NENA

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9-1-1 & Alert Trends for People with Disabilities

Helena Mitchell, PhD
Salimah LaForce
Wireless RERC, Georgia Tech
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wireless **RERC** Rehabilitation Engineering Research Center

General Information

- Funded by the National Institute on Disability and Rehabilitation Research (NIDRR), U.S. Department of Education under grant H133E110002

- Since 2001; 5-year competitive funding cycles

- Third cycle: 2011-2016

- Partnership between:

- 6 projects in 3 areas - Research, Development, Training

Our Mission

To research, evaluate and develop innovative wireless technologies and products that meet the needs, enhance independence, and improve the quality of life and community participation of people with disabilities.

Research, Development & Training

- **User-Centered Research**

- **Policy** Approaches to Accelerate Access

- The App Factory

- **Emergency Lifelines on Wireless Platforms**

- Promoting **Awareness** of Access and Usability Needs

- **Training and dissemination** of Wireless RERC activities in research and development

State of the Technology Summit

- Currently in planning stage - Summit Fall 2014

- Migratory Trends

Filters

Impacts

Outcomes

- Barrier free life
- Universal connectivity

Statistics in Perspective

- American Red Cross responds to more than 60,000 disasters

- 50% of population considered "vulnerable" (children, elderly, poor)

- The hurricane vulnerable zone has the highest density of poverty

- 54 million people with disabilities
  - By 2030 = 20% of the population

Technology in Perspective

- 1 in 6 Americans has a communication disability

- 3 out of 4 expect to receive help within an hour of SM "9-1-1" posting

- 92% of people with disabilities use wireless products and services

- **Emergency Services**
  - Text to 9-1-1 ➔ Next Generation 9-1-1
- **Emergency Alerts**
  - CMAS ➔ WEA

Wireless Emergency Alerts

I just sent it, thanks
Andrew

CMAS Alert
Civil Emergency in this area until 1:24 PM EST Take Shelter Now U.S. Govern

Dismiss

Alerting Methods

Shift towards wider use of mobile & Internet based technologies

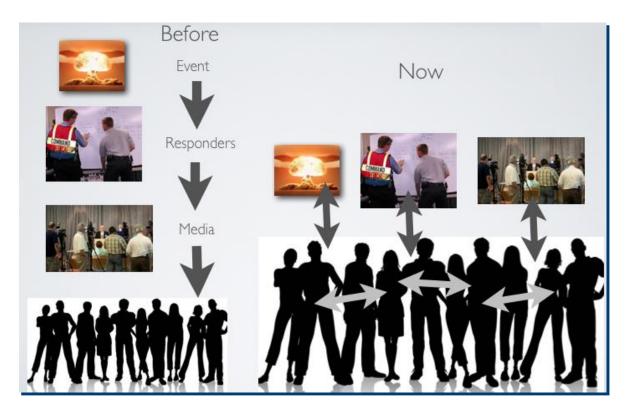**2013**

1. Television
2. Text Message ~ Email
3. Phone call ~ Sirens
4. Radio
5. Direct observation
6. Social media ~ Internet news
7. NOAA Weather Radio

2011

1. Television
2. Radio
3. Email
4. Phone call ~ Direct observation
5. Sirens
6. Text Message
7. Internet News

The Paradigm Has Shifted

Official Social Media Usage (trending up)

- **98%** of States use SM to disseminate emergency information (↑24 percentage points)

  - Twitter 88%
  - Facebook 59%
  - YouTube 29%

- **73%** of Cities use SM to disseminate emergency information (↑28 percentage points)

  - Twitter: 59%
  - Facebook: 59%
  - YouTube: 14%

SM & People with Disabilities

In the 2-years since the first survey, usage of social media to receive and verify alerts has more than doubled on each SM platform.

Mobile phones are now most often used

	Received (2011)	Received (2013)	Verified (2011)	Verified (2013)
Facebook	12%	**32%**	9%	**24%**
Twitter	5%	10%	3%	7%
YouTube	1%	5%	1%	3%

9-1-1 & People with Disabilities

- Top 3 methods <u>used</u>
  - Voice over landline (50%)
  - Voice over mobile (46%)
  - Video relay (8%)

- Top 3 methods <u>preferred</u>
  - Voice over mobile (57%)
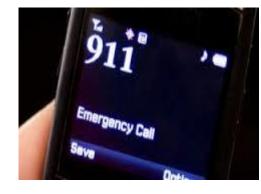 - Voice over landline (46%)
  - Text Message (40%)

9-1-1 & People who are Hard of Hearing

- **Top 3 methods <u>used</u>**

  - Voice over landline (38%)
  - Voice over mobile (33%)
  - Video relay service (9%)

- **Top 3 methods <u>preferred</u>**

  - Voice over mobile (46%)
  - Text message (44%)
  - Voice over landline (41%)

9-1-1 & People who are Deaf

- **Top 3 methods <u>used</u>**
  - Video relay service (30%)
  - TTY over landline (22%)
  - Voice over landline (8%)

- **Top 3 methods <u>preferred</u>**
  - Video relay service (72%)
  - Text message (64%)
  - Other text-based msg. (37%)
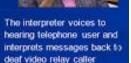

Video Relay Service (VRS)

Video relay caller uses webcam or video phone to sign to a video interpreter

The interpreter voices to hearing telephone user and interprets messages back to deaf video relay caller

Computer display with Video Interpreter

9-1-1 & Speech Disabilities

- **Top 3 methods <u>used</u>**

  - Voice over landline (38%)
  - Voice over mobile (29%)
  - Video relay service (11%)

- **Top 3 methods <u>preferred</u>**

  - Voice over mobile (47%)
  - Text message and Voice over landline (each 39%)
  - Video relay service (31%)

Modernization of 911

- Landline 911 was built on analog technology

- 2004: Congress mandated all cell phone networks support Enhanced 911.

  - E 9-1-1 uses GPS and triangulation techniques to ensure location-based accuracy.

- **Emergency Services**

  - From 9-1-1 ➡ E 9-1-1 ➡ NG9-1-1

NG9-1-1 Critical for Individuals w Disabilities

- Landline usage is *decreasing* among people with disabilities as more flexible configurations on mobile phones increase.

- Individuals with sensory limitations are beginning to favor mobile devices for its portability during emergencies.

- In a recent survey, SMS and IM was the preferred method to contact 911. Very few 911 centers can receive text.

- NG9-1-1 features include text, video and data features.

Access Considerations

- **Increase built-in accessibility features** of mobile alert services.

- SM platforms used by officials should match SM platforms used by citizens.

- Train PSAP personnel on handling VRS & text message "calls".

- Ensure NG9-1-1 personnel are trained on ALL features.

- There are new trends in the preferences and practices for contacting emergency services – Be prepared!.

Ways to Contact & Connect

Access news and reports 24/7 @ www.wirelessrerc.org

And subscribe to newsletters:

- Subscribe online at: http://b.gatech.edu/1bfmkZa

 http://on.fb.me/UN7ViI

 https://bit.ly/SVhpaB

 http://linkd.in/Udjn8r

Helena Mitchell, PhD
Principal Investigator
Wireless RERC
Helena@cacp.gatech.edu
404.385.4640