Napa research findings released on seismic retrofitting

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Results of a study offering insight into the 2014 South Napa earthquake's impact on houses in the city of Napa were presented at a research forum hosted by the California Earthquake Authority in Sacramento Wednesday.

The CEA-sponsored "South Napa Single-Family Home Impact Study," a two-phase study begun in 2015, centered on understanding impacts of the magnitude-6.0 earthquake that produced severe shaking in parts of Napa. The study aimed to document impacts on single-family houses and homeowners, assess how well retrofitted properties fared during the quake and gain insight into homeowners' views and behaviors regarding earthquake mitigation and insurance. It also evaluated home inspectors' use of a CEA-funded form used for assessing a house's resistance to earthquake damage.

"The Napa earthquake resulted in costly damage for many homeowners, and we wanted to take the opportunity to learn as much as possible from their experiences in order to help all Californians become better prepared before the next damaging earthquake strikes," said CEA CEO Glenn Pomeroy.

Bay Area-based disaster-mitigation consultant Sharyl Rabinovici, Ph.D., conducted the Napa research on CEA's behalf and presented its results at the CEA forum. Phase-one study results, covering impacts reported by Napa residents through an online survey, were announced in August 2015. Phase-two results presented today, based on interviews with homeowners and inspections of their houses, included several key findings:

Study participants showed general awareness of earthquakes and other natural hazards that could pose a risk to their house, but they did not necessarily take action to mitigate risks.

Many participants lacked specific knowledge about the status of their property and about retrofit concepts. For example, one-third of owners interviewed did not know whether their house had been retrofitted. Others thought their house had been retrofitted when it had not, and several respondents believed their house had been adequately retrofitted because their chimney was braced.

Participants were largely aware of the existence of earthquake insurance, and many had high interest in cost-effective earthquake coverage, but they were not aware of the options available to them today. Only a few participants had sought personalized information about quake insurance, despite significant quakes in the area in 2000 and 2014.

For home inspectors, the study indicated that more training and practice were needed in calculating a house's seismic hazard score. The study also revealed that the order of data entry in the P-50 form did not match the typical sequence of a home inspection.

To see the full report, detailing both phases of the study, visit CEA's website. The report also includes recommendations for future research, as well as action opportunities for CEA.

"What we saw in this study really reinforces the need for clear, consistent access to facts about retrofitting and insurance so that people can make informed decisions," said CEA Chief Mitigation Officer Janiele Maffei. "With the earthquake risks in California, it's important that people know how to strengthen their older houses and protect themselves financially."

The CEA research forum where the Napa study was presented is an opportunity for earthquake researchers

and industry leaders to share findings from a variety of research projects related to earthquake preparedness, engineering and behavioral science. The two-day event features presentations on work instrumental to earthquake resiliency and includes gap analysis exercises to identify topics for potential CEA research projects.

As part of its commitment to learning how to reduce damage caused by earthquakes, CEA will launch a new program this year that includes grant funding for research projects relevant to CEA's mission. Program rules, and the required grant-application process, will be announced on CEA's website in 2017.

"Research efforts can inform future engineering practices and disaster policies in a variety of ways," said Maffei. "Ultimately, the more information we all have, the more we can be prepared before the ground starts shaking."