

Better communication key to cutting earthquake death toll, experts say

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Communicating earthquake risk has long been a major challenge for scientists. Yet the right messages at the right time can and will save lives, say U.S. Communication scholars in an article published in the *Journal of Applied Communication Research*, a National Communication Association publication. The authors stress that more should be done to ensure that members of the public receives clear, timely information on risk, and on what actions they should take to protect themselves.

A major problem is that scientists are unable to predict when, where, and with what strength the next [earthquake](#) will strike. Instead, they use 'probabilistic forecasting' based on seismic clustering. Earthquake experts have long grappled with the problem of how to convey these complex probabilities to lay persons.

The tragic Italian 2009 L'Aquila earthquake highlighted the difficult task facing scientists when communicating risk and uncertainty. Poor risk [communication](#) about the tremors that preceded the deadly quake led to widespread misunderstanding and confusion among the general public. The consequences were devastating. This crystallized the need for operational earthquake forecasting (OEF) scientists to change what and how they communicate with one another and the public.

In this study, U.S. researchers, led by Deanna Sellnow, a Communication Professor from the University of Central Florida, examined the impact of the L'Aquila earthquake on the international scientific earthquake community of practice (CoP). Key tasks included a review of the failed

communication crisis and a detailed analysis of a OEF Decision Making workshop held in June 2014.

The findings showed a significant shift in the earthquake scientists' approach to communication. They transformed their goal from being focused solely on probabilistic modelling to actively forming strong partnerships with a diverse range of experts, including risk communication experts.

By involving a range of interdisciplinary partners, the OEF CoP developed a clear, evidence-based, practical approach to improve risk communication and protect public safety during earthquakes and other natural disasters. Key recommendations include:

- 1) Engaging with decision makers and the public to gain their support and educate them about earthquake forecasting (including its benefits and limitations).
- 2) Developing simple and precise public warning messages that are less likely to be misunderstood, and ensuring message alerts are timely and delivered through multiple communication sources and channels.
- 3) Minimizing the potential negative impact of inaccurate and misleading messages by issuing corrections or clarifications promptly.

Sellnow writes, "This research confirms the importance of translating science into accurate and comprehensible messages delivered to non-scientific publics. The expanded community of practice that emerged as a result of the [L'Aquila] risk communication failure, which now includes communication social science experts, can serve as a model for other scientific communities that also may need to translate their knowledge effectively to disparate non-scientific publics."

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