Clear & Effective Emergency Communications over Wireless Devices

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Wireless RERC

TOPICS COVERED

- Introduction to the Wireless RERC
- Legislative and regulatory review
- Accessible formats and content
- Research-to-Practice (R&D – Findings and practice recommendations)
- Smartphone features to optimize device accessibility
- Demonstration of Deaf Link's Accessible Hazard Alert System
- Discussion
OUR MISSION

Integrate established wireless technologies with emerging wirelessly connected devices and services for a transformative future where individuals with disabilities achieve independence, improved quality of life, and enhanced community participation.

Empirical Research • Accessible Product Development • Inform Policy & Practice

SPONSOR & PARTNERS
Americans with Disabilities Act, Title II

§ 35.130 General prohibitions against discrimination. (a) No qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any public entity.

§ 35.160 General. (a)(1) A public entity shall take appropriate steps to ensure that communications with applicants, participants, members of the public, and companions with disabilities are as effective as communications with others.

(b)(1) In order to be effective, auxiliary aids and services must be provided in accessible formats, in a timely manner...

FCC Rules Impacting Accessibility (2016)

- Up to 360 characters
- May include embedded resources (URLs and phone numbers).
- New alert category: Emergency Governmental Information
WHAT ARE ACCESSIBLE FORMATS?

Forms of Wireless Emergency Communications:
- Subscription-based text or email message (opt-in)
- Downloadable app
- Wireless Emergency Alert (WEA) message (opt-out)
- Social media feeds

For them to be accessible, the individuals must:
- Be notified, in a timely manner of incoming emergency messages (i.e. accessible notification signals)
- Be able to access the content of the message:
  - Text-to-speech or screen reader
  - Translation of text into America Sign Language (ASL)
  - Plain language, no jargon or abbreviations

EMERGENCY COMMUNICATIONS R&D

2007 Developed and Field Tested Prototype Mobile Alerting Framework
2009 Focus Groups on Video Alerts in American Sign Language (ASL)
2010 – 2013 Social Media and Emergency Communications Surveys
2011 – 2013 Comparative Study: EAS versus WEA
2014 Accessibility Review of WEA-capable Devices
2014 EarlyBird App (Proof of Concept)
2015 External Alerting Interface
2015 User Testing of Accessibility of WEA attention signals
2015 WEA National Online Survey
2015 Survey of Alerting Authorities
2016 ASL + IPAWS Symbology
2017 WEA Video Platform
KEY FINDINGS

- 96% of respondents with disabilities own mobile phones
- 56% of respondents with disabilities agreed or strongly agreed that they take immediate action based on the information.
- 64% of all respondents interested in the inclusion of icons, graphics or maps in the alert message.
- 52% would like an internet link included in the message.
- 21% indicated an interest in the inclusion of an ASL interpretation of the message.
- Individuals who were familiar with WEA were:
  - more likely to act immediately,
  - less likely to be unsure of what action to take, and
  - less likely to make judgements about whether the emergency applied to them.

SOCIAL MEDIA

<table>
<thead>
<tr>
<th></th>
<th>Received alert (2010-11)</th>
<th>Received alert (2012-13)</th>
<th>Verified alert (2010-11)</th>
<th>Verified alert (2012-13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>11.6%</td>
<td>32%</td>
<td>8.6%</td>
<td>24%</td>
</tr>
<tr>
<td>Twitter</td>
<td>4.6%</td>
<td>10%</td>
<td>2.5%</td>
<td>8%</td>
</tr>
<tr>
<td>YouTube</td>
<td>1.3%</td>
<td>5%</td>
<td>1.0%</td>
<td>3%</td>
</tr>
</tbody>
</table>
RECOMMENDATIONS

- Use a variety of methods to reach your populace:
  - WEA
  - Subscription-based
  - Social Media -- Apps
- Educate the public on the options available.
- Ensure outreach materials are accessible to people with hearing, seeing, and cognitive disabilities.
- Do not use jargon, acronyms, or abbreviations in emergency messages.
- Do provide additional information:
  - Links -- Photos/Video -- Actionable information

RESOURCES

- Public Service Announcement - WEA Video Captioned and Signed
  [https://youtu.be/SCPvCTSGYLy](https://youtu.be/SCPvCTSGYLy) (Captions and translation produced by Deaf Link)
Ben Lippincott, Wireless RERC

Smartphone Features to Optimize Device Accessibility & WEA Access

SMARTPHONE OS OVERVIEW (ANDROID & IOS)

<table>
<thead>
<tr>
<th>Google Android</th>
<th>Apple iOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latest Version – 7 (Nougat)</td>
<td>Latest Version - 10</td>
</tr>
<tr>
<td>Highly customizable settings</td>
<td>Limited customization settings</td>
</tr>
<tr>
<td>Manufacturers use “skins” - different looks between devices of manufacturers</td>
<td>Familiar look/feel/operability between devices (iPhone/iPad)</td>
</tr>
<tr>
<td>OS versions across devices may not be consistent</td>
<td>OS versions across devices will be the same</td>
</tr>
</tbody>
</table>
ANDROID WEA SETTINGS

WEA (Settings > Sound > Emergency broadcasts)

IOS WEA SETTINGS

WEA (Settings > Notifications > Scroll down)
ANDROID ACCESSIBILITY FEATURES – BLIND/LOW VISION

TalkBack (Screen reader)

When TalkBack is on, your device provides spoken feedback to help blind and low-vision users. For example, it describes what you touch, select, and activate.

Magnification gestures (Screen magnifier)

When this feature is turned on, you can zoom in and out by pinching the screen.
- While zoomed in, you can:
  - Pinch: Drag your two or more fingers across the screen.
  - Adjust zoom level: Pinch two or more fingers together or spread them apart.
- You can also temporarily magnify what’s under your finger by triple-tapping and holding. In this magnified state, you can drag your finger to explore different parts of the screen. Lift your finger to return to your previous state.
- Note: Triple-tap for magnification works everywhere except the keyboard and navigation bar.

IOS ACCESSIBILITY FEATURES – BLIND/LOW VISION

VoiceOver (Screen reader)

Zoom (Screen magnifier)

The Zoom Controller allows quick access to zoom controls:
- Tap once to show the Zoom menu.
- Double-tap to zoom in and out.
- When zoomed in, drag to pan zoom content.
- 3D Touch to Peek Zoom.
ANDROID ACCESSIBILITY FEATURES – DEAF/HARD OF HEARING

Pulse notification light

IOS ACCESSIBILITY FEATURES – DEAF/HARD OF HEARING

LED Flash for Alerts

Captioning

Subtitles & Captioning
APPS FOR ENHANCING WEA ACCESS

Translation Apps
• Google Translate (free for Android and iOS)

Maps
• Google Maps (free for Android & iOS)

Social Media
• Twitter (free for Android & iOS and works with screen readers TalkBack and VoiceOver)

Disaster Assistance
• First Aid by American Red Cross (free for Android and iOS)
• FEMA app (free for Android and iOS)

Broadcast News
• Many local News TV & Radio stations have their own apps

HELPFUL CONSUMER-FOCUSED WEBSITES

• Wireless RERC: www.wirelessrerc.org
• Apps for Enhancing WEA Alerts: http://bit.ly/EnhancingWEAaccess
• Need to know Information about WEA: http://bit.ly/NeedtoKnowInfo
• Accessible/Accessibility Phone & App finder: https://www.gari.info
• CTIA’s Access Wireless: http://accesswireless.org/Home.aspx
Accessible Emergency Alerts
meeting the communication needs of the Whole Community during emergencies

UNDERSTANDING THE COMMUNICATION NEEDS OF THE “WHOLE COMMUNITY”

- Text alerts do not provide equal access and inclusion for everyone
- People who are Deaf and depend on American Sign Language (ASL) for “clear and effective” communication
- Social Media, isn’t accessible for everyone in your community
- “Stay tuned to your local media” - Emergency Messages on TV, are they accessible?
- Accessible emergency preparedness information without accessible alerts?
EFFECTIVE COMMUNICATION SOLUTIONS FOR PERSONS WITH ACCESS AND FUNCTIONAL NEEDS

- AHAS is an opt-in subscriber based service. Alerts are sent to all web and video capable devices, computers, tablets, phones, web enabled braille readers and other devices used by subscribers.

- AHAS Alerts are created in American Sign Language (ASL) video, English Voice, and Text with attached NWS maps, if available. (AHAS - Spanish voice and text version is available)

- AHAS can work in conjunction with text based Mass Notification systems or as a stand-alone program to help meet the communication needs of the whole community. AHAS is IPAWS compliant.

- AHAS programs offer emergency managers the ability to provide the community with Accessible preparedness information on local websites (Accessible Community Portal).

CONSUMERS KNOW WHICH DEVICE BEST ACCOMMODATES THEIR COMMUNICATION NEEDS

- Computers
- Android phones and Tablets
- iPhone and iPad
- Accessible alerts for Broadcast
- Wireless Braille Readers
ACCESSIBLE WEBSITES SUPPORT THE WHOLE COMMUNITY

City of Fort Worth
http://ftw.ahasalerts.com

Oklahoma City
http://okc.ahasalerts.com

City of Long Beach
http://lbc.ahasalerts.com

ACCESSIBLE ALERTS AND ACCESSIBLE PREPAREDNESS

http://alcdemo.ahasalerts.com/ActiveAlerts.aspx?id=1383
http://alcdemo.ahasalerts.com/Preparedness.aspx
SUMMARY

The ability to provide “clear and effective” emergency communications is available today with new solutions and technologies on the horizon.

Thank you,
Kay

THANK YOU!

Please contact us with any questions:
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