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# Evacuation Considerations for Special Needs Populations





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# <u>Learning objectives. Upon completion of this</u> course, you will be able to:

- Identify at least three agencies involved in evacuating special needs populations
- Define the four elements of evacuation information that people need
- Identify at least four components of building an evacuation plan for a person with a mobility impairment
- Identify at least four components of building an evacuation plan for a person with a visual impairment

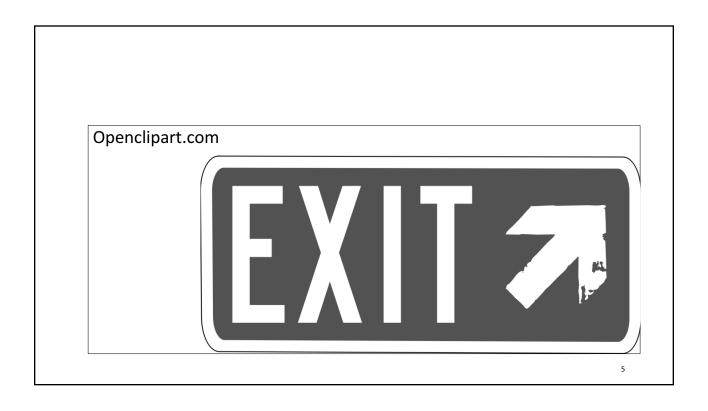


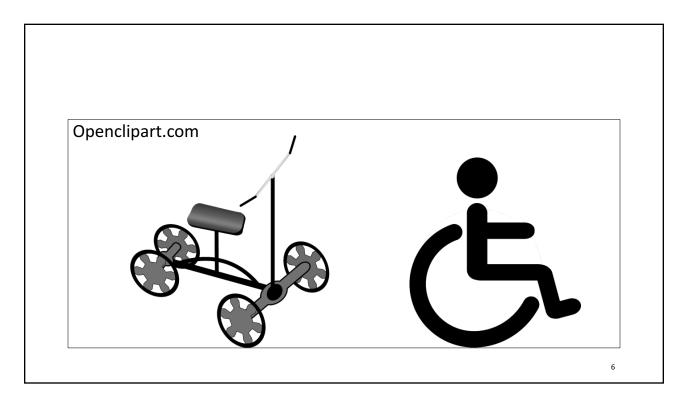
# Learning objectives. Upon completion of this course, you will be able to:

- Identify at least four components of building an evacuation plan for a person with a hearing impairment
- Identify at least four components of building an evacuation plan for a person with a speech impairment
- Identify at least four components of building an evacuation plan for a person with a cognitive impairment
- Outline at least three strategies to developing a personal emergency evacuation checklist











## Who?

- Local and state authorities
  - Task: developing an evacuation plan



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## Hurricane Katrina:

- Kaiser Family Foundation, Harvard School of Public Health, and The Washington Post (2005)
  - Over 40 percent of those who did not evacuate were either physically unable to leave or were caring for a person with a disability
  - 34 percent of Katrina victims were trapped in their homes
  - 50 percent of those who were trapped waited 3 or more days to be rescued

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## **Hurricane Experience:**

People with disabilities comprised 25 to 30 percent of those impacted by Hurricanes
 Katrina and Rita

A wake up call and call to action

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## <u>Transportation for Evacuating Special Needs</u> <u>Populations:</u>

- Transportation during emergencies is critical to evacuating people who either have specific mobility issues or do not have access to transportation
- Recommendations:
  - Evacuate rapidly and efficiently
  - Goal:
    - Save and protect their lives
    - · Use resources efficiently



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## **Evacuation Planning:**

- Complex
- Prepare
- Plan





- · special needs
- potential harm
- capacity to provide safe evacuation
- · ability to move caregivers

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## **History:**

http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities

- 1<sup>st</sup> version of the Americans with Disabilities Act (ADA) that went before Congress was crafted by President Ronald Reagan's appointees to the National Council on Disability
- In just two years, Congress passed the legislation, and in 1990
   President George Bush held the largest signing ceremony in history on the south lawn of the White House
  - Historic moment for all people with disabilities.
- Continues:
  - as many as two-thirds of people with disabilities are unemployed.
    - Why? attitudinal and physical barriers



## **Global Issue:**

- ADA- impactful
- •Goal:
  - Planning an evacuation
    - Group effort



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 $\underline{http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities}$ 

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## Americans with Disabilities:











## <u>Americans with Disabilities: Important Stats:</u>

- •1 in 5 Americans, ages 15 and over have some type of disability (most common problems: walking and lifting)
- •70% of all Americans will, at some time in their lives, have a temporary or permanent disability that makes stair climbing impossible

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## Americans with Disabilities: Important Stats:

- 2000 US census versus 2010 census
- Americans with 1 or more disabilities: 2000- 49.7 million, 2010- 56.7 million people (19% of the population had a disability)
- Americans age 65 or over: 2000-33.3 million, 2010-40 million people (13% of the total population)
- Americans age 85 and older: 2000- 3.3 million, 2010- 5.5 million
- Children ages 5- 20 with a disability in the United States- 5.2 million (2000)
- National Center for Health Statistics (2003)
- 8,000 people survive traumatic spinal cord injuries each year, returning to homes that are inaccessible.
- Americans with serious hearing disabilities: 32.5 million
- · Americans have visual disabilities 18.6 million



## The report, Americans with Disabilities: 2010

- People in the oldest age group (80 +): 8 times more likely to have a disability as those in the youngest group (younger than 15)
   71% compared with 8%
- Probability of having a severe disability: 1 in 20 for those 15 to 24; 1 in 4 for 65 to 69
- ~ 8.1 million: vison difficulty, (2.0 million: blind or unable to see)
- ~ 7.6 million: difficulty hearing, (1.1 million whose difficulty was severe; ~5.6 million hearing aid users)
- ~30.6 million: difficulty walking or climbing stairs, or used a wheelchair, cane, crutches or walker
- ~19.9 million: difficulty lifting and grasping (includes: trouble lifting an object like a bag of groceries, or grasping a glass or a pencil)

https://www.census.gov/newsroom/releases/archives/miscellaneous/cb12-134.html

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## The report, Americans with Disabilities: 2010

- The report, Americans with Disabilities: 2010
- 9.4 million noninstitutionalized adults: Difficulty with at least one ADL (included getting around inside the home, bathing, dressing, eating)
  - Of these people, 5 million needed assistance of others to perform the such an activity
- ~ 15.5 million adults had difficulties with 1 or more instrumental ADLs (included: housework, using a phone, preparing meals)
  - Of these, nearly 12 million required assistance
- ~2.4 million had Alzheimer's disease, senility or dementia
- 7.0 million adults reported being frequently depressed or anxious (to the extent that it interfered with ordinary activities)
- Income disparity: Adults age 21-64 median monthly earnings: with disabilities-\$1,961; \$2,724- no disability

https://www.census.gov/newsroom/releases/archives/miscellaneous/cb12-134.html



## How to Define "Special needs"?

- Challenges in defining populations with special needs
- Community determination



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## "Special needs" Definition?

- People with disabilities
- People with medical conditions
- Congregate and residential care facilities (CRCFs)
- People with no access to a vehicle
- Homeless populations
- Correctional facilities
- People with service animals and household pets



## No singular definition:

- Widely used term
- No federally mandated or suggested definition being provided to states and localities
  - · agencies use different definitions
- 2007: Federal Emergency Management Agency (FEMA):
  - A Reference Guide for Accommodating Individuals with Disabilities in the Provision of Disaster Mass Care, Housing and Human Services (http://www.fema.gov/oer/reference/index.shtm)

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## No singular definition:

• 2008: FEMA- Comprehensive Preparedness Guide 301: Special Needs Populations (Version 1.0)

http://www.fema.gov/pdf/media/2008/301.pdf.

 "The National Response Framework (NRF) definition for 'special needs' provides a function-based approach for planning and seeks to establish a flexible framework that addresses a broad set of common function-based needs irrespective of specific diagnosis, statuses, or labels (e.g., children, the elderly, transportation disadvantaged)."



## No singular definition:

- Language Commonality: improve communication
- The definition of 'special needs population' as it appears in the NRF is as follows:
  - Populations whose members may have additional needs before, during, and after an incident in functional areas, including but not limited to:
    - · Maintaining independence
    - Communication
    - Transportation
    - Supervision
    - · Medical care
  - May include those who: have disabilities, live in institutionalized settings, elderly, children, from diverse cultures, have limited English proficiency or are non-English speaking, or transportation disadvantaged

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## The NRF definitions: focuses on the following functional aspects:

- Maintaining Independence Individuals requiring support to be independent in daily activities
- Communication—Individuals who have limitations that interfere with the receipt of and response to information
- Transportation Individuals who cannot drive or who do not have a vehicle
- Supervision Before, during, and after an emergency
- Medical Care Individuals who are not self-sufficient or who do not have adequate support from caregivers, family, or friends may need assistance with managing unstable, terminal, or contagious conditions



#### Terms:

- Term "Special Needs" is a community dependent term
- Terms of legal implications: must be considered for evacuation planning.
  - ADA, 1990: Persons with disabilities are a protected class
    - An individual is defined as someone with a disability if they:
      - 1) have a physical or mental impairment that substantially limits a major
        - 1. Life activity
        - 2. Have a record of such an impairment, and/or
        - 3. Are regarded as having such an impairment

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#### Terms:

- US Health and Human Services (HHS), Pandemic and All-Hazards Preparedness Act (PAHPA), 2006
  - "the term 'at-risk individuals' means children, pregnant women, senior citizens and other individuals who have special needs in the event of a public health emergency, as determined by the Secretary."
- (CDC), 2004
  - Recommendation: health department should use a similar definition:
  - "groups whose needs are not fully addressed by traditional service providers
    or who feel they cannot comfortably or safely access and use the standard
    resources offered in disaster preparedness, relief, and recovery. They include,
    but are not limited to, those who are physically or mentally disabled (blind,
    deaf, hard-of-hearing, cognitive disorders, mobility limitations), limited or
    non-English speaking, geographically or culturally isolated, medically or
    chemically dependent, homeless, frail/elderly, and children."



## Developing The Terminology:



- Considerations:
  - People with disabilities are important and significant part of the overall population.
  - Important Stats:
    - 2000 US census:
      - ~ 50 million people with disabilities (~17% of total U.S. population)
      - Of the 50 million who identified themselves as having a disability, 28% percent are 65 years and over.
    - Federal Interagency Forum on Aging Related Statistics (2003)
      - 36 million people 65 years and older in the U.S.

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## Considerations When Developing the Parameters of the Term "Special Needs" in Your Community:

- •ADA defines disability in specific terms of:
- Physical
- Sensory
- Cognitive



# Considerations When Developing the Parameters of the Term "Special Needs" in Your Community:

- Considerations with Co-existing disabilities
  - Level of understanding of emergency evacuation messages
  - Appropriately moving the person
  - Knowing where the person will be evacuated once moved
  - Group Involvement: caretakers/family members, health aides, emergency medical services (EMS), ambulette services, etc

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## Planning Questions:

- Planning at the local level
- Who
- What
- When
- Where
- How



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## Be prepared:

- Advanced planning that prepares transportation agencies, EMAs, and the special needs population.
- Without planning, becomes even more chaotic, results in unnecessary loss of life and injuries
- Individuals with disabilities may face increased risk, higher death rates, and difficulty in evacuating without prior planning at both the household and agency levels.
- McGuire et al., 2007.

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## <u>Challenges for Emergency Evacuation</u> Planning and Preparedness:

- Considerations for individuals with disabilities :
- 1. Diverse situations and conditions
- 2. Disabilities may be permanent or temporary, and change over time
- 3. May have multiple types of disabilities simultaneously
- 4. Interacting situations and conditions:
  - limited language abilities, age, poverty, cultural differences



# Challenges for Emergency Evacuation Planning and Preparedness:

- •5. Geographic location matters.
- •6. Few jurisdictions have staff familiar with disabilities in general, let alone evacuation planning.
  - Imperative to:
    - Include individuals from the disability community in emergency evacuation planning and preparedness
- •7. Many proposed solutions are untested!

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# Agencies involved in evacuating special needs populations:



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## Agencies involved in evacuating special needs populations:

- www.fema.gov FEMA- The Federal Emergency Management Agency's Community and Family Preparedness Program
- www.redcross.org American Red Cross Community Disaster Education
- www.access-board.gov
   The Access Board
- www.aoa.dhhs.gov DHHS Administration on Aging
- www.ncd.gov National Council on Disability
- www.nod.org/emergency National Organization on Disability
- www.prepare.org
   Prepare.org
- www.aapd.com American Association for People with Disabilities
- www.afb.org American Foundation for the Blind
- www.nad.org National Association of the Deaf
- www.ready.gov
- · www.easter-seals.org Easter Seals

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## Practice and planning make a difference:

 Everyone should regularly practice, review, revise, and update their plans to reflect changes in technology, personnel, and procedures



# Recommendations from FEMA and the American Red Cross (ARC):

- Persons with disabilities should:
  - BE proactive:
    - engage in self-education, personal planning, and preparedness
  - DEVELOP an evacuation kit
  - INVOLVE Transportation agencies
  - DEVELOP a personal support network\*
  - Van Willigen et al., 2002

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# Red Cross- Preparing for Disaster for People with Disabilities and other Special Needs:

- CREATE A PERSONAL SUPPORT NETWORK (AKA: self-help team)
  - Help plan
  - Provide assistance
- Organize a network at all the places you frequent (home, school, workplace, etc)
  - relatives, neighbors, friends, co-workers
- Do not depend on only one person
- http://www.redcross.org/images/MEDIA\_CustomProductCatalog/m4240199\_A4497.pdf



## <u>Importance of Training:</u>

- Training staff to work with people with disabilities is important
- Assemble a team: Bring representatives from the disability community, professionals, and/or caregivers together with transportation responders to discuss key issues and concerns.
  - Including people with disabilities

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## Practice and planning make a difference:

- Utilize a Checklist
- Develop a Plan
- Practice the plan
- Review and practice the plan regularly <u>by everyone</u> <u>involved</u>
  - service animals
- Be prepared for the unexpected
- http://www.nfpa.org/safety-information/for-consumers/populations/people-withdisabilities



Begin Planning: COMPLETE A PERSONAL ASSESSMENT: Personal Care

- Personal Care
- Personal Care Equipment
- Adaptive Feeding Devices
- Electricity-Dependent Equipment

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Begin Planning: : COMPLETE A PERSONAL ASSESSMENT: Transportation:

- Disaster Debris
- Transportation Type
- Errands



# Begin Planning: : COMPLETE A PERSONAL ASSESSMENT: <a href="Evacuating:\*">Evacuating:\*</a>

#### Building Evacuation

- Do you need help to leave?
- Can you reach and activate an alarm?
- · Will you be able to evacuate independently?

#### Building Exits

- Are there other exits (stairs, windows or ramps) if the elevator is not working or cannot be used?
- Can you read emergency signs in print or Braille?
- Do emergency alarms have audible and visible features (marking escape routes and exits) that will work even if electrical service is disrupted?

#### Getting Help

• How will you call or summon for the help to leave?

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# Begin Planning: : COMPLETE A PERSONAL ASSESSMENT: <a href="Evacuating">Evacuating</a>\*

#### Mobility Aids / Ramp Access

- What will you do if you cannot find your mobility aids?
- What will you do if your ramps are inaccessible?

#### Service Animals/Pets

- Will you be able to care for your animal during and after a disaster?
- Do you have another caregiver for your animal if you are unable to meet its needs?
- Do you have the appropriate licenses for your service animal in an emergency public shelter?



## Be Prepared:

- Four preparedness steps:
- 1. Get informed
- 2. Make a plan
- 3. Assemble a kit
- 4. Maintain your plan and kit
- (Red Cross- Preparing for Disaster for People with Disabilities and other Special Needs: http://www.redcross.org/images/MEDIA\_CustomProductCatalog/m4240199\_A4 497.pdf)

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## 4 preparedness steps: 1. GET INFORMED:

- Contact your local emergency professionals to help in creating a plan.
  - Community Hazards. Local infowww.hazardmaps.gov
  - **Community Disaster Plans.** Learn about your community response plans, evacuation plans and designated emergency shelters.
    - Where will you mostly likely be? Where is most of your time spent?
  - Community Warning Systems. Find out how local authorities will warn you of a pending disaster? How they will provide information during and after a disaster? NOAA Weather Radio and its alerting capabilities (www.noaa.gov).
  - **Assistance Programs.** Ask about special assistance programs available in the event of an emergency.
    - Is there a register?
    - Electric-dependent? Register with your local utility company.



## 4 preparedness steps: 2. MAKE A PLAN:

- <u>Develop primary emergency plan and a back-up plan to ensure your safety:</u>
- Meet with Your Family/Personal Care Attendants/Building Manager. Review the information
- Choose an "Out-of-Town" Contact. After a disaster, often easier to make a long distance call than a local call from a disaster area
- Decide Where to Meet.

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## 4 preparedness steps: 2. MAKE A PLAN:

- Complete a Communications Plan.
- Contact information for family members, members of your support network, caregivers, work, and school
- Your out-of-town contact's information.
- Meeting locations
- Emergency services
- National Poison Control Center (1-800-222-1222).
- Sample Form: <u>www.ready.gov</u> or at <u>www</u>.redcross.org/contactcard.
  - Fill out blank wallet cards for quick reference
  - Teach children how to call the emergency phone numbers and when it is appropriate to do so.
  - Be sure each family member has a copy of your communication plan and post it near your telephone for use in an emergency.



## 4 preparedness steps: 2. MAKE A PLAN:

- Escape Routes and Safe Places.
  - Best route
  - Alternate route
  - Map it out
    - Doors, windows, stairways, large furniture, your disaster supplies kit, fire extinguisher, smoke alarms, other visual and auditory alarms, collapsible ladders, first-aid kits, utility shut-off points, garages, patios, stairways, elevators, driveways, porches

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## 4 preparedness steps: 2. MAKE A PLAN:

- Have at least 2 escape routes from each room
- Meeting place
- Practice drills at least 2x/yr



## 4 preparedness steps: 2. MAKE A PLAN:

- Prepare for Different Hazards:
- Tornado warning
- Fire
- Hurricane
- Other

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## <u>4 preparedness steps: **2. MAKE A PLAN :**</u> <u>Action Checklist – Items To Do</u> Before a Disaster

- Considerations for people with disabilities:
- Learn what to do in case of power outages and personal injuries.
- Consider getting a medical alert system
- If you use an electric wheelchair or scooter, have a manual wheelchair for backup
- Teach those who may need to assist you in an emergency how to operate necessary equipment.
  - label equipment, attach instructions for equipment use



## <u>4 preparedness steps: **2. MAKE A PLAN:**</u> Action Checklist – Items To Do Before a Disaster:

- Considerations for people with disabilities:
- Store back-up equipment
- Arrange for more than one person from your personal support network to check on you
- If you are vision impaired, deaf or hard of hearing, plan ahead for someone to convey essential emergency information to you
- If you use a personal care attendant obtained from an agency, check to see if the agency has special provisions for emergencies

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## <u>4 preparedness steps: 2. MAKE A PLAN:</u> Action Checklist – Items To Do Before a Disaster

- Considerations for people with disabilities:
- Identify and mark accessible exits and access to all areas designated for emergency shelter or safe rooms.
- Ask about plans for alerting and evacuating those with sensory disabilities
- Have a cell phone with an extra battery.
- Learn about various ways to receive emergency instructions and warnings in your area



## <u>4 preparedness steps: **2. MAKE A PLAN:**</u> Action Checklist – Items To Do Before a Disaster:

- Considerations for people with disabilities:
- Be prepared to give specific and concise instructions (unique to you) to rescue personnel. Practice doing this (verbally, pre-printed, word or picture board, wipe board, etc)
- Prepare your personal network of your anticipated reactions to the emergency situation (i.e. confusion, panic, anxiety, memory difficulties, etc).
- Utilities: know how and when to turn off water, gas and electricity. Inform friends and neighbors. Have tools handy.
- Fire Extinguisher: know how to use it
- Smoke Alarms
- First Aid Kit

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## <u>4 preparedness steps: **2. MAKE A PLAN:**</u> Action Checklist – Items To Do Before a Disaster:

- Considerations for people with disabilities:
- Inventory Home Possessions
- Vital Records and Documents Vital family records and other important documents should be kept in a safe deposit box or other safe location. \*\*\*Medical Records.
- Keep the shut-off switch for oxygen equipment near your bed or chair, so you can get to it quickly if there is a fire



## 4 preparedness steps: 3. Assemble a kit: Basic disaster supplies kit: (Red Cross)

- 3 day supply of nonperishable food and manual can opener
- 3 day supply of water (one gallon of water per person, per day)
- Portable, battery-powered radio or television and extra batteries
- Flashlight and extra batteries
- First aid kit and manual
- Sanitation and hygiene items (hand sanitizer, moist towelettes, and toilet paper)
- Matches in waterproof container

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# <u>4 preparedness steps: **3. Assemble a kit**:</u> Basic disaster supplies kit: (Red Cross)

- Whistle.
- Extra clothing and blankets.
- Kitchen accessories and cooking utensils.
- Photocopies of identification and credit cards.
- Cash and coins.
- Special needs items such as prescription medications, eye glasses, contact lens solution, and hearing aid batteries.
- Items for infants, such as formula, diapers, bottles, and pacifiers.
- Tools, pet supplies, a map of the local area, and other items to meet your unique family needs.

continued

## 4 preparedness steps:

4. Maintain your plan and kit: (Red Cross)

• Quiz: 6 month check

• Drill: 6 month check

• Restock: 6 month check

• **Test:** Test your smoke alarms monthly and change the batteries at least once a year. Replace alarms every 10 years.

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## The Four Elements of Evacuation Information That People Need:

http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities

- Notification (What is the emergency?)
- Way finding (Where is the way out?)
- Use of the way (Can I get out by myself, or do I need help?)
- Assistance (What kind of assistance might I need?)

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## The Five General Categories of Disabilities:

- Mobility impairments
- Visual impairments
- Hearing impairments
- Speech impairments
- Cognitive impairments
- <a href="http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities">http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities</a>



## **Mobility Impairments:**

http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities

- Individuals with Primary Means of mobility: wheelchair
  - Some people may use one or more devices (canes, crutches, a power-driven or manually operated WC, scooter)
- Typical problems:
  - maneuvering through narrow spaces
  - going up or down steep paths
  - moving over rough or uneven surfaces
  - using toilet and bathing facilities
  - reaching and seeing items placed at conventional heights
  - negotiating steps or changes in level at the entrance/exit point of building

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## **Mobility Impairments:**

- Individuals who are Ambulatory
- People who can walk but with difficulty or who have a disability that affects gait.
- Includes people who:
  - do not have full use of their arms or hands or who lack coordination
  - use crutches, canes, walkers, braces, artificial limbs, or orthopedic shoes
- Activities that may be difficult for people with mobility disabilities:
  - walking, climbing steps or slopes, standing for extended periods of time, reaching, and fine finger manipulation.



## **Mobility Impairments:**

- Respiratory Impairments
- Can use the components of the egress system but may have difficulty safely evacuating due to dizziness, nausea, breathing difficulties, tightening of the throat, or difficulty concentrating.
  - May require rest breaks while evacuating

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## Visual Impairments: partial or total vision loss:

- Considerations:
  - May distinguish light and dark, sharply contrasting colors, or large print but cannot read small print, negotiate dimly lit spaces, or tolerate high glare
  - Many people who are blind depend on their sense of touch and hearing to perceive their environment
  - May use a white cane or have a service animal
  - May miss a visual cue, such as a new obstruction that occurred during the emergency event, that could affect egress



## **Hearing Impairments:**

- · Considerations:
- People with partial hearing often use a combination of speech reading and hearing aids, which amplify and clarify available sounds
- Echo, reverberation, and extraneous background noise can distort hearing aid transmission
- People who are deaf or hard of hearing and who rely on lip reading for information must be able to clearly see the face of the person who is speaking
- Those who use sign language to communicate may be adversely affected by poor lighting
- People who are hard of hearing or deaf may have difficulty understanding oral communication and receiving notification by equipment that is exclusively auditory, such as telephones, fire alarms, and public address systems
- There is a risk that a person with a hearing loss or deafness would miss an auditory cue to the location of a dangerous situation, affecting his or her ability to find safe egress.

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## **Speech Impairments:**

- Considerations:
- Prevent a person from using or accessing information or building features that require the ability to speak
- Can be caused by a wide range of conditions, but all result in some level of loss of the ability to speak or to verbally communicate clearly



## **Cognitive Impairments:**

- Considerations:
- Prevent a person from using or accessing building features due to an inability to process or understand the information necessary to use those features
- Some examples: developmental disabilities, multiple sclerosis, depression, alcoholism, Alzheimer's disease, Parkinson disease, traumatic brain injury, chronic fatigue syndrome, stroke, and some psychiatric conditions
- Some decreased or impaired level in the ability to process or understand the information received by the senses

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# Other Impairments and Multiple Impairments:

- Temporary disabilities
  - Broken bones, illness, trauma, or surgery can affect a person's use of the built environment for a short time.
- Condition that can cause a reduction in physical stamina or cause pain:
  - Diseases of the heart or lungs, neurological diseases with a resulting lack of coordination, arthritis, and rheumatism
- Seizure disorders
- People of extreme size or weight often need accommodations
- People with multiple disabilities



#### Service Animals:

- Service animals assist people with disabilities in their day-today activities
- ADA defines a service animal "as any guide dog, signal dog, or other animal individually trained to provide assistance to a person with a disability."
- Under the ADA, they are permitted in private facilities that serve the public
  - shelters, hospitals, emergency vehicle, state and local government facilities, the workplace

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#### Service Animals:

- Practice the plan with the animal
- Inform first responders of the presence of a service animal and be provided evacuation plan information
- Extra food and supplies for the service animal



#### STANDARD BUILDING EVACUATION SYSTEMS:

- •3 components:
- •1. The circulation path
- •2. The occupant notification system(s)
- •3. Directions to and through the circulation paths
- http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities

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#### STANDARD BUILDING EVACUATION SYSTEMS:

#### Circulation Path:

- Definition: A continuous and unobstructed way of travel from any point in a building or structure to a public way
- The components include (but are not limited to):
  - rooms, corridors, doors, stairs, smoke proof enclosures, horizontal exits, ramps, exit passageways, escalators, moving walkways, fire escape stairs, fire escape ladders, slide escapes, alternating tread devices, areas of refuge, elevators
- A circulation path is considered usable if it meets one of the following:
  - A person with disabilities is able to travel unassisted through the circulation path to a public way
  - A person with disabilities is able to travel unassisted through that portion of the circulation path necessary to reach an area of refuge



#### STANDARD BUILDING EVACUATION SYSTEMS:

#### Occupant Notification System:

- Includes (but not limited to): alarms and public address systems
  - bell, horn, speaker, light, or text display that provides audible, tactile, or visible outputs, or any combination

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#### STANDARD BUILDING EVACUATION SYSTEMS:

Directions to and through the Usable Circulation Path:

- Includes: signage, oral instructions passed from person to person, and instructions, which may be live or automated, broadcast over a public address system
- Personal notification devices



http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities.

• OCCUPANT NOTIFICATION SYSTEMS- No Special Requirements.

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# Building an evacuation plan for a person with a mobility impairment:

- WAY FINDING: Is There a Usable Circulation Path?
- A circulation path is considered usable if it meets one of the following:
  - A person with disabilities is able to travel unassisted through the circulation path to a public way
  - A person with disabilities is able to travel unassisted through that portion of the circulation path necessary to reach an area of refuge
- Area of refuge:
  - serves as a temporary haven from the effects of an emergency.
  - person with a severe mobility impairment must have the ability to travel from the area of refuge to the public way
  - if elevation differences are involved, an elevator or other evacuation device might be used, or others might move the person by using a wheelchair carry on the stairs



- Which Circulation Paths Are Usable Circulation Paths?
- Mark the Routes:
  - Exits should be marked by approved signs that are:
    - readily visible from any direction of approach in the exit access

7

# Building an evacuation plan for a person with a mobility impairment:

- Mark the Routes:
- If all circulation paths are usable by people with disabilities, usable circulation path(s) should be clearly identified by the international symbol of accessibility:



- Locations of exit signs and directional exit signs are specified by model codes. (Typically the signs are placed above exit doors and near the ceiling)
- Tip: Supplemental directional exit signs help clearly demarcate the route to the exit.
  - · Readily visible
  - · Contrast against the surroundings



- Which Paths Lead to Usable Circulation Paths?
- Any circulation paths that are not usable should include signs directing people to other, usable paths.
- Inform, Plan, Prepare: People with mobility impairments should be provided with written directions, a brochure, or a map showing what those signs look like and where they are.

8

# Building an evacuation plan for a person with a mobility impairment:

- **USE OF THE WAY:** A circulation path is considered a *usable circulation path* if it meets one of the following criteria:
- A person using a wheelchair is able to travel unassisted through it to a public way (if elevation differences are involved, there are usable ramps rather than stairs).
- A person using a wheelchair is able to travel unassisted through that portion of the usable circulation path necessary to reach an area of refuge.
- Area of refuge for people with mobility impairments:
  - must be able to travel from the area of refuge to the public way, although such travel might depend on the assistance of others.
  - if elevation differences are involved, an elevator or other evacuation device might be used, or the person might be moved by another person or persons using a cradle carry, a swing (seat) carry, or an in-chair carry
  - training, practice, and an understanding of the benefits and risks of each technique for a given person are important aspects of the planning process.



#### • Use of Stairs?

• Even he/she is able to negotiate stairs easily but has trouble operating door locks, latches, and other devices, the evacuation plans then should address alternative routes, alternative devices, or specific provisions for assistance.

#### Use of Elevators?

 Yes in it can be a component of a usable circulation path, HOWEVER elevator use is restricted in some types of building emergencies (i.e. elevators typically return to the ground floor when a fire alarm is activated) This may not be true in the event of non-fire emergencies requiring an evacuation. In the last several years, however, building experts have increasingly joined forces to carefully consider building elevators that are safer for use in the event of an emergency.

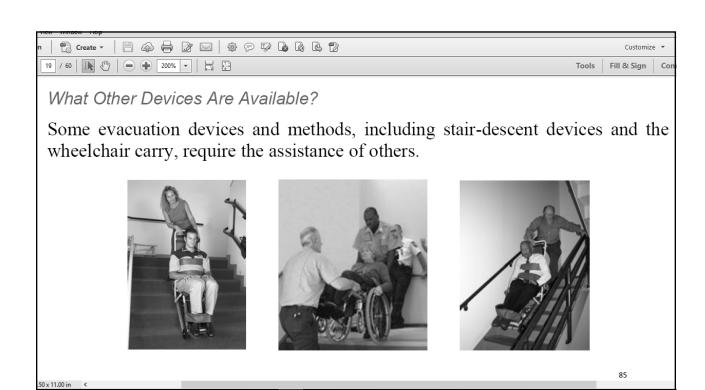
83

# Building an evacuation plan for a person with a mobility impairment:

#### • Use of Lifts?

- Lifts can be an important part of an evacuation.
  - Check to make sure they have emergency power
    - how long
    - how many uses

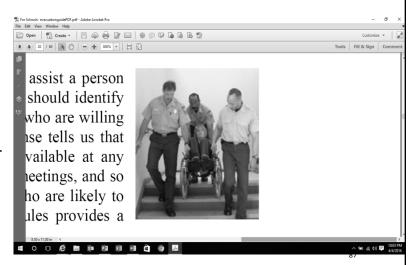




- IS ASSISTANCE REQUIRED? Who Will Provide the Assistance?
- People with mobility impairments who are able to go up and down stairs easily but have trouble operating door locks, latches, and other devices can be assisted by anyone.
- Plan: ask someone for assistance with a particular door or a particular device
- Who?
  - Relative
  - Supervisor or co-worker
  - · Building staff or neighbor
  - Friend



- How Many People Are Necessary to Provide Assistance?
- One Person: identify 2 assistants
- Multiple People: identify at least twice the number of people required



## Building an evacuation plan for a person with a mobility impairment:

- Type of Assistance:
- Guidance
  - Explaining how and where the person needs to go to get to the usable circulation nath
  - Escorting the person to and/or through the usable circulation path
- Minor Physical Effort
  - Offering an arm to assist to/through usable circulation path
  - Opening the door(s) in the usable circulation path
- Major Physical Effort
  - · Operating a stair-descent device
  - Carrying a wheelchair down the stairs
  - · Carrying a person down the stairs
- Waiting for First Responders



- Where Will the Person(s) Start Providing Assistance?
- From the Location of the Person Requiring Assistance
  - Does the person providing assistance need to go where the person with the mobility impairment is located at the time the alarm sounds? If so, how will he or she know where the person is?
  - Face to face, Phone, E-mail
- From a Specific, Predetermined Location: (i.e. hallway, entry to stairs)
- When Will the Person(s) Provide Assistance?
  - · Always, Only when asked, Other
- How Will the Person(s) Providing Assistance Be Contacted?
  - Face to face, Phone, E-mail

8

# Building an evacuation plan for a person with a visual impairment:

- OCCUPANT NOTIFICATION SYSTEMS No Special Requirements.
- WAY FINDING: Is There a Usable Circulation Path?
- A circulation path is considered usable if it meets one of the following:
  - A person with disabilities is able to travel unassisted through the circulation path to a public way
  - A person with disabilities is able to travel unassisted through that portion of the circulation path necessary to reach an area of refuge
- Area of refuge: a space that serves as a temporary haven from the effects
  of a fire or other emergency. A person with a visual impairment must be
  able to travel from the area of refuge to the public way, although such
  travel might depend on the assistance of others.



- For People with Disabilities, Which Circulation Paths Are Usable, Available, and Closest?
- Exits should be marked by tactile signs that are properly located so they can be readily found by a person with a visual impairment from any direction of approach to the exit access.
- Where not all circulation paths are usable by people with disabilities, the usable circulation paths should be identified by the tactile international symbol of accessibility:

91

# Building an evacuation plan for a person with a visual impairment:

- Which Paths Are Usable Circulation Paths?
- Tactile directional signs that indicate the location of the nearest usable circulation path should be provided at all circulation paths that are not usable by people with disabilities
- Tip: Plan and practice: It may be practical to physically show new employees with visual impairments where all usable circulation paths are



- USE OF THE WAY: Can People with Visual Impairments Use the Circulation Path by Themselves?
- A circulation path is considered a *usable circulation path* if it meets one of the following criteria:
  - A person with a visual impairment is able to travel unassisted through it to a public way.
  - A person with a visual impairment is able to travel unassisted through that portion of the usable circulation path necessary to reach an area of refuge.

9

# Building an evacuation plan for a person with a visual impairment:

- Will a Person with a Visual Impairment Require Assistance to Use the Circulation Path?
- Verify that a person with a visual impairment can travel unassisted through the exit access, the exit, and the exit discharge to a public way
  - If NOT: the personal emergency evacuation plan will need to include a method for providing appropriate assistance
- How many people for assistance? Typically 1 person



- IF ASSISTANCE IS REQUIRED, Who?
- People with visual impairments who are able to go up and down stairs easily but just have trouble finding the way or operating door locks, latches, and other devices can be assisted by anyone
- Tip: Plan for the person with a visual impairment to ask someone for assistance
- Friend
- Co-worker
- Relative
- Supervisor
- · Building staff or neighbor
- First responders

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# Building an evacuation plan for a person with a visual impairment:

- What Assistance Will the Person(s) Provide?
- Guidance
  - Explaining how to get to the usable circulation path
  - Escorting the person with the visual impairment to and/or through the circulation path
- Minor Physical Effort
  - Offering the person an arm or allowing the person to place a hand on your shoulder and assisting the person to/through the circulation path
  - Opening doors in the circulation path
- Waiting for First Responders
  - A person with a visual impairment typically will not need to wait for first responders



- Where Will the Person(s) Start Providing Assistance?
- From the Location of the Person Requiring Assistance
  - Does the person providing assistance need to go where the person with the visual impairment is located at the time the alarm sounds? If so, how will he or she know where the person needing assistance is?
    - Phone, E-mail, etc
- From a Specific, Predetermined Location: Entry to stairs, other
- When Will the Person(s) Provide Assistance? Always? Only when asked?
   Other?
- How Will the Person(s) Providing Assistance Be Contacted? Face to face, phone, email, etc

9

# Building an evacuation plan for a person with a hearing impairment:

- OCCUPANT NOTIFICATION SYSTEMS: Visual Devices for the Fire Alarm System
- People with hearing impairments cannot hear alarms and voice announcements that warn of danger and the need to evacuate.
  - Many codes require new buildings to have flashing strobe lights (visual devices) as part of the standard building alarm system, but because the requirements are not retroactive many buildings don't have them. In addition, strobes are required only on fire alarm systems and simply warn that there may be a fire. Additional information that is provided over voice systems for a specific type of emergency such as threatening weather event, or that directs people to use a specific exit, are unavailable to people with hearing impairments.



- OCCUPANT NOTIFICATION SYSTEMS: Visual Devices for the Fire Alarm System
- It is extremely important for people with hearing impairments to know what, if any, visual notification systems are in place.
- They also need to be aware of which emergencies will activate the visual notification system and which emergencies will not.
- Alternative methods of notification need to be put into the emergency evacuation plans for people with hearing impairments so they can get all the information they need to evacuate in a timely manner.

9

#### Building an evacuation plan for a person with a hearing impairment:

- In the home:
- Strobe lights throughout the home are activated by smoke
- When ASLEEP: a high intensity strobe light is required along with a pillow or bed shaker to wake them up and alert them to fire conditions so they can escape.
  - activated by the sound of a standard smoke alarm.
- Smoke alarm alert devices for people who are hard of hearing produce a loud, mixed low-pitched sound.
  - activated by the sound of the smoke alarm and is usually installed next to the bed.
- Pillow or bed shaker may also be helpful
- Smoke alarms with built in or separate strobe lights can be purchased through home improvement store websites or by searching the internet for "strobe light smoke alarms."



- Devices or Methods for Notification of Other Emergencies
- Natural events
  - Storms (hurricanes, tornadoes, floods, snow, lightning, hail, etc.)
  - Earthquakes
- Human-caused events (robbery, hostile acts, random violence, etc.)

10

# Building an evacuation plan for a person with a hearing impairment:

- Workplace, at desk: installation of a reader board in the work area might be considered to provide appropriate warning in an emergency.
- Personal notification devices
- E-mail and TTY phone communications
- Use of televisions in public and working areas with the closed caption feature turned on



- WAY FINDING
- Is Prior Knowledge of the Circulation Path Location(s) Necessary? No Special Requirements.
- Is Identification of Which Means of Egress Are Available/Closest Necessary? No Special Requirements
- Is Identification of the Path(s) to the Means of Egress Necessary?
  - No Special Requirements

10

# Building an evacuation plan for a person with a hearing impairment:

- USE OF THE WAY
- No Special Requirements.
- *Note:* Elevators are required to have both a telephone and an emergency signaling device.
  - People with hearing or speech impairments should be aware of whether the telephone is limited to voice communications and where the emergency signaling device rings — whether it connects or rings inside the building or to an outside line — and who would be responding to it



- IS ASSISTANCE REQUIRED?
- No Special Requirements

### <u>Safety videos in American Sign Language:</u> http://www.nfpa.org/safety-information/for-consumers/populations/people-with-

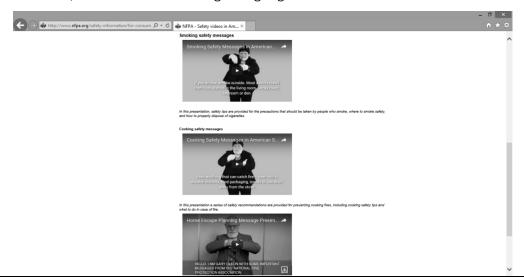
disabilities/videos-in-american-sign-language





#### Safety videos in American Sign Language:

http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities/videos-in-american-sign-language



# Building an evacuation plan for a person with a speech impairment:

- OCCUPANT NOTIFICATION SYSTEMS
- No Special Requirements

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- WAY FINDING
- Is Prior Knowledge of the Location of the Means of Egress Necessary? No Special Requirements
- Is Identification of Which Means of Egress Are Available/Closest Necessary? No Special Requirements
- Is Identification of the Path(s) to the Means of Egress Necessary?
  - No Special Requirements

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# Building an evacuation plan for a person with a speech impairment:

#### USE OF THE WAY

- The only standard building egress system that may require the ability to speak in order to evacuate a building is an emergency phone in an elevator.
  - Elevators are required to have both a telephone and an emergency signaling device.
  - People with speech impairments should be aware of whether the telephone
    is limited to voice communications and where the emergency signaling device
    rings whether it connects or rings inside the building or to an outside line
     and who would be responding to it.



- IS ASSISTANCE REQUIRED?
- No Special Requirements

11

# Building an evacuation plan for a person with a cognitive impairment:

- Cognitive impairments prevent a person from using or accessing building features due to an inability to process or understand the information necessary to use the features.
  - some decreased level of ability to process or understand information or situations
- All standard building egress systems require the ability to process and understand information in order to safely evacuate.
- Possible accommodations for people with cognitive impairments might include the following:
  - · Providing a picture book of drill procedures
  - · Color coding fire doors and exit ways
  - Implementing a buddy system
  - Using a job coach for training



- OCCUPANT NOTIFICATION SYSTEMS
- No Special Requirements

11

# Building an evacuation plan for a person with a cognitive impairment:

- WAY FINDING
- Is Identification of Which Means of Egress Are
  Available/Closest Necessary? No Special Requirements
- Is Identification of the Path(s) to the Means of Egress Necessary?
  - No Special Requirements
    - Verify: the person can find and use the exits
      - If not, make plans for assistance



- USE OF THE WAY
- No Special Requirements

11

## Building an evacuation plan for a person with a cognitive impairment:

- IS ASSISTANCE REQUIRED? Who Will Provide Assistance?
- Typically 1 person (tip: assign 2, for as a back-up)
- What Assistance Will the Person(s) Provide?
  - Ensuring that the is aware of the emergency and understands the need to evacuate the building
  - Guidance to and/or through the means of egress
- Where Will the Person(s) Start Providing Assistance?
  - current location of the person needing assistance
  - from a specific, predetermined location
    - Entry to stairs, other
- When Will the Person(s) Provide Assistance? Always, Only when asked, Other
- How Will the Person(s) Providing Assistance Be Contacted?



http://www.nfpa.org/safety-information/for-consumers/populations/people-with-disabilities/educational-materials/people-with-intellectual-disabilities

#### Recommendations:

- Limit the number of people in class to around 8 students. Small group sizes work best.
- Introduce one topic at a time
- Keep it simple. Stick with simple words. Have the students describe the pictures for clarity and understanding.
- Repeat each message several times. Students tend to remember what they see and hear at the beginning of each topic if it is repeated again at the end
- Limit class length to one hour
- Demonstrate. Have students demonstrate what they know. Students may act as though they understand, but that does not mean they are learning
- Use incentives, such as night lights, egg timers, and oven mitts, as teaching tools. Students like to have something to take with them. It not only increases attendance, but reinforces lessons learned

#### **EMERGENCY CHECKLISTS:**

http://www.nfpa.org/assets/files//PDF/Forms/Chkls t.doc



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	Are there emergency notification devices (alarms, etc.) appropriate for this person?								
	Does this person know the location of each emergency notification device/system and understand its meaning/function?								
	Does this person know how to sound the alert for emergencies (manual pull box alarms, public address systems, radio, telephones)?								
	If telephones are used to report emergencies, are emergency numbers posted near telephones, on employee notice boards, or in other conspicuous locations?								
	Is there a way for a person with a hearing or speech impairment to report an emergency?								
	If the communication system also serves as an alarm system, do all emergency messages have priority over all non-emergency messages?								
	Is there a unique signal (sound, light, header) to indicate an emergency message?								
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Is th	nere a usable way out?						
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Whe	ere is the established outside meeting place?						
shov to so	ne usable circulation path clearly marked to w the route to leave the building or to relocate ome other space within the building in an ergency?						
coul mov	person exiting a doorway or turning a corner ld inadvertently be directed into the path of a ring vehicle, is a safeguarding device with a ning sign in place?						
but o	ne stairs in the circulation path lead anywhere out of the building, are doors, partitions, or our effective means used to show the correct the out of the building?						
	doors used to connect any room to a circulation have proper maneuvering clearances?				12:	L	
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		Can the doors be easily unlatched?					
		Do exterior circulation paths (balcony, porch, gallery, roof) meet the preceding four requirements?					
		Does the exterior circulation path have guardrails to protect open sides of walking surfaces?					
		Is the exterior circulation path smooth, solid, and a substantially level travel surface?					
		Does the exterior circulation path <i>not</i> branch off and head away from the public way?					
		Is each exit marked with a clearly visible sign reading "EXIT" in all forms (visual, tactile, Braille)?					
		Is every doorway or passage that might be mistaken for an exit marked "NOT AN EXIT" or with an indication of its actual use in all forms (visual, tactile, Braille)?					
		Are signs posted and arranged along circulation paths to adequately show how to get to the nearest exit?					
		Do the signs clearly indicate the direction of travel in all forms (visual, tactile, Braille)?					
		Do brightly lit signs, displays, or objects in or near the line of vision <i>not</i> obstruct or distract attention from exit signs, particularly for people with low				122	_ 10-



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	USE OF THE WAY								
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	Are circulation paths always free of obstructions, including furniture and equipment, so everyone can safely exit the building during an emergency?								
	Are people <i>not</i> required to travel through a room that can be locked, such as a restroom?								
	Do all interior doors, other than fire doors, readily open from the inside without keys, tools, or special knowledge and require less than 5 pounds of force to unlatch and set the door in motion?								
	Are exit signs <i>not</i> obstructed or concealed in any way, particularly for people with vision impairments who need to find and feel the sign?								
	Are exit doors kept free of items that obscure the visibility of exit signs or that may hide visual, tactile, or Braille signage?								
	Is the emergency escape path clear of obstacles caused by construction or repair ?								
	Does the circulation path maintain a clear height of 6 feet 8 inches at all points?					123			
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such as ceiling fans a	out into the circulation path, nd wall cabinets, <i>not</i> reduce and width of the circulation									
for any segment less t	n paths at least 32 inches wide than 24 inches in length and nents 24 inches or longer?									
Is each usable circulathe facility?	tion path a permanent part of									
	is not substantially level, are with appropriate stairs or a									
Do building circulation	on paths lead to a public way, th	at is:								
Directly outside of	or to a street or walkway?									
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		TIPE OF ASSISTANCE NEEDED								
			YES	NO	N/A	Comments				
		Can the person evacuate himself or herself with a device or aid?								
		What is the specific device or aid?								
	Emergency Evacuation Planning Guide for People with Disabilities  Where is the device or aid located?									
		Does the person need assistance to evacuate?								
		What does the assistant(s) need to do?				I				
		Does the assistant(s) need any training?								
		Has the training been completed?								
		Where will the assistant(s) meet the person requiring assistance?								
		When will the person requiring assistance contact the assistant(s)?							125	
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	When will the person requiring assistance contact the assistant(s)?								
	Number of Assistants Needed								
	How many assistants are needed?								
	How will the assistant(s) be contacted in an emergency?								
	Name	Phone	Cell Phone	E-mail					
	Assistant 1								
	Assistant 2								
	Assistant 3								
	Assistant 4								
_	Assistant 5								
	Assistant 6								
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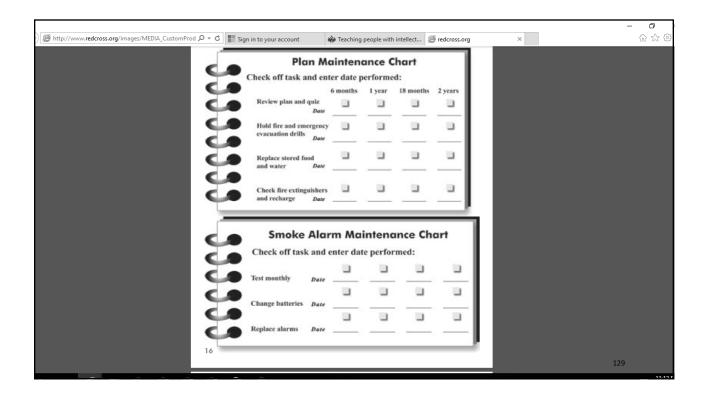


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		YES	NO	Comments		
	Has the person discussed with emergency management personnel his or her preferences with regard to evacuation and handling of the service animal?					
	Has the person thought about under what circumstances a decision may have to be made about leaving the service animal behind?					
	What is the best way to assist the service animal if it becomes hesitant or disoriented?					
	Do first responders have a copy of the detailed information for the service animal?					
	Where are extra food and supplies kept for the service animal?					
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### Red Cross:

- Home checklists
- Disaster kits





# The following should be included in your basic disaster supplies kit: (Red Cross)

- Three-day supply of nonperishable food and manual can opener.
- Three-day supply of water (one gallon of water per person, per day)
- Portable, battery-powered radio or television and extra batteries.
- Flashlight and extra batteries.
- First aid kit and manual.
- Sanitation and hygiene items (hand sanitizer, moist towelettes, and toilet paper).
- Matches in waterproof container.



# The following should be included in your basic disaster supplies kit: (Red Cross)

- Extra clothing and blankets.
- Kitchen accessories and cooking utensils.
- Photocopies of identification and credit cards.
- Cash and coins.
- Special needs items such as prescription medications, eye glasses, contact lens solution, and hearing aid batteries.
- Items for infants, such as formula, diapers, bottles, and pacifiers.
- Tools, pet supplies, a map of the local area, and other items to meet your unique family needs.

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#### Symbols:









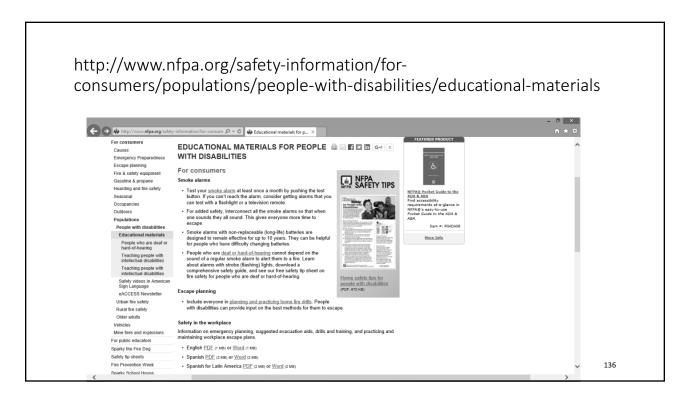


### Resource Showcase:



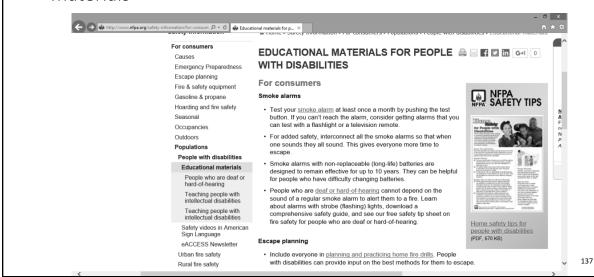








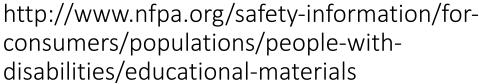
http://www.nfpa.org/safety-information/forconsumers/populations/people-with-disabilities/educationalmaterials

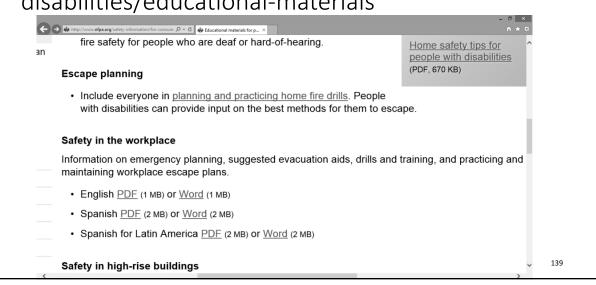


#### Considerations in the Home and Workplace:

Resources



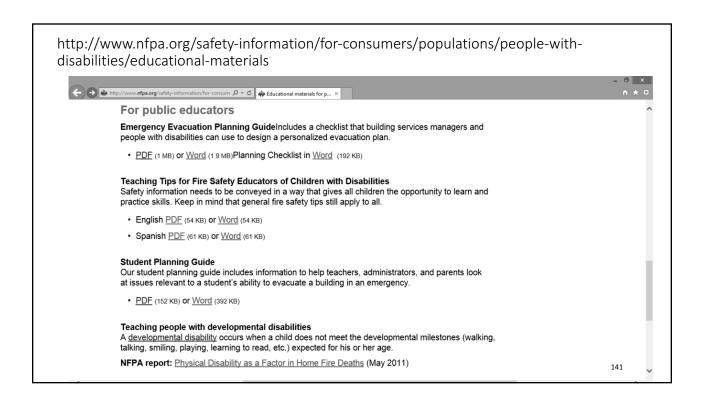




### Considerations in Schools:

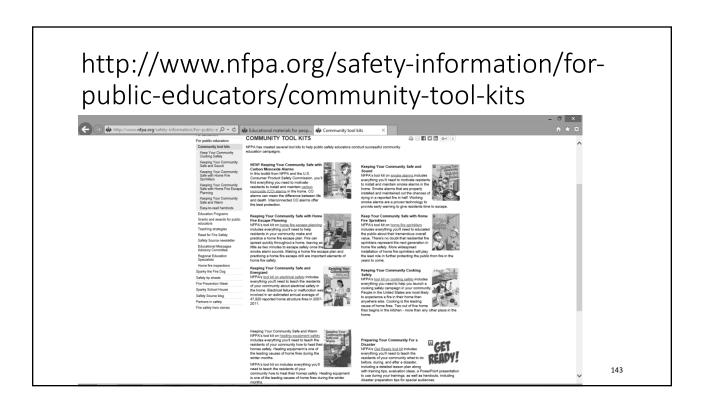
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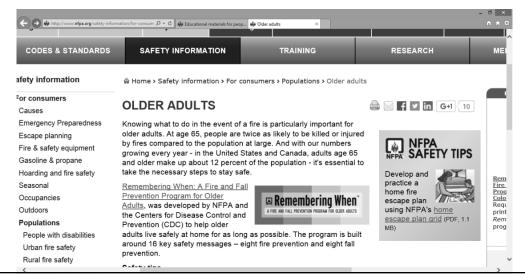


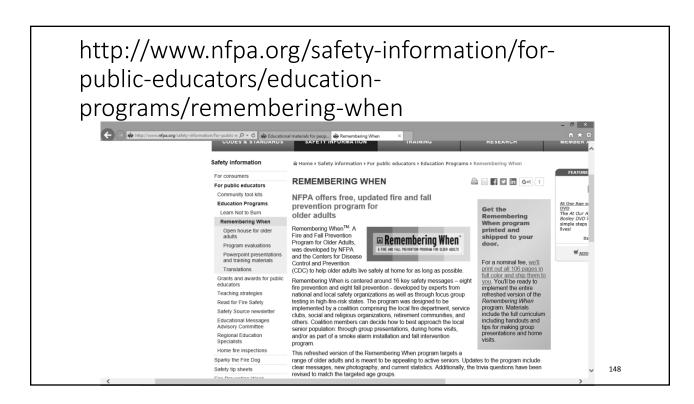
#### Considerations for Older Adults:

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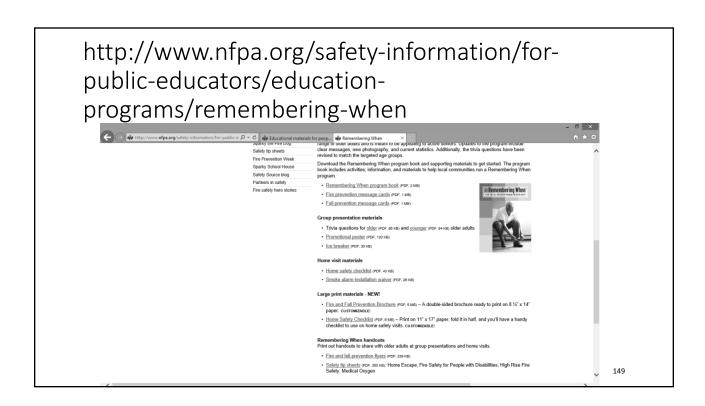
















• Supplemental resources

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### Final Thoughts:

