Preparing for Effective Communication and Assistive Technologies in Emergencies

Guidance for Local Emergency Planners

Effective communication between community members and responders is essential during an emergency. Individuals who may have difficulty communicating during an emergency include those who:

- are deaf or hard of hearing,

- are blind or have low vision,

- have limited English proficiency,

- have a cognitive or developmental disability, or

- have other functional needs that make communication a challenge.

To comply with Federal law, those involved in emergency planning and management should understand the concepts of accessibility and nondiscrimination and how they apply in emergencies. Providing communication assistance, assistive technologies, and other communication services ensures equal access and effective communication for all.

Providing Communication Assistance and Assistive Technology

The self determination principle states that individuals with disabilities and others with access and functional needs are most knowledgeable about their needs. Following this principle, emergency workers should first ask the individual what he or she needs to effectively communicate and then make reasonable efforts to provide what is needed. In a best case scenario, individuals will come to a shelter or other response facility with their own augmentative and assistive communication devices; however, the need to evacuate quickly, the risk of items being lost or damaged during the emergency or other reasons often mean individuals will not arrive with everything they need. Responders must be prepared for this reality. If first choice assistive technology accommodations cannot be provided, a suitable, effective alternative should be identified with the input of the individual.

Obtaining Communication Assistance Services & Assistive Technology

Obtaining assistive technology and resources can be accomplished two ways: you may choose to purchase items and keep them in your emergency cache or you may set up agreements to borrow or make just-in-time purchases. The CDC's *Public Health Preparedness Capabilities: National Standards for State and Local Planning* support this idea. The standards say that state and local jurisdictions should "have or have access to" resources which may include skills, training, equipment and technology. You can determine which supplies and equipment would be most useful for your community to have, and which you should just have access to, by working with community members with functional needs and organizations that serve these individuals.

You may already have some supplies and equipment that aid effective communication. For example, computers, closed caption capable televisions, notepads, and dry-erase boards are commonly found in schools, government buildings, and other facilities where individuals with communication challenges may come to access services and programs. You can work with other municipal departments to equip facilities with communication access tools—video phones, amplified telephones, and assistive listening devices—as a matter of routine to serve both day-to-day and emergency services and programs.

Some supplies, such as extra hearing aid batteries, are inexpensive and widely available for purchase. Other equipment including TTY/TDD telephones and handset amplifiers can be purchased new or used at greatly reduced costs. The New England Assistive Technology Exchange (http://getatstuff.org/home.php) is one resource for finding used assistive technology for low or no cost. Additionally, MassMATCH provides programs and information that make it possible to purchase, borrow, try out, and reuse Assistive Technology at http://www.massmatch.org/find_at/borrow.php.

Once you have developed a cache of assistive technology and resources, be sure to include these items on inventory lists and make sure that emergency responders and volunteers are aware of their availability and have been trained in their use. This equipment should be checked

periodically and maintained as needed. Activation checklists or job aids should include a step to check assistive technology to ensure it is in working order.

Trainings and Guidance

The following trainings and guidance are available to local government, first responders, and response volunteers:

- This video describes the types of communication assistive technologies that are available in FEMA Disastery Recovery Centers and how they are used. These same techologies would be useful in shelters or other emeregncy response facilities. http://www.fema.gov/medialibrary/media_records/7188
- The MA Commission for the Blind offers training to work with individuals who are blind including sighted guide techniques and other ways to make your community more accessible. These trainings are free. Contact: Meg Robertson, 617-626-7581 or Meg.Robertson@state.ma.us.
- Preparedness for the Deaf and Hard of Hearing: Jonathan O'Dell of the MA Commission for the Deaf and Hard of Hearing provides site evaluations and trainings that assist communities with information and strategies for effective communication access during emergencies. Contact: Jonathan O'Dell, jonathan.odell@state.ma.us.
- The MassMATCH Program has two Assistive Technology Regional Centers (ATRCs) in Boston and Pittsfield that can provide training to communities on various types of assistive technology available including their basic functions and uses. However, the ATRCs rely on agencies, medical providers, and users to determine the type of technology needed for AT users. ATRC staff cannot recommend specific items to purchase or provide training for individual AT users. ATRC Contacts:
  - ATRC Boston, Operated by Easter Seals MA. Contact Catherine Bly and Kristine Peak-Oliveira at 617-226-2640 or 800-244-2756 or ATRC@eastersealsma.org
  - ATRC Pittsfield, Operated by UCP-Berkshire. Contact Dawn Matthews at 413-442-1562 or ATRC@ucpberkshire.org

- "Emergency 2.0 Wiki" a Social Media Accessibility Toolkit:

  http://emergency20wiki.org/wiki/index.php/Accessibility_Toolkit

Suggested Resources to Have or Have Access To

Written, Audio, & Visual Materials

Resource	Additional Information
Foreign Language Materials	Pre-developed materials may be available for download at CDC, Red Cross, DPH, etc.
"I speak" - Flag/Language Identification Chart	"I speak" chart is included in DPH's "Show Me" tool. Dept. of Homeland Security "I Speak" poster available for download here: http://www.dhs.gov/xlibrary/assets/crcl/crcl-i-speak-poster.pdf
Audio Recorded Materials	Consider having recorded information on CD/DVD for those with vision impairments, low literacy, or limited English proficiency.
Preparedness & Response Sign Language Videos	http://www.youtube.com/user/preparedness4deaf This channel provides English & Spanish sign language videos on SNS topics, general emergency preparedness, environmental health, vaccination, and more. These are also narrated so may be helpful for individuals with low literacy.
Electronic Format Materials	Written materials available electronically for use with screen readers, screen magnifiers, etc. Electronic documents should be accessible. The following document describes formatting guidelines that will make materials accessible to all audiences: http://hres.mcmaster.ca/documents/creating-accessible-electronic-materials.pdf
Pictograph-Based Tools	*Show Me: A Communication Tool for Emergency Shelters* was developed by Massachusetts DPH. Visit www.mass.gov/dph/showme to order print copies or download the tool.
Large-print signage	Ensure good contrast (e.g. black type/white background) and easy to read fonts. Consider including signage with disability access symbols (htthttp://www.mass.gov/eohhs/gov/departments/mcdhh/programs/hearing-dogs/disability-access-symbols.html) if services are available.
Large-print materials	Large print is 14 point or larger, easy-to-read font such as Arial. Not all materials need to be in large-print. Think about which materials can be read to an individual on-site versus which materials will be taken by individuals and used as a reference after leaving a response facility.

Skills, Procedures, & Human Resources

Resource	Additional Information
Interpreters & Translators	Prepare a list of interpreters (oral communication), translators (written communication), and others who provide communication services. Establish memoranda of understanding with these providers if possible.
Qualified Sign Language Interpreters	Depending on the complexity of the communication environment, an interpreter can work up to an hour and a half on their own. During an extended incident, you may need two or more interpreters, even if only one person requires an interpreter. A two-hour minimum charge is the industry standard. Costs are approximately $50-$70/hr. To request interpreters and CART providers in Massachusetts visit http://www.mass.gov/mcdhh/ or (800) 882-1155 or (800) 530-7570 (TTY).
Just-in-Time Emergency Sign Language	The Massachusetts Commission for the Deaf and Hard of Hearing has instructional videos for basic signs for law enforcement/other first responders. These videos will not replace a qualified ASL interpreter but may aid communication until an interpreter arrives. http://www.mass.gov/eohhs/gov/departments/mcdhh/programs/communicate-train/basic-signs-for-law-enforcement.html
Video Relay Service	Video relay services (VRS) are overseen and funded by the Federal Communications Commission. A deaf ASL user can communicate with a hearing person by using a remotely situated ASL interpreter to facilitate communication through a video phone system. This service is free to users. This does not require any equipment or cost for the hearing user. If a Video Phone is already available at the shelter location it will allow deaf shelter seekers to communicate with their families, friends and service providers outside the shelter Users must select a VRS provider in advance and receive a 10-digit number. A list of providers is available at: http://www.fcc.gov/encyclopedia/trs-providers
Sighted Guides	Sighted guides can provide tours/orientation of shelters or other response facilities for individuals with visual impairments. Think about whom in your community could serve as a sighted guide. Sighted guide training is recommended and available through the Massachusetts Commission for the Blind. Just-in-time training materials are also available from the Braille Institute: http://brailleinstitute.org/site/DefaultSite/filesystem/documents/SightedGuideTechniques.pdf

Resource	Additional Information
Assistance Completing Forms	Although no formal training is required, emergency workers should be aware of privacy considerations when assisting individuals to complete forms. These may include not sharing information and providing a private area to gather information orally. For deaf users, an ASL interpreter may be required to gather information, as not all deaf individuals are fluent in written English. You may want to incorporate these considerations into policies, procedures, training, or job aids.
Just In Time Training to Communicate with People with Limited Speech	The Augmentative & Alternate Communication – Rehabilitation Engineering Research Center (AAC-RERC) provides simple techniques for first responders to communicate with someone who is speech limited. Visit: http://aac-rerc.psu.edu/index.php/pages/show/id/18#1_Comm. This would be useful reference information to have on-hand at a response site.
Communication Access Real-time Translation Service	CART providers provide nearly instant, verbatim transcriptions of what is being said by use of stenotype machines. These are connected to laptops which display plain English text from the phonetic input. For use in group setting, the laptop can be connected to a projector. CART service is useful for providing accessible briefings or community meetings. CART providers are generally independent contractors. They cost approximately $95-$110/hr. with a 2 hour minimum including travel time and mileage. To request interpreters and CART providers in Massachusetts contact MCDHH http://www.mass.gov/mcdhh/ or (800) 882-1155 or (800) 530-7570 (TTY). Some companies and individuals provide CART services remotely via the internet. Please contact MCDHH for more information on how this works and for a list of providers.
Service Dog Provisions	Responders should have provisions to accommodate individuals who are assisted by service dogs. Some considerations may include: • Policy that service dogs remain with their owner throughout all parts of the shelter/response facility • Designate service dog relief area & process for removal of animal waste • Supply of or access to dog food, muzzles, plastic bags for waste • Ability to reach veterinarian if needed • Pet shelter services/supplies can be shared with pets and service dogs

Equipment & Supplies

Resource	Additional Information
Notepads/Pens, Dry-Erase Boards/Markers	Pre-position these items in shelter/EDS go-kits. Choose unscented markers.
Flashlights	Flashlights can facilitate lip reading and aid those with vision impairments. Consider selectable output LED flashlights and/or wide throw instead of long range beams. These may be more appropriate for shelter settings. Try to avoid unusual or proprietary batteries as these may be difficult to replenish.
Magnifying Glasses	You don't need to spend a lot of money on magnifying glasses but quality does count. Have lighted magnifying glasses if possible. There are several no/low-cost magnification smartphone applications available. Search your smartphone application store for these apps. Portable, handheld, video magnifiers are more helpful to some individuals although they are more expensive. Costs can range from $150–$1,500.
Computers with Internet Access	Computers are needed to support screen readers, speech synthesizers, remote CART and email communication.
Smart Phones & Tablets with Internet Access	Multiple smart phone/tablet applications exist to aid communication; individuals may bring smart phones/tablets with them to the emergency response facility. A few commonly used assistive communication apps: • Proloquo2go- speech generator for individuals who have difficulty speaking • Assistive Chat - similar to Proloquo2go; not as advanced; much cheaper
Supply of Hearing Aid Batteries	Consider proper storage (cool, dry, room temperature). These have approximately 3 year shelf life so consider developing MOUs to rotate these supplies after a year or two with drug stores or other organizations.
Desiccant	Store in ziplock bags to dry out hearing aids, cochlear implant processors, smart phones or other sensitive assistive devices.
Telephone Handset Amplifiers	Make phones louder & clearer. Some may require batteries.

Resource	Additional Information
TTY/TDD Phones	A TTY/TDD is an alternative communication device that allows people who are deaf or hard of hearing to communicate over the phone. Rather than speaking on the telephone, a TTY user will place the headset on the TTY (or just use the TTY if it is connected directly to the phone line) and carry on typed conversations. TTY relay service can be accessed by dialing 711. *Please note that TTY's are being supplanted by video phones and video relay services.
Captioned Phones	Captioned phones provide captioning to accompany audio during a telephone conversation. The captioning service is free, similar to the video relay service.
Augmentative Communication Devices	These may include bullhorns, microphones, etc. Public buildings may have this type of equipment. If this is the case, ensure your plan includes how to access and use this equipment during an emergency.
Assistive Listening Systems	These systems include a hardwired or wireless microphone/transmitter combination, and wireless receivers with adjustable volume control and a variety of listening attachments such as headphones and neck loops. They are helpful when communicating with individuals who are hard of hearing and do not have hearing aids, or when there is a high level of background noise.
Television with Closed Caption Capability	Most televisions have this capability built in. Make sure you have instructions for turning on closed captioning.
Speech Synthesizers/ Screen Readers for Text-to-Voice	The JAWS software is a popular speech synthesizer. Many schools and libraries use this software. If your shelter/response facility uses this software, ensure your plan includes how to access and use the software during an emergency.
Visual Alerting Systems	These include audiovisual fire alarms & CO_2 detectors. Check to see if these are installed in your shelter/response facility as many schools & public buildings already have these.
ICS/Emergency Worker Vests or Arm-Bands	These will help individuals with access and functional needs identify emergency workers who can assist them. Be sure to provide a vest/arm-band for all interpreters or other communication providers.
Screen Magnification Programs	These are software programs loaded into a computer's memory. If you anticipate that residents/evacuees will need to use computers, you may want to load the program into a laptop that will be brought to the shelter/response facility. Depending on the computer program used, some individuals may have their needs met by changing the font size or utilizing the zoom

Resource	Additional Information
	function.
Assorted Power Cables and Adaptors	Equipment will need to be charged. Individuals may become separated from their equipment and/or charging cables in an emergency.

To the extent possible, gather computer, phone, & tablet power cables (including for Apple products; new & old models), USB to micro USB cables, USB to mini USB cables, and universal adapters/chargers. |