PREPTalks
New perspectives for emergency managers

Discussion Guide
Modernizing Public Warning Messaging
Dr. Dennis Mileti

PrepTalks Discussion Guides provide a framework for community leaders to translate insights from the PrepTalk into community planning and outreach. Community leaders can use the PrepTalks materials at meetings, workshops, and conferences to address critical emergency management topics with whole community partners.

Dr. Dennis Mileti – Modernizing Public Warning Messaging

Dr. Mileti's PrepTalk showcases the latest research and provides practical guidance on how to write alert messages and the importance of using multiple delivery method to promote public action more effectively. Dr. Mileti is a Professor Emeritus at the University of Colorado Boulder. He has authored more than 100 publications on the societal aspects of hazards and disasters, including co-authoring "A Guide to Public Alerts and Warnings for Dam and Levee Emergencies." Although focused on dams and levees, the recommendations and templates in this document apply to all hazard types.

Partners for the Discussion

We encourage you to bring together those involved in the development and dissemination of alerts and warnings in your community. This may include other members of emergency management agencies, public affairs personnel, emergency first responders, radio and television broadcasters, elected public officials, and other people or organizations involved with providing emergency messages to the public.

Watch the video together to hear findings from Dr. Mileti's cutting edge research and learn the latest messaging strategies and tactics that can save lives by reducing the time between your warning message and public action. Use this discussion guide to start applying these strategies and tactics now.

Discussion Topics

Topic 1: Minimize Message Delays

Watch the beginning of Dr. Mileti's PrepTalk, pausing when you see the slide titled Planning Also Includes, after Dr. Mileti says, "Tertiary Factors, like threat verification procedures, inter-agency contact information, ad nauseam …" (time stamp 6:07), to discuss the following questions.

Questions for Discussion

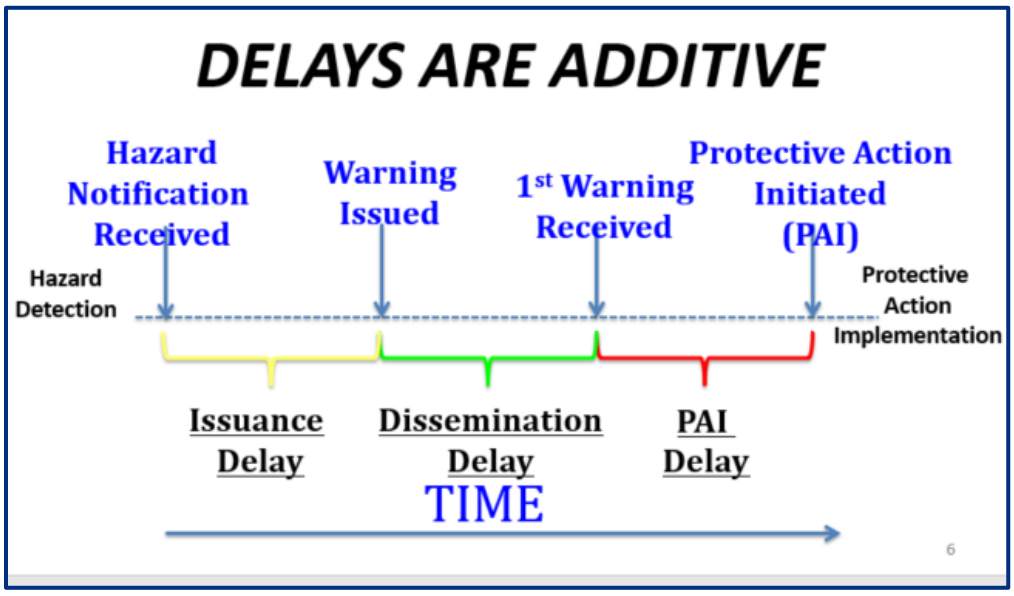
Looking at the image below to outline types of message delays:

- ❑ What are the hazards that are short "detection to impact" events that might affect our community?

The views expressed in PrepTalk presentations and the Q&A sessions are solely those of the speaker and do not represent the views of their organization or any of the PrepTalks partners.

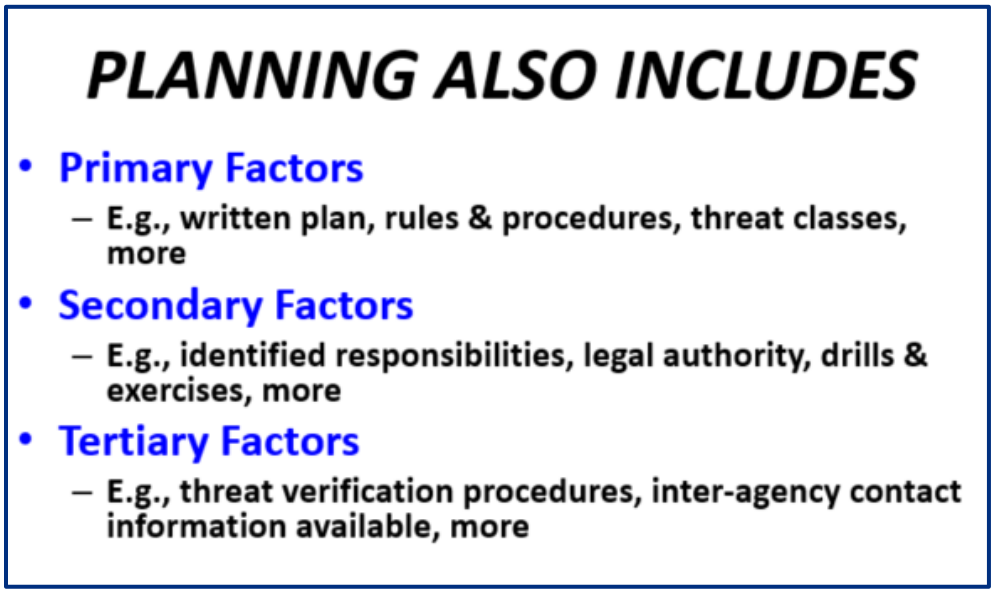
- ❑ Where are the potential delays in our system? Where have we experienced delays in the past?
- ❑ What systems or tools do we have to ensure rapid hazard detection?
- ❑ Looking at each delay type – what can we do collectively to minimize these delays?
- ❑ How can you include identification of delays (Issuance, Dissemination, Protective Action Initiation) in future after-action reviews?

> *People think if you issue a warning … that it will be received by the people at risk. The data suggest it's not that straightforward.*
>
> — Dr. Dennis Mileti



Looking at the image below on planning factors:

- ❑ Is our planning comprehensive and up-to-date?
- ❑ Who has the authority to issue the warning?
- ❑ Who would write the content? Who would revise and approve changes to content based on the recommendations provided?
- ❑ Who would be responsible for the mechanics of sending the alerts?
- ❑ Do we have redundancy in the system? Are there designated back-up staff identified?
- ❑ Have we conducted drills using a variety of scenarios to identify and minimize potential delays?



Topic 2: Disseminate Messages Wisely

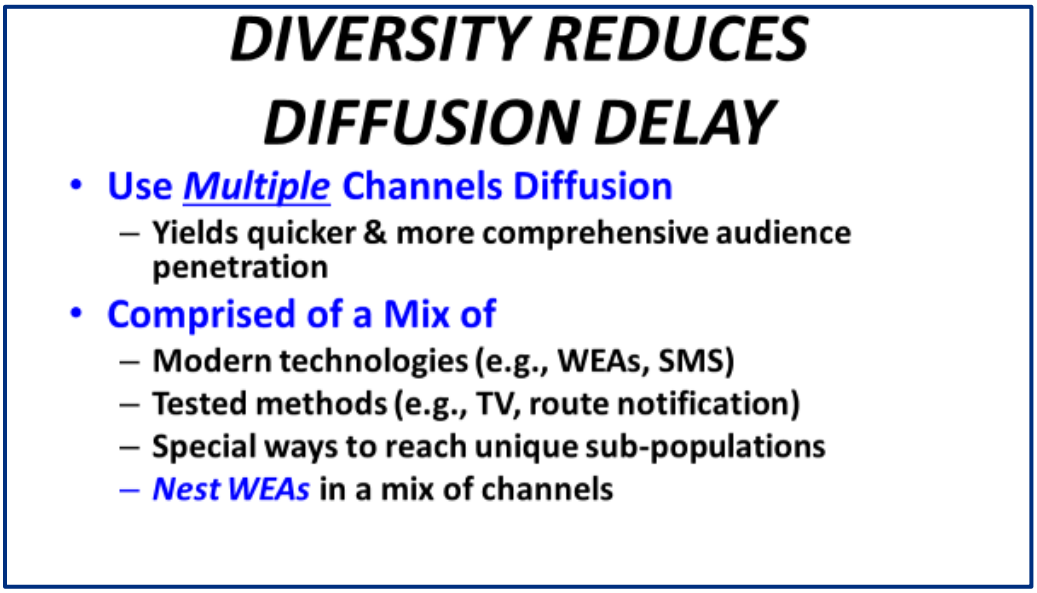
Restart the video and pause again after Dr. Mileti says, "It has to be one flower in a bouquet of dissemination channels. And it has its advantages and disadvantages." (time stamp 11:00)

Questions for Discussion

Looking at the image below on using multiple channels to disseminate messages to the public:

> *There never has been, there never will be, a silver bullet for disseminating warnings. One technology is insufficient.*
>
> — Dr. Dennis Mileti

- ❑ Do our plans include multiple channels tailored to specific types of emergencies, especially short notice events?
- ❑ Does our dissemination strategy consider the speed, coverage area, and relative ability of the channel to convey the content needed for effective public response?
- ❑ If informal channels are still the best motivators for public action (parents, neighbors, houses of worship, etc.), how has that been factored into our planning?
- ❑ Have we identified multiple channels to reach specific sub-populations in our community? These populations may include but not be limited to: hearing impaired, visually impaired, populations close to a hazard such as a river or dam, foreign language speakers, those with mobility issues, commuters, schools, and homeless populations.



Consider creating a chart similar to the one below. The chart can also be found in Chapter 7: Selecting Dissemination Channels of "A Guide to Public Alerts and Warnings for Dams and Levees."

TABLE 7 - CHARACTERISTICS OF EMERGENCY MESSAGE DISSEMINATION CHANNELS

DISSEMINTATION CHANNELS	SPEED[1]	COVERAGE[2]	CONCENTRATION[3]	MESSAGE COMPREHENSIVENESS[4]
Route alerting	Slow	Limited	Concentrated	High
Loudspeakers and public address (PA) systems	Fast	Limited	Concentrated	Medium
Wireless Emergency Alerts (WEA)	Very Fast	Widespread	Dispersed	Very Low
Wireless communications (SMS)	Very Fast	Widespread	Dispersed	Very Low
Radio	Moderately Fast	Widespread	Dispersed	High to Low
Television broadcast	Moderately Fast	Widespread	Dispersed	Very High to Medium
Television message scrolls	Moderately Fast	Widespread	Dispersed	Low
Newspaper	Very Slow	Widespread	Dispersed	Very High
Dedicated tone alert radios	Very Fast	Limited	Concentrated	High
Tone alert and NOAA Weather Radio	Fast	Widespread	Dispersed	High
Text Telephone (TDD/TTY)	Fast	Widespread	Dispersed	Low
Reverse telephone distribu-tion systems	Fast	Limited	Dispersed	High
Audio sirens and alarms	Fast	Limited	Concentrated	Very Low
Broadcast sirens	Fast	Limited	Concentrated	Medium
Message boards	Fast	Limited	Concentrated	Low
Aircraft	Slow	Limited	Concentrated	Low
Visual alerting	Fast	Limited	Concentrated	Low
Internet protocol (IP) based technology	Fast	Widespread	Dispersed	Very High to Medium
Social media	Fast	Widespread	Dispersed	Low

1. The rapidness of the system to reach its targeted audience ranges from Very Fast (less than 10 minutes to Slow (greater than 60 minutes).
2. Coverage is the size of the area that can be reached by the channel (Widespread – a large area or Limited – a small area).
3. Concentration is the degree to which the people that the channel reaches are co-located or dispersed (Concentrated – the message is delivered to targeted locations only or Dispersed – the message has the potential to reach everyone).
4. Comprehensiveness, or the ability to convey the content needed for effective response classes, used in this table are as follows: Very Low (alerting only); Low (very little information conveyed); Medium (many but not all essential contents conveyed); High (all relevant content conveyed); Very High (all relevant content conveyed with enhanced graphics).

Source: A Guide to Public Alerts and Warnings for Dams and Levees
Colors changed from original text for compliance with Section 508 of the Rehabilitation Act

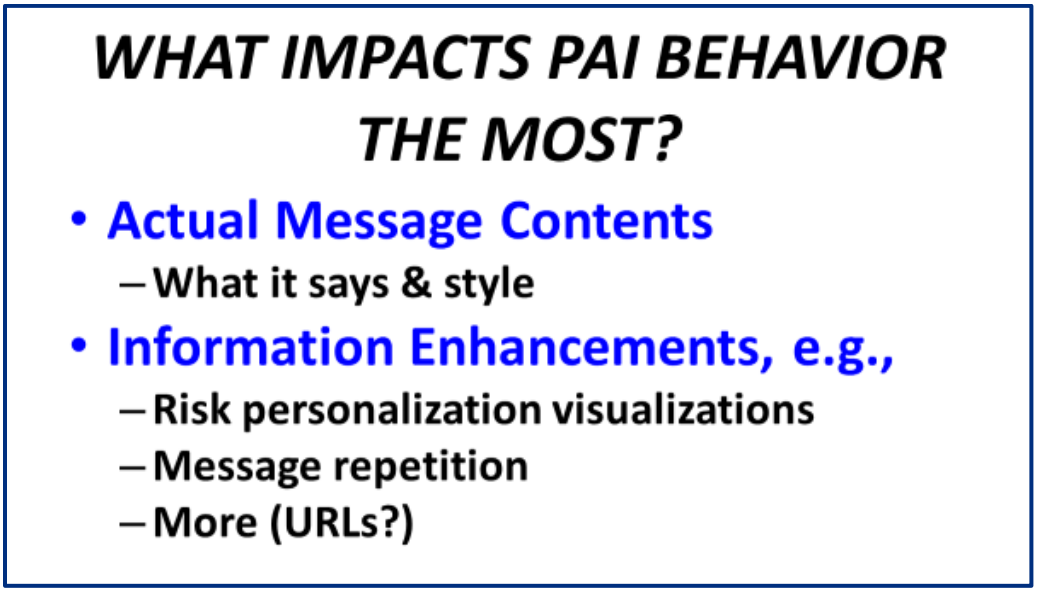
Topic 3: Design Messages that Motivate Protective Action-Taking

Watch the remainder for the PrepTalk.

Questions for Discussion

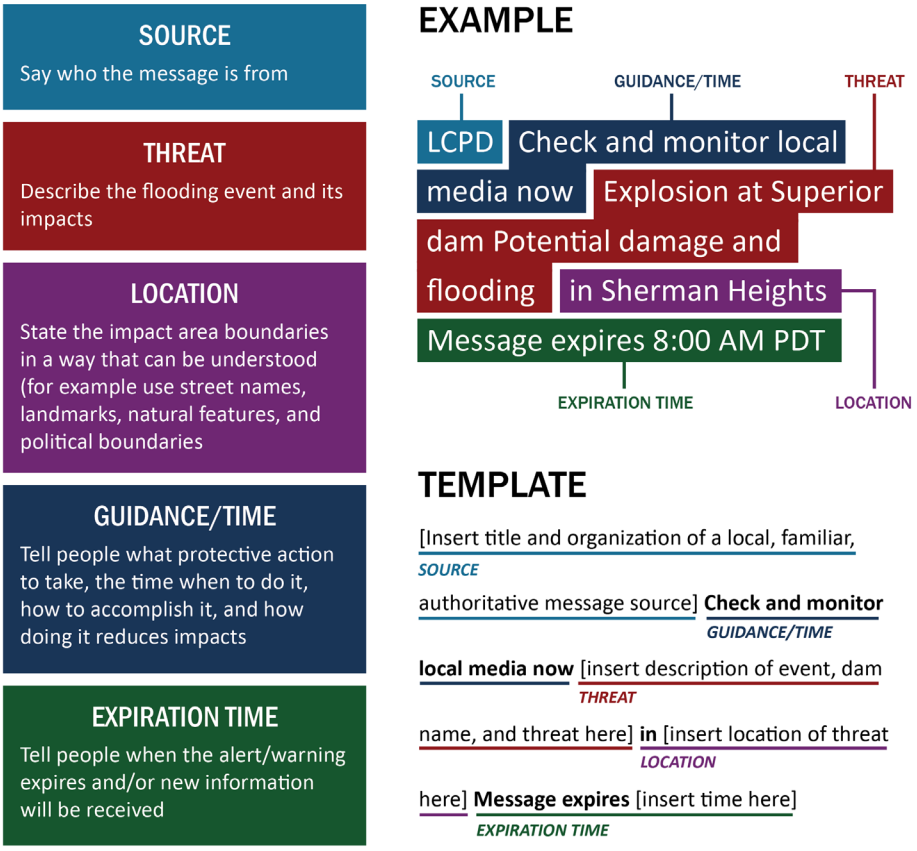
Looking at the image below on message design:

- ❑ Are our messages designed to maximize impact on Protective Action Initiation (PAI)?
- ❑ Do our messages use techniques such as visualization to enhance comprehension and action?



Additional questions on designing messages:

- ❑ How do our messages minimize "milling" or delays in the public taking the recommend protective action?
- ❑ How should we update our messages to be consistent with Dr. Mileti's PrepTalk recommendations as further outlined in Chapter 6: Emergency Message Toolkit in "A Guide to Public Alerts and Warnings for Dams and Levees." For example, can we revise our messages to follow the guidance and example below? Chapter 6 includes specific examples for short messages (90 to 140 characters) and longer messages (NWS message or press release).
- ❑ Are we prepared to update our warning messages to 360 characters when the next generation of Wireless Emergency Alerts (WEA) messaging is released (expected 2018-2019)?



Source: A Guide to Public Alerts and Warnings for Dams and Levees. Colors changed from original text for compliance with Section 508 of the Rehabilitation Act.

Topic 4: Discussion based on Alerts and Warnings Question-and-Answer Session (9 minutes)

- ❑ Do our processes ensure that we do not issue false alarms accidentally?
- ❑ Have we issued alarms where the threat has not occurred? Do our current messages take that into account?
- ❑ For threats where the potential for a dire situation is sufficient to issue a warning but we are uncertain as to the severity of the threat, do we have messages designed to handle that uncertainty?
- ❑ How do our plans handle mandatory vs. voluntary evacuation? Based on Dr. Mileti's recommendation should we change those plans? If we maintain mandatory vs. voluntary evacuation recommendations, how should our messaging help motivate appropriate protective action initiation for those in the voluntary evacuation areas?

> *The problem you're up against when it comes to giving warnings: it's human beings.*
>
> — Dr. Dennis Mileti

- ❑ Do our plans clearly reflect statutory authorities for issuing evacuation orders?
- ❑ Do our plans and message drafts include hazards that are not usual for our community?

Discussion of Next Steps

What are the next steps your community can take improve your public warnings? Work with your team to set a schedule to:

- Revise plans and processes as needed to minimize message dissemination delays.
- Update your external communications plans based on changes made to the dissemination channel mix.
- Revise your pre-scripted messaging for content order, clarity, and precision.

Consider how to encourage those in your community to enroll in all available alerts and warnings channels. Use the "Know Your Alerts and Warnings" to educate your community on what is available.

For the companion Facilitator Slides and Resource List for this PrepTalk, visit:
https://www.fema.gov/blog/preptalks-dr-dennis-mileti-modernizing-public-warning-messaging