high seismicity areas of the United States. The federally funded Health Care Coalitions (HCCs) that coordinate activities among health care organizations and the communities they serve for disaster preparedness are insufficiently resourced and may not include the partners necessary to promote system-level seismic resilience. Furthermore, the current accreditation process has no mechanism for identifying existing health care buildings that are collapse risks. These kinds of buildings will not be available after major earthquakes, but will likely cause injury to the patients and staff inside. **Therefore, better performance of health care facilities, regulation and funding by coordinating bodies, and inclusive regional earthquake preparedness planning are required for comprehensive, safe, and resilient health care systems.**

Needed Actions

Accreditation, Licensing, and Building Code Design Requirements

- Additional federal, state, and county dollars should be designated to seismic assessment and strengthening the resilience of healthcare suppliers and providers. EERI recognizes that seismic mitigation is expensive, and that introduction of new requirements for facilities can lead to financial insolvency with cascading impacts to healthcare access particularly for rural and underserved communities. Therefore, the introduction of essential seismic resilience requirements by any level of government, reimbursor, or accreditor must be coupled with sufficient federal, state, and county financial assistance, particularly for small, rural health care facilities. Private, foundation, and local sources of funding should be solicited when available and possible.



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- Appropriate American Society of Civil Engineers (ASCE) 7 Risk Categories for all critical non-hospital health care facilities are needed to ensure surge capacity and functionality of structural and nonstructural components following large earthquakes event. Risk categories need to be carried into the Facility Guideline Institute's guidelines used for state level health care facility licensure. Improved technical implementation and oversight is needed throughout the United States for new hospitals and ancillary facilities. Existing buildings should have similar mechanisms for oversight through federal programs, guidelines, and initiatives to mitigate risk and develop resilience of our health care system.

Funding for Safe and Resilient Health Care Systems

- Federal funding sources essential for healthcare and public health emergency preparedness (e.g., ASPR's Hospital Preparedness Program, the CDC's Public Health Emergency Preparedness Cooperative Agreement) must be restored to or exceed peak 2004 levels. In addition, new federal funding streams focused on facility-level earthquake strengthening should be created, and should explicitly state minimum requirements for healthcare building integrity as contingencies to obtain funding.
- Ancillary facilities and non-hospital health service providers should have local, state, and federal funding opportunities for seismic strengthening, preparedness planning, and contingency planning for continued operations.

Regional Preparedness Planning for Health Care Systems

- The community's needs and vision for resilient health care systems should be reflected in preparedness and mitigation planning. Community resilience planning at the state, regional, and local levels, should include workshops and tools such as the National Institute of Standards and Technology (NIST) community resilience planning guide.
- Hospitals and healthcare coalitions should work closely with other local, state and regional entities to ensure coordination of seismic preparedness activities, as well as response and recovery planning.
- Hospitals and healthcare coalitions should work with state and federal agencies to formalize arrangements with engineers and facility experts to report to the hospitals, assess damage, and determine if the buildings can be reoccupied, similar to San Francisco's Building Occupancy Resumption Program (BORP)