CREATING ACCESSIBLE MATERIALS FOR PEOPLE WITH VISUAL OR AUDITORY DISABILITIES

Mary Angelica Painter, University of Colorado Boulder
Candace Michele Evans, University of Colorado Boulder
Melissa Villarreal, University of Colorado Boulder
Carson MacPherson-Krutsky, University of Colorado Boulder

People with visual or auditory disabilities are often hindered from accessing important disaster information by avoidable barriers. This check sheet is meant to help researchers create a plan to ensure their materials, meetings, and other activities are inclusive and accessible for individuals with these access needs.

DISABILITY INCLUSION MATTERS

Disability is defined here as a physical or mental impairment that substantially limits one or more major activities (Americans with Disabilities Act, 2020). People with disabilities generally face higher natural hazard and disaster risk and poorer health outcomes, due to a variety of social and economic factors (Kelman & Stough, 2015). Research shows they may struggle to access emergency communications (Morris et al., 2014). As a result, they often experience delays in receiving critical, life-saving information, which sometimes results in injury or death.

Researchers should strive to include people with disabilities in disaster research and practice by making communications and project materials accessible. Researchers can do this by considering the needs of people with visual or auditory disabilities before conducting research or implementing a program and throughout the design and dissemination phases.

MISCONCEPTIONS ABOUT INFORMATION ACCESS

Populations with visual or auditory disabilities face common misconceptions that can limit their access to important information. Consider:

» ***All disabilities are visible – FALSE***

☐ Not all disabilities are visible or easily recognized, such as visual impairment, hearing loss, chronic pain, among others. People may have a disability that needs additional consideration in hazard and disaster contexts, even if it is not visibly apparent.

» ***American Sign Language (ASL) is the same as English – FALSE***

☐ ASL is "...a visual and conceptual language that has its own unique syntax and grammar" (Bennett et al., 2018). ASL is an entirely different language with no roots in English, which means that there are ASL users who may struggle with information sent via SMS text, email, or other written communication. Although text and closed captioning may accommodate some people with auditory disabilities, they are not universally useful (Bennett et al., 2018).

» ***E-readers and other technology already provide full access – FALSE***

☐ Technology has come a long way toward helping people with visual or auditory disabilities access emergency information via text, video, audio, and other forms of media. However, these technologies are not perfect. In fact, e-readers often struggle to interact with certain software, such as Zoom or online whiteboards and images (Edwards et al., 2023).

- » ***Color Vision Deficiency (CVD) is uncommon – FALSE***
  - ☐ CVD, more commonly known as color blindness, affects 1 in 12 men and 1 in 200 women. Its symptoms include difficulty seeing variation between certain colors, shades and brightnesses. Research shows that people with CVD might misinterpret colors used in disaster emergency communication (Engeset et al., 2022).
- » ***Making materials accessible is difficult – FALSE***
  - ☐ There are simple and easy ways to make materials and communication more accessible and broaden the reach of your work. However, it requires planning and setting aside time and resources.

MAKING YOUR MATERIALS ACCESSIBLE

Here are steps to make materials more accessible for people with visual or auditory disabilities:

- » ***Images – Provide alternative descriptions, or "alt-text"***
  - ☐ Many widely used programs, such as Microsoft Office, offer alternative text options that describe the image to be read aloud by e-readers. They also allow for e-reader slide settings that do not read decorative images, such as shapes and outlines, which can be distracting. In addition to offering alternative text for images, you should also provide captions below or above the image. Additional guidance for writing helpful alt-text for images is available.
  - ☐ If you will be presenting slides during in-person or virtual meetings, always describe what is on the screen to help visually impaired participants follow along. Additionally, ensure that speakers introduce themselves.
- » ***Colors – Choose high-contrast***
  - ☐ Use colors that contrast with each other to make text, images, color accents, and other color-based aspects of materials legible. Also, stick to two basic hues for color palettes, like red and blue, to make palettes friendly for visual impairments. Avoid combining red and green because these colors are indistinguishable for many with CVD.
  - ☐ You can also improve contrast with other visual markers, like shapes, textures, and patterns. To learn more, see this guide for data visualization and colorblind viewers.
- » ***Formats – Use multiple***
  - ☐ Consider making your materials available across visual, auditory, and other media formats so that materials can cater to different disabilities. Be mindful to ensure that this information is consistent across formats.
- » ***Auditory Media – Provide closed captioning and transcripts***
  - ☐ If you are using auditory media, including video conferencing or webinars, provide closed captioning during the event or session and transcripts afterward. Many software programs offer closed captioning with the push of a button. However, be aware that these automated transcripts may not be completely accurate. Additionally, consider emailing materials 24 hours or more before events, sessions, or webinars.
- » ***Hire an ASL interpreter when appropriate***
  - ☐ As stated previously, English and ASL are different, and providing only closed captioning or transcripts may not be enough for those who use ASL. Plan head and hire an interpretation service to ensure inclusivity. If you are employed at an agency or university, accessibility offices may help set up an interpreter, sometimes free of charge. Reach out early, as staff are often booked well in advance.
- » ***Be aware and considerate of people using screen readers during virtual presentations***
  - ☐ For those using screen readers, any communication sent in the chat will be read over the voice of the presenter. This may make it difficult for visually impaired people to participate.
  - ☐ Consider asking attendees who want to send messages to all participants to avoid using the chat function. Instead, encourage them to send messages directly to the intended person (the moderator, for example) or to communicate their questions or comments orally.

INCLUSION FOR A FEW MEANS INCLUSION FOR ALL

Innovative technologies and new practice guidance have greatly improved accessibility for those with visual or auditory disabilities. With careful planning and a few additional steps, disaster researchers can address barriers to accessing and understanding life-saving disaster information (Morris et al., 2014). By making materials more accessible, it expands the reach of disaster information and creates opportunities to reduce risk disparities among groups.

REFERENCES

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ADDITIONAL RESOURCES

For additional resources and advice on creating accessible content, documents, presentations, and other materials, see: https://www.colorado.edu/digital-accessibility/resources.

For additional information on effective communication that meet the Americans with Disability Act (ADA) requirements, see: https://www.ada.gov/resources/effective-communication/.

For information on accessibility and universal design, see: https://www.csun.edu/universal-design-center/accessible-infographics-and-flyers-%20checklist.

CONVERGE | **Natural Hazards Center** | **CU Boulder**
483 UCB | Boulder, CO 80309-0483 | (303) 735-5844
converge@colorado.edu | hazards.colorado.edu