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DeeDee M. Bennett

University of Nebraska at Omaha, dmbennett@unomaha.edu

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Moving Towards Accessible Wireless Emergency Alerts: Sending and Receiving

By DeeDee Bennett, Center for Advanced Communications Policy, Georgia Institute of Technology

In the United States, cell phones play an important role in the rapid dissemination of public alerts and warnings. In 2012, FEMA began the nationwide rollout of the Wireless Emergency Alerts (WEA) platform as part of the Integrated Public Alert and Warning System (IPAWS). WEAs enable emergency response personnel to send messages to wireless subscribers within range (at the county level) of an active incident. WEA messages do not require a subscription for receipt and are available for use by authorized IPAWS alerting authorities.

Funded by FEMA IPAWS¹, Georgia Institute of Technology’s Center for Advanced Communications Policy (CACP) researchers have studied the accessibility of WEA messages for people with disabilities and other language barriers. Two surveys, one on sending and another on receiving WEAs, offer insights on how to best expand the technology’s reach.

Sending Alerts: Survey of Authorities

A survey was sent to authorized IPAWS alerting authorities to gather information on best practices for crafting accessible WEA messages. Respondents from state (13%), county (68%), and city (17%) alerting authorities across FEMA regions included rural, suburban, urban, coastal, and territorial locations.

According to the survey, nearly 75% of alerting authorities felt they were prepared to send WEAs after

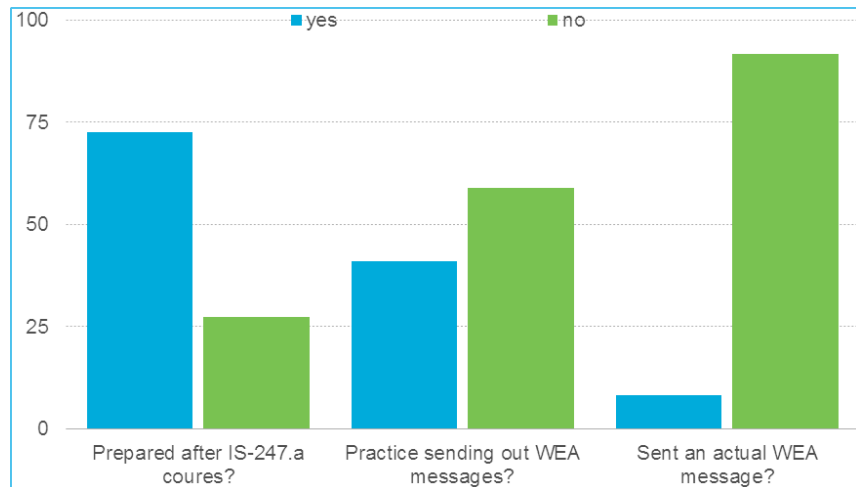


Figure 1. Survey responses from alert authorities on IPAWS system use.

taking course IS-247.A, Integrated Public Alert and Warning System. However, less than 10% have actually sent a WEA message. This gap may be attributed to the inability to internally test the system prior to use, issues with county-level targeting, need for in-house training, and/or improved standardization of protocols for best use of WEA. (See Figure 1.)

When asked if WEA messages are sent in multiple languages, only 7% of those alerting authorities having sent WEAs indicated they sent messages in another language (Spanish). Similarly, only 9% of respondents indicated that they provided accessible information to the public. The most common accessible format was to post information in large text.

Receiving Alerts: Public Survey

The survey of the public was designed to determine the level of

awareness and understanding of WEAs. Over 1,800 people responded to the survey, and nearly 17% of them self-identified as having a disability, 24% of which also were caregivers to someone with a disability.

Despite the national reach of WEA, many people were unaware of the technology. A total of 36% of respondents with disabilities indicated they had no prior knowledge of WEA compared to 24% of the general population. The two groups of respondents had nearly identical responses when asked if they felt the alert was applicable to them, and if they took protective action following a WEA message. Findings indicate a need for improved education on WEA messages, although a majority of respondents felt WEA was an improvement over traditional forms of alerting.

Summary of Findings

The two surveys revealed some concerns of alerting authorities as well as the public at large.

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¹ This research was supported by the Integrated Public Alert & Warning System (IPAWS), Project Management Office (PMO) under contract # HSF5-13-R-0031. The opinions contained herein are those of the grantee and do not necessarily reflect those of the U.S. Department of Homeland Security, FEMA, or IPAWS PMO. Lead author: Dr. DeeDee Bennett.

Emergency Alerts

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Primary concerns expressed by alerting authorities included the need for:

- Enhanced training on WEA usage.
- Ability to test the system without sending alerts to the public.
- Best practice protocols.

Primary concerns expressed by the public included:

- Need for public awareness campaigns clarifying meanings of alert messages.
- Capability of receiving “test” messages or testing alerts.
- Reduction of jargon within messages.

Additionally, respondents from both surveys offered suggestions for improving WEAs:

- Increased number of characters to provide more detailed alerts.
- Enhanced and more specific geo-targeting capability.
- Additional features, such as area/incident maps and hypertext (URL) links.
- Changing the opt-out approaches.

The inclusion of maps can assist people with a spatial understanding of where they are in relation to the emergency. URLs can provide more

information as well as links to ASL and closed captioning. Many public survey respondents requested variable day and/or time options for receipt of AMBER alerts, as they do not feel they are able to be of assistance when asleep. Alerting authorities indicated the capability of overriding the opt-out feature would be desirable, so that in an unexpected danger, people could still receive the alert.

Conclusion

WEAs are an extremely effective tool, and with a few adjustments, cell phones could become the primary method of receiving alert and warning notifications. Concerns were expressed that the effectiveness of WEAs are hindered by character limitations, current county-level targeting capabilities, restrictions on hyperlinks, and the inability to test the system. The adoption of WEA by alerting authorities is impeded by the need for more training on the IPAWS system. Additionally, public awareness and understanding of WEAs is constrained by limited resources, but increased knowledge of the technology would significantly improve the protective action decisions made by the whole community, including people with disabilities.

The IPAWS Program Management Office (PMO) is aware of the challenges alerting authorities may face when preparing for and/or responding to emergencies. To ensure the best support possible, the IPAWS PMO is committed to engaging with members of the emergency management community to routinely provide training and development opportunities.

Beginning in September 2014, the IPAWS PMO is hosting eight monthly webinars focused on potential areas for improvement mentioned above, including: WEA best practices and resources to help implement; state and local uses of the system; how to effectively inform your community; and progressing between development, training, testing, and public alerting environments.

Additionally, the IPAWS PMO is partnering with IAEM-USA’s Digital Engagement Committee on Nov. 12 for a webinar focused on providing a comprehensive overview of the system for the IAEM audience. Mark Lucero, IPAWS Engineering Branch Chief, will discuss technical advancements and functionality of the system, governance and multi-jurisdictional coordination, when IPAWS can be used, the importance of building and maintaining relationships throughout your emergency management community, as well as how to identify effective public outreach techniques.

Learn More

To learn more about IPAWS or about becoming an alerting authority, visit www.fema.gov/ipaws. To receive webinar details as they become available, [join the IPAWS PMO mailing list](#).

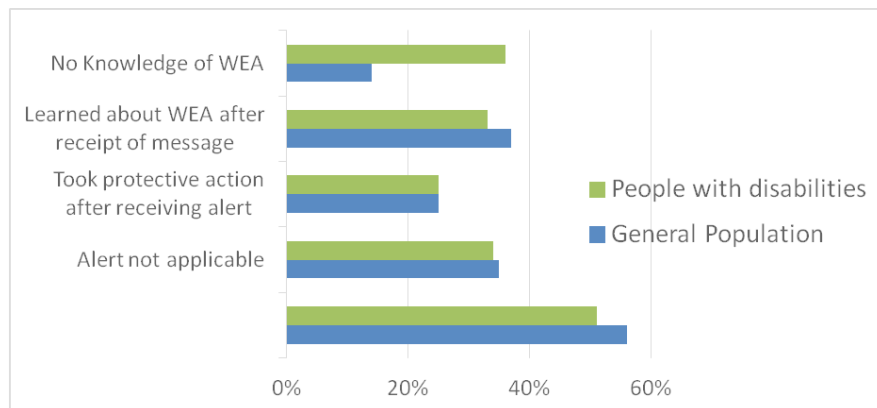


Figure 2. Responses to questions related to awareness and understanding of WEA messages.