NARIC
National Rehabilitation Information Center

reSearch

A collection of research reviews on rehabilitation topics from NARIC and other information resources.

Volume 12, Issue 2, 2017

Emergency and Disaster Preparedness, and Management for Individuals with Disabilities

In this edition of *reSearch* we explore the topic of emergency and disaster preparedness, and emergency management that is inclusive of individuals with disabilities. Emergencies and natural disasters can strike without warning, forcing people to quickly leave or be confined in their home. For the approximately 57 million people with disabilities, emergencies, such as fires, floods, earthquakes, tornados, and acts of terrorism can present a real challenge. In the wake of the recent Hurricanes Harvey and Irma, planning ahead and being prepared for evacuation or sheltering in place is particularly important for individuals with access and functional needs.

Individuals with access and functional needs include but are not limited to children and adults with physical, sensory, intellectual, developmental, cognitive or mental disabilities; older adults; individuals with chronic or temporary health conditions; and women in late stages of pregnancy. It is important to note that while individuals with disabilities may have access and functional needs (i.e., physical and communication barriers within the community) they may not necessarily have acute medical needs that require in-patient treatment. Many individuals live and maintain their health, safety, and independence at home and in the community on a daily basis without acute medical care.

Natural disasters and public emergencies are not something you can predict but they are something you can prepare for. Creating an emergency plan for one's self, family, or caregivers is the first step preparedness. Depending on one's geographical location, some areas are more prone to fire, flash floods, winter storms, tornados, earthquakes, etc. Flood waters may make access routes impassible, and severe weather such as hurricanes can result in lengthy periods without electricity creating a need for alternative power and light sources, drinkable water, non-perishable food, and other items. In the case of people with disabilities and/or chronic health conditions, maintaining access to life-sustaining equipment (i.e., oxygen concentrators, ventilators, etc.), utilizing gel packages to keep medications cool that require refrigeration, and having access to daily medications is essential.

There are a variety of plans and tool kits online to create an emergency plan and/or build an emergency kit. The National Organization on Disability (NOD) recommends having an emergency plan for home, work, and school. Each plan should contain the following:

> Personal Network – For each location identify 2 or 3 people who ensure you are OK and will help you during an emergency. Make sure to have contact information for these individuals (i.e., electronically or in print) and that they have your information.
>
> Escape – For each location identify primary and secondary routes to a safe place inside the building (i.e., bathroom, basement, stairwell, etc.), and outside the building (i.e., public shelter, grocery store parking lot, etc.). Practice escape plans with your personal network.

Continued on page 2 ...

Table of Contents

NIDILRR Funded Projects .....*page 3*
NARIC Citations .....*page 4*
International Citations.....*page 19*
ERIC Citations.....*page 21*
PubMed Citations .....*page 26*
Quick Looks .....*page 34*
Search Terms .....*page 37*

... Continued from previous page

Information – Identify the devices to use to stay informed about events related to the emergency situation (i.e., electronic devices such as smart phone, laptop, TV, and portable radio). Make sure to know important phone numbers and websites to local media outlets (i.e., radio/TV) to obtain information.

Essential Items – In addition to basic needs required by everyone, plan to have items you need for your particular disability such as medications, supplies, and assistive devices (i.e., hearing aids, batteries, white cane) as well as needs for a service animal.

NOD also recommends preparing two emergency kits—a Ready Kit and Go Bag. The Ready Kit should include supplies needed for a minimum of 3 days, and the Go Bag should include essential items to take if you must evacuate immediately. There are various lists online of suggested items and Ready.gov offers suggestions on building a Ready Kit and Go Bag.

The NIDILRR-funded Rehabilitation Research and Training Center on Community Living offers a variety of information products on emergency preparedness. The RRTC's website offers a guides, handouts, and checklists as well as forms for preparing for seasonal and pandemic flu as well as for man-made and natural disasters. The booklet, *The Prepared Lifestyle* provides checklists to guide people with disabilities and others in preparing for all hazards. The Map Your Neighborhood publication describes nine steps that you and your neighbors can take to be ready for a disaster. The Individual Disaster Preparedness and Community Disaster Preparedness checklists provide dos and don'ts for ensuring the safety during an emergency. The project website includes a service animal and pet ID form to ensure the safety of a service animal and pet(s) should they be separated from their guardian in case of emergency.

Additionally, the NIDILRR-funded ADA Network Knowledge Translation Center, has fact sheets on emergency supply kits, emergency power planning for people who use electricity and battery dependent assistive technology and medical devices, and a bedside emergency supply kit checklist. These fact sheets are available in HTML and PDF printer-friendly and large print versions. The NIDILRR-Funded Pacific ADA Center, offers an extensive list of Federal, State, and international publications and resources on emergency preparedness.

This edition of reSearch provides a 10 year "snapshot" of research on emergency and disaster preparedness, and inclusive emergency management. This snapshot presents research related to various emergency and disaster situations, including historic events such as Hurricane Katrina in 2005, and how these situations may affect individuals with various disabilities including individuals who are blind or have low vision; Deaf or hard of hearing; individuals with communication disabilities (i.e., utilize augmentative and alternative communication devices and technologies); cognitive, developmental, or psychiatric disabilities; and/or with mobility disabilities (i.e., wheeled mobility or other mobility devices).

The combined search terms for this edition of reSearch included: Emergency, disaster, preparedness, management, and people with disabilities. A listing of nearly 250 additional descriptor terms between the NARIC, ERIC, and the PubMed databases can be found at the end of this document. A search of the REHABDATA database resulted in 64 documents published between 2005 and 2017; and 8 international research documents that may have been collected by CIRRIE between 2008 and 2016. The ERIC and PubMed database searches resulted in 15 documents between 2004 and 2017, and 22 documents between 2006 to 2017; respectively.

NIDILRR Funded Projects Related to Emergency and Disaster Preparedness, and Management for Individuals with Disabilities

In addition to document searches, we searched our NIDILRR Program Database to locate grantees/projects related to emergency and disaster preparedness, and management. The search resulted in five currently funded and eight projects that are no longer active. Project information and their publications are offered as additional resources for our patrons.

Rehabilitation Engineering Research Center for Wireless Inclusive Technologies
Project Number: 90RE5025
Phone: 404/894-4804
Email: info@wirelessrerc.org.
http://www.wirelessrerc.org.

Rehabilitation Research and Training Center on Community Living
Project Number: 90RT5015 (formerly H133B110006)
Phone: 785/864-4095 (V), 785/864-0706 (TTY)
Email: glen@ku.edu.
http://www.rtcil.org.

Rehabilitation Research and Training Center on Community Living Policy
Project Number: 90RT5026 (formerly H133B130034)
Phone: 415/476-5164
Email: steve.kaye@ucsf.edu.
http://www.communitylivingpolicy.org.

Rehabilitation Research and Training Center on Disability in Rural Communities
Project Number: 90RT5025 (formerly H133B130028)
Public Contact Phone: 888/268-2743
Email: rural@ruralinstitute.umt.edu.
http://rtc.ruralinstitute.umt.edu.

Safe@Home: A Self-Management Program for Individuals with Traumatic Brain Injury and Their Families
Project Number: 90IF0052 (formerly H133G130149)
Phone: 404/603-4269
Email: nicole_thompson@shepherd.org.

These projects have completed their research activities and are now closed.

The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind
Project Number: H133G090139
Phone: 202/513-2484
Email: mstarling@npr.org.
http://www.nprlabs.org.

CIL-Based Abuse Education and Safety Planning Program for Women with Disabilities
Project Number: H133G070196
Phone: 406/243-2898
Email: rhughes@ruralinstitute.umt.edu.

Development of a Safety-Planning Tool for Men with Disabilities
Project Number: H133G070190
Phone: 503/725-9602
Email: oschwald@pdx.edu.

Evacuation Methodology and Understanding Behavior of Persons with Disabilities in Disasters: A Blueprint for Emergency Planning Solutions
Project Number: H133A080069
Phone: 225/578-0238
Email: Brian.Gerber@ucdenver.edu.
http://www.bus.lsu.edu/students/news/stories/2008.08.25_evac_method.asp?dept=69.

Hearing Companion: Handheld Portable Sound Identification and Critical Alerting Functionality for People Who Are Deaf or Have Hearing Loss
Project Number: H133S080075
Phone: 317/484-8400
Email: steve@createabilityinc.com.
http://www.createabilityinc.com.

Personal Assistance Services (PAS) in the 21st Century
Project Number: H133B080002
Phone: 866/727-9577
Email: mel.neri@ucsf.edu.
http://www.pascenter.org.

Continued on page 4 ...

... Continued from previous page

Rehabilitation Engineering Research Center on Telecommunications Access
Project Number: 90RE5003 (formerly H133E090001)
Phone: 608/265-4621
Email: outreach@trace.wise.edu.
http://trace.wisc.edu.

Rehabilitation Research and Training Center on Participation and Community Living of Individuals with Psychiatric Disabilities
Project Number: H133B100037
Phone: 215/204-6779
Email: mark.salzer@temple.edu.
http://www.tucollaborative.org.

Why do I see different grant numbers?

In 2014, President Obama signed the Workforce Innovation and Opportunity Act (WIOA) into law. As part of WIOA, the institute changed its name from the National Institute on Disability and Rehabilitation Research (NIDRR) to the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) and moved from the Department of Education to the Administration for Community Living (ACL) at the Department of Health and Human Services. Approximately 250 active grants received new ACL grant numbers and all new grants funded under NIDILRR have only an ACL grant number. For more information about NIDILRR/ACL grant numbers please visit: http://naric.com/?q=en/content/about-nidilrracl-grant-numbers-0.

Documents from NARIC's REHABDATA search listed are listed below:

2017

(2017). ***Apps for enhancing WEA access.***
NARIC Accession Number: O20945
Project Number: 90RE5025
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=134391.
ABSTRACT: This document lists software applications (apps) that enhance the accessibility of Wireless Emergency Alert (WEA) messages. It describes the purpose of the different apps, their features, and where to locate them to better understand WEA messages and aid in responding to WEA the messages appropriately. Links to more information for each app are provided.

2016

Bezyak, J., Christensen, K.M., & Stafford, R. (2016). ***Inclusive emergency management planning.***
NARIC Accession Number: O20692
Project Number: H133A110018
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=133351.
ABSTRACT: Report describes and assesses current practices to identify basic recommendations for evidence-based and best practices nationally for addressing the inclusion of people with disabilities in emergency management planning and plans. The intended audiences for the presented information are emergency management professionals and collaborating disability advocates and organizations. Emergency management professionals plan and direct disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural, wartime, or technological disasters.

Galea, S., Lowe, S.R., & Norris, F.H. (2016). **Mental health service utilization among natural disaster survivors with perceived need for services.** *Psychiatric Services (formerly Hospital and Community Psychiatry), 67*(3), 354-357.
NARIC Accession Number: J74191
ABSTRACT: Study explored predisposing, illness-related, and enabling factors as predictors of mental

health service use among disaster survivors with perceived need for services. The 5,658 participants were part of a three-wave, population-based study of Hurricane Ike survivors. At each wave, participants were asked whether they perceived having a need for mental health services, for example, information about stress reactions and medication for emotional problems. Those with perceived need were asked about use of eight services, such as a psychiatrist or physician, to address needs. Generalized estimating equations examined predisposing, illness-related, and enabling factors as predictors of service use among the 5,304 participants with perceived need. The results indicated that more general stressors (predisposing factor) and insurance coverage (enabling factor) predicted service use among participants with perceived need. These findings suggest that expanded access to services that do not require insurance coverage could better address survivors' mental health needs after a disaster.

Gardner, J.D., Martin, K., & McDermott, S. (2016). **Disaster response for people with disability.** *Disability and Health Journal, 9*(2), 183-185.
NARIC Accession Number: J73849
ABSTRACT: Article reflects on the impact of South Carolina's emergency response to disasters for people with disabilities. Emergency preparedness for people with a disability has been a steadfast activity in the state of South Carolina. In October 2015, the state experienced a natural disaster termed ''The 1000 Year Flood''. The disability response to the disaster was swift due to the strong collaborative network. However, the disaster did present challenges that need to be further addressed. The retelling of South Carolina's response should be informative to other state programs that provide advocacy for people with disability. Agencies and organizations that respond to disasters can learn from South Carolina's experience to ensure that the needs of people with disabilities are addressed rapidly and efficiently.

Landry, M.D., Leung, K., Raman, S.R., Retis, C., Salvador, E.C., & Sheppard, P.S. (2016). **The 2015 Nepal earthquake(s): Lessons learned from the disability and rehabilitation sector's preparation for, and response to, natural disasters.** *Physical Therapy, 96*(11), 1714-1723.
NARIC Accession Number: J74805
ABSTRACT: This perspective article outlines lessons learned from the 2015 Nepal earthquake (s) that can be applied to future disasters to reduce overall disability-related outcomes and more fully integrate rehabilitation in preparation and planning. First, information is presented on disasters in general, and then information is presented that focuses on the earthquake(s) in Nepal. Next, field experience in Nepal before, during, and after the earthquake is described, and actions that can and should be adopted prior to disasters as part of disability preparedness planning are examined. Then, the emerging roles of rehabilitation providers such as physical therapists during the immediate and post-disaster recovery phases are discussed. Finally, approaches are suggested that can be adopted to "build back better" for, and with, people with disabilities in post-disaster settings such as Nepal.

2015

Bennett, D-D. (2015). ***Gaps in wireless emergency alert (WEA) effectiveness.***
NARIC Accession Number: O20249
Project Number: H133E110002
Available in full-text at: http://cacp.gatech.edu/sites/default/files/gapsinweafinal.pdf.
ABSTRACT: This report summarizes the results of a survey on the wireless emergency alert (WEA) system. WEA is a public safety system that allows customers who own certain wireless phones and other enabled mobile devices to receive geographically-targeted, text-like messages alerting them of imminent threats to safety in their area. The technology ensures that emergency alerts will not get stuck in highly congested areas, which can happen with standard mobile voice and texting services. From 2013 to 2014, the Rehabilitation Engineering Research Center for Wireless Technologies surveyed the public (with emphasis on people with disabilities) to assess the awareness and understanding of WEA. The findings assisted the Federal Emergency Management Agency's Integrated Public Alert and Warning System by highlighting potential gaps in WEA effectiveness for people with disabilities.

Ellis, K., & Kent, M. (2015). **People with disability and new disaster communications: Access and the social media mash-up.** *Disability and Society, 30*(3), 419-431.
NARIC Accession Number: J71527
ABSTRACT: Article explores how a lack of access to increasingly complex and overlapping digital communications platforms in times of disaster has the potential to make already life-threatening situations considerably more dangerous for people with disabilities. The contemporary social media environment is characterized by a complex network of complementary platforms, populated by user-generated content, where people communicate and exchange ideas. In this environment, YouTube videos are posted to Facebook and embedded in blogs, and Twitter is used to link to these other sites and is itself embedded in other platforms. These networks are increasingly supplementing and supplanting more traditional communication platforms, such as the television and radio, particularly in times of disaster. The authors first highlight the difficulties experienced by people with disabilities in the analogue world in times of disaster, and then discuss how this initial disadvantage is further heightened by being excluded from the mash-up of communications channels that is not always accessible to people with disabilities. This evolving network of social media-based communication exposes the limits of existing Internet-based universal design. To fully include people with disabilities, these platforms must be launched with access to each part of the network having universal design principles applied at the first instance of implementation.

2014

Bazzano, A., Eisenman, D.P., Koniak-Griffin, D., Lamb, K., Lehrer, D., Lewis, M-A., & Tseng, C-H. (2014). **Peer-mentored preparedness (PM-Prep): A new disaster preparedness program for adults living independently in the community.** *Intellectual and Developmental Disabilities, 52*(1), 49-59.
NARIC Accession Number: J68459
ABSTRACT: Study implemented and tested a health promotion program called Peer-Mentored Prep (PM-Prep), which was designed to improve disaster preparedness among adults with intellectual and developmental disabilities (IDD) living independently in the community. PM-Prep consists of four 2-hour classes co-taught by a health educator and peer-mentors. Participants were randomly assigned to the experimental or wait-list control group. Earthquake safety knowledge and preparedness supplies were assessed prior to the intervention and at 1 month after completion of the intervention. Eighty-two of the 91 enrolled and randomized participants completed the study by performing both the baseline and the follow-up assessment (42 in the experimental group and 40 in the control group). Comparing pretest to posttest scores, adults in the experimental arm significantly increased preparedness by 19 percentage points, from 56 to 75 percent completed, and improved their knowledge by 8 percentage points, from 79 to 87 percent correct.

Bennett, D-D. (2014). **Moving towards accessible wireless emergency alerts: Sending and receiving.** *International Association of Emergency Managers (IAEM) Bulletin, 31*(10), 30-31.
NARIC Accession Number: O20252
Project Number: H133E110002
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=130735.
ABSTRACT: Article discusses the findings of research on the accessibility of Wireless Emergency Alerts (WEAs). In 2012, the Federal Emergency Management Agency began the nationwide rollout of the WEA platform as part of the Integrated Public Alert and Warning System (IPAWS). The WEAs enable emergency response personnel to send messages to wireless subscribers within range (at the county level) of an active incident. Two surveys, one on sending and another on receiving WEAs, explored how to best expand the technology's reach. The first survey, sent to people with and without disabilities, sought to determine the level of public awareness of WEA messages, accessibility of the messages and behavioral response. The survey revealed that 36 percent of the respondents with disabilities had no prior knowledge of WEA, compared to 24 percent of the respondents without disabilities; indicating a need for more public awareness campaigns. The second survey, sent to IPAWS alerting authorities, sought information to gather best practices for sending accessible WEA messages to people with and without disabilities. Survey data revealed that less than 10 percent of alerting authorities have actually issued a WEA message, 9 percent of respondents

provided information in accessible formats, and 7 percent have issued a WEA message in a language other than English. The common theme that emerged from alert authorities was the need for more education and training on when and how to send WEAs.

Kettaneh, A.A., & Slevin, J.R. (2014). **National module for helping individuals with physical disabilities in disaster events.** *Journal of Applied Rehabilitation Counseling (JARC), 45*(1), 3-10.
NARIC Accession Number: J68772
ABSTRACT: Article presents a national module with four stages (protective, preventive, rescue, and reconstructive) to serve individuals with physical disabilities in disaster events. A module is a set of independent units that can be used to construct a more complex meaning of unit of education. This module was composed to ensure the safety of people with physical disabilities during disaster events.

LaForce, S., Morris, J., & Mueller, J. (2014). **Social media, public emergencies, and disability.** *Journal on Technology and Persons with Disabilities, 1*, 167-178.
NARIC Accession Number: J70498
Project Number: H133E110002
ABSTRACT: Article reports data from two surveys conducted in 2010-2011 and 2012-2013 on the use of social media and other media and devices during public emergencies by people with disabilities. The survey data show that television remains the primary means for receiving and verifying public alerts. In the two years between the two emergency communications surveys, the methods used to receive emergency alerts have shifted towards wider use of mobile and Internet-based technologies while the methods used to verify alert information have remained relatively stable. Rates of social media use for receiving and verifying alert information on the dominant social networking platforms have more than doubled.

2013

Boninger, M.L., Hogaboom, N.S., Oyster, M.L., & Riggins, M.S. (2013). **Evacuation preparedness in full-time wheelchair users with spinal cord injury.** *Journal of Spinal Cord Medicine - JSCM (formerly Journal of the American Paraplegia Society), 36*(4), 290-295.
NARIC Accession Number: J66716
Project Number: H133N110011
ABSTRACT: Study analyzed and evaluated the efficacy of evacuation plans described by individuals with spinal cord injury (SCI). Twenty-one full-time wheelchair users with SCI who previously indicated that they had a plan of evacuation from either their homes, places of work, or towns/cities were contacted by telephone and asked to describe their evacuation plans. Responses were graded using a scale of 0 to10 (with 10 indicating a more thorough plan) and the number of assistive technology (AT) devices used per subject was recorded. The median home and town/city evacuation plan scores were both 3.00. Median evacuation scores of individuals with paraplegia were higher in home and town/city than individuals with tetraplegia. Median evacuation scores of subjects who were employed were higher in home and town/city than unemployed. Commonly used AT were lifting devices. The number of AT devices used in home evacuation was significantly greater in subjects with tetraplegia than paraplegia, but not in town/city evacuations. The low scores indicate that individuals with SCI who believe that they have plans are not adequately prepared for an emergency evacuation. Interventions are needed to improve evacuation readiness and lack of preparedness in a catastrophe should be considered by emergency personnel when responding.

Gershon, R. (2013). ***Emergency preparedness in PAS users.***
NARIC Accession Number: O19367
Project Number: H133B031102, H133B080002
ABSTRACT: Webinar presents the results of an Internet based emergency preparedness survey from community residents with cognitive and/or physical disabilities who use personal assistance services (PAS). Even though disaster events of all sorts are increasing, survey results show that individuals, with or without a disability, are still not prepared. Data was collected on four domains: demographics, disability and caregiver status, emergency preparedness planning elements (personal emergency plan, evacuation plan, go-bag with critical items, emergency backup supplies in home, communication plan for contacting PAS, emergency contacts list, and backup plan for PAS), and prior emergency event experience and the impact it had. Participants' recommendations to other people with disabilities are discussed. Resources are listed and questions answered at the end. Run time: 1 hour 6 minutes.

Gershon, R.R.M., Kailes, J.I., Kraus, L.E., Raveis, V.H., & Sherman, M.F. (2013). **Emergency preparedness in a sample of persons with disabilities.** *American Journal of Disaster Medicine, 8*(1), 35-47.
NARIC Accession Number: J66138
Project Number: H133B080002
ABSTRACT: Study assessed emergency preparedness among people with disabilities, and examined the role of the personal assistant (PA) and the potential impact of prior emergency experience on preparedness efforts. Two-hundred fifty-three community residents with cognitive and/or physical disabilities, all receiving personal assistance services, completed a survey that included a seven-item scale that addressed emergency preparedness. The mean score for the emergency preparedness scale was 2.32 (range 0-7). Even though 62.8 percent of the participants had previously experienced one or more large-scale emergencies, only 47.4 percent of the entire sample and 55.3 percent of those with actual emergency experience reported preparing an emergency plan. Sixty-three percent of those reporting a plan had involved their PA in its development. Involving the PA in the planning process and experiencing an emergency were both significantly associated with higher emergency preparedness scores. In general, participants reported limited attention to other basic preparedness recommendations: only 28 percent had prepared a "go-bag" with necessary supplies, 29 percent had developed a strategy for communicating with their PA during emergencies, and 32 percent had stockpiled emergency supplies. Of particular importance, only 66 respondents (26 percent) had made alternative back-up plans for personal assistance. Despite a concerted national effort to improve preparedness in the population of people living with disabilities, important preparedness gaps remain. These findings highlight the need for additional study on emergency preparedness barriers in people living with disabilities so that effective strategies to reduce vulnerabilities can be identified.

Jones, M.L., & Morris, J.T. (2013). **Emergency preparedness for people with disabilities.** *Archives of Physical Medicine and Rehabilitation, 94*(2), 219-220.
NARIC Accession Number: J65486
Project Number: H133E110002
ABSTRACT: Article presents guidelines to help people with disabilities prepare for emergency situations and a checklist for building an emergency kit. It includes tips on how to create and practice an emergency plan and how to recognize the signs of stress in people experiencing emergencies and disasters.

Kailes, J.I. (2013). ***Emergency preparedness for PAS users.***
NARIC Accession Number: O19343
Project Number(s): H133B031102, H133B080002
ABSTRACT: Webinar presents emergency preparedness tips for individuals with disabilities who use personal assistants, attendants, or caregivers. Planning ahead and practicing drills are discussed along with how to establish and who to include in support groups/teams, communication, emergencies in everyday living situations, evacuation, transportation, sheltering options, the "Keep It With You" (KIWY) and bedside supply kit, and food provisions. The presenter also shares stories from individuals who have been through emergencies that required evacuations or sheltering in place and what they learned. Resources for more detailed information are provided and questions are answered at the end of the presentation. Run time: 1 hour.

2012

(2012). ***Earthquake preparedness guide for people with disabilities and other access or functional needs.***
NARIC Accession Number: O18713
Project Number(s): H133B031102, H133B080002
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=120472.
ABSTRACT: This guide offers people with disabilities information about what to do during and after an earthquake or other disaster. It follows the Seven Steps to Earthquake Safety, featured in the "Putting Down Roots in Earthquake Country" series of publications at www.earthquakecountry.org/roots. The content has been specially adapted for people with disabilities and other access and functional needs.

(2012). ***Report on the national EAS test on-line survey and focus group findings.***
NARIC Accession Number: O18462
Project Number: H133E110002
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=118228.
ABSTRACT: Report presents the results of on-line surveys and focus groups regarding the effectiveness of the first-ever nationwide test of the Emergency Alert System (EAS). Four hundred three people responded to the pre- and post-EAS test surveys. The surveys evaluated responses from people who are deaf, hard of hearing, blind or have low vision in order to understand the effectiveness of EAS for people with sensory disabilities. In addition, during the actual tests on November 9, 2011, twenty-two people with sensory disabilities participated in focus groups held at Public Broadcasting Atlanta. Results revealed technical, policy and practice related challenges. Technically, as evident from both the national EAS test focus groups and on-line survey results, the EAS alerts via television broadcasts were inconsistent in their use of audio and therefore not reliably accessible to people with visual difficulties. Respondents and participants with hearing loss also found that the national EAS test message was not fully accessible, reporting problems with the attention signal and audio quality. Regarding policy and practice, the voluntary nature of the system resulted in the inconsistent implementation of the rules and regulations regarding state and local participation in EAS. Nonetheless, the first-ever national EAS test provided valuable information to the government and the EAS community to correct the technical problems and strengthen the system. Recommendations for improving the accessibility of EAS delivered over television and radio are presented.

Bennasar, M.C., Crawford, K.A., & Mizock, L.M.B. (2012). **Cultural competence in behavioral health disaster response: The challenge, the opportunity. In J. L. Framingham and M. L. Teasley (Eds.), Behavioral Health Response to Disasters.** *Boca Raton, FL: CRC Press,* 175-188.
NARIC Accession Number: J63954
Project Number: H133B090014
ABSTRACT: This chapter offers suggestions for the behavioral health response model aimed at decreasing outcome disparities for racial, ethnic, and cultural minority groups in the aftermath of disaster. There is a growing body of research documenting disparities and a correspondingly smaller amount of research on ways to mitigate and/or eliminate disparities in this area. The authors view the emerging literature on cultural competence as an important component for decreasing disparities through more effective use of models of behavioral health disaster response. While the two primary models of cultural competence are important, represent significant progress, and are widely recognized, they remain more conceptual than practical. The authors suggest ways to move the "technology" of behavioral health disaster response forward with more effective implementation of the cultural competence approach. This approach integrates a disciplined process with a set of principles, identified in cultural competence guidelines, that will enhance the given intervention models and approaches. It is hoped that this approach, based on literature and multiple response experiences by the authors, will lead to significant reductions and/or elimination of outcome disparities for racial, ethnic, and cultural minority groups.

2011

(2011). ***Emergency communications and people with disabilities: 9-1-1 communication, public alerts, and social media: Summary report from the 2000-2011 emergency communications survey.***
NARIC Accession Number: O18307
Project Number: H133E060061
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=117537.
ABSTRACT: This report summarizes findings from the 2010-2011 Emergency Communications Survey, conducted by the Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC) to understand better how people with disabilities communicate during emergencies. Since 2001, the Wireless RERC has conducted research and development projects dealing with accessibility of emergency communications, emergency alerting, the Emergency Alert System, the Commercial Mobile Alert System, communications with 9-1-1 services, and e-9-1-1. Results from the survey provide a glimpse into the ongoing transformations in the way people with disabilities and the public at large use electronic and mobile communications during personal and public emergencies. These transformations are occurring against the backdrop of profound technological changes in both handheld devices and the communications infrastructure connecting these devices.

Boninger, M.L., McClure, L.A., Nagy, J., Nemunaitis, G., Oyster, M.L., & Roach, M.J. (2011). **Emergency evacuation readiness of full-time wheelchair users with spinal cord injury.** *Archives of Physical Medicine and Rehabilitation, 92*(3), 491-498.
NARIC Accession Number: J60588
Project Number: H133N060019
ABSTRACT: Study examined the number of full-time wheelchair users with spinal cord injuries (SCI) who felt they could evacuate from various locations and have a plan for evacuation. Data were obtained from 487 subjects from 6 SCI Model System centers who use a wheelchair more than 40 hours a week. Questions regarding evacuation preparedness were asked during regularly scheduled data collection periods. Descriptive statistics were calculated for the percentage of wheelchair users who: (1) felt they would be able to safely evacuate their home, place of work, and town or city in the event of an emergency; (2) had a plan for safe evacuation; or (3) reported a need for assistive technology and human assistance to evacuate from various locations in the event of an emergency. The highest percentage of participants felt they would be able to safely evacuate and had a plan for work evacuation. The lowest percentage of participants reported they could evacuate from their city/town in the event of an emergency and had a plan to evacuate their city/town in the event of a natural disaster. A large percentage of participants' evacuation plans relied heavily on human assistance. The findings suggest that a large discrepancy exists between the perception that one can evacuate and actually having a plan. The perception that one can evacuate without a plan or the use of assistive technology is an area of concern that must be further addressed by educators. Education must emphasize the need to have a defined evacuation plan and effective utilization of assistive technology.

Hamlin, L. (2011). **Emergency preparedness—once again.** *Hearing Loss Magazine, 32*(3), 24-25.
NARIC Accession Number: J61118
ABSTRACT: Article offers information to help people with hearing loss prepare for an emergency. Online sources devoted to emergency preparedness for people with disabilities, a list of basic disaster supplies, and suggested items for people with hearing loss are provided.

Koch, D.S., Lewis, T.A., Soldner, J.L., & Sprong, M.E. (2011). **Emergency preparedness for persons with disabilities: Implications for rehabilitation administrators.** *Journal of Rehabilitation Administration, 35*(1), 27-38.
NARIC Accession Number: J61870
ABSTRACT: Article provides an overview of the occurrence of recent disasters and stresses the importance of emergency preparedness for people with disabilities when disaster occurs. Emphasis is place on the roles that administrators, as managers and leaders within rehabilitation organizations, have in the emergency preparedness planning process. The authors discuss relevant legislation related to emergency management, various phases of emergency management, relevant roles and functions, and recommendations to help incorporate an emergency planning component for both rehabilitation administrators and organizations.

Sheffield, E., & Starling, M. (2011). ***Captioned braille radio initiative: Providing emergency information for individuals who are deaf-blind.***
NARIC Accession Number: O18530
Project Number: H133G090139
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=118762.
ABSTRACT: This paper describes the authors' progress on a project entitled "Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind". This project had been designed to incorporate new Common Alerting Protocol technology, the implementation of the Integrated Public Alert and Warning aggregator, and recent technology upgrades of the Public Radio Satellite System. Over the past three years, the authors have fine-tuned the technologies needed to launch ongoing captioned radio services and developed a new radio service for deaf-blind audiences - the Braille Radio Service. This service converts data into Braille via a refreshable Braille display, supplying real-time emergency alerting and radio programming to individuals who are most vulnerable in times of emergencies and for whom communication choices have historically been severely limited. Its design has been tested by both blind and deaf-blind individuals, who make up the target user community. As radio migrates to digital platforms, it is possible, finally, to serve deaf, hard of hearing and deaf-blind audiences with radio programming and critical emergency alerting information in the form of "captioned radio".

2010

Brown, L.M., Frahm, K., & Hickling, E.J. (2010). **Emergencies, disasters, and catastrophic events: The role of rehabilitation nurses in preparedness, response, and recovery.** *Rehabilitation Nursing, 35*(6), 236-241.
NARIC Accession Number: J59785
ABSTRACT: Article provides an overview of the role that rehabilitation nurses play in helping patients and communities plan for, respond to, and recover from disasters. It describes various types of disasters, the terminology used by planners and responders, and the structure that governs the delivery of services, resources, and patient care. Information about specialized training in disaster response and volunteer opportunities through national and state humanitarian relief programs are provided. Although each nursing specialty lends expertise to emergency and disaster situations, rehabilitation nurses are particularly well-suited to help during times of complex, multifaceted medical and emotional responses.

Cahill, A., Fox, M.H., Rooney, C., & White, G.W. (2010). **The psychosocial impact of Hurricane Katrina on persons with disabilities and independent living center staff on the American gulf coast.** *Rehabilitation Psychology, 55*(3), 231-240.
NARIC Accession Number: J59425
Project Number: H133A980048
ABSTRACT: Study examined the impact of Hurricane Katrina on the psychosocial health of people with disabilities and on the ability of people with disabilities in the affected area to live independently. Participants were recruited from six independent living centers on the American Gulf Coast. Semi-structured interviews were conducted either individually or in focus groups with 56 survivors of Hurricane Katrina, all of whom were people with disabilities or individuals working with them. Qualitative analysis of the transcribed conversations was undertaken using hermeneutic techniques. Six major themes emerged: faith, incredulousness, blaming others or oneself, family adaptation and resiliency, and work and professional responsibility. The resiliency of people with disabilities to adapt to disasters can be better understood through factors such as these, providing an effective barometer of social capital that can help societies prepare for future disasters among vulnerable populations.

Decker, C., Sharp, A.N., Stough, L.M., & Wilker, N. (2010). **Disaster case management and individuals with disabilities.** *Rehabilitation Psychology, 55*(3), 211-220.
NARIC Accession Number: J59424
ABSTRACT: Study examined the case management and disaster recovery needs of individuals with disabilities following Hurricane Katrina. Forty-two case managers and 12 case management supervisors provided services to a collective caseload of 2,047 individuals with disabilities and their families. Interviews and telephone surveys were conducted with these participants 20 to 24 months after the disaster. The qualitative data were analyzed using grounded theory methodology, and descriptive statistics summarize the demographic data. Findings suggest that the disaster recovery process is typically more complex and lengthy for individuals with disabilities and requires negotiation of a service system sometimes unprepared for disability-related needs. Barriers to disaster recovery for individuals with disabilities included a lack of accessible housing, transportation, and disaster services. Supports to disaster recovery included the individual effort and advocacy of a case manager, connecting with needed resources, collaboration with other agencies, and client motivation and persistence. Results suggest that disaster recovery is facilitated by case managers with disability expertise, including knowledge about the needs of individuals with disabilities and about disability-related services.

Higgins, C. (2010). **Emergency preparedness.** *In: J.H. Stone, M. Blouin (Eds.), International Encyclopedia of Rehabilitation. Buffalo, NY: Center for International Rehabilitation Research Information and Exchange (CIRRIE).*
NARIC Accession Number: O20447
Project Number: H133A050008
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=131617.
ABSTRACT: Article provides an overview of the areas that need to be addressed to ensure that emergency preparedness includes people with disabilities. Natural and man-made disasters can put people with disabilities at additional risk for danger when they have evacuation difficulties or lack vital needs such as power for respirators or life-sustaining medications. Having a plan in case of disaster helps everyone, and, for employers, is a requirement of the legislation in many countries that mandates employers to include individuals with disabilities in all polices and procedures, including disaster plans.

Johnson, J., LaForce, S., & Mitchell, H. (2010). **Wireless emergency alerts: An accessibility study.** *In Proceedings of the 7th International ISCRAM Conference, Seattle, WA, May 2010.*
NARIC Accession Number: O18337
Project Number: H133E060061
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=117565.
ABSTRACT: This paper discusses a research and development effort to identify the accommodations needed by people with disabilities in mobile emergency alerting systems. Prototyping mobile phone-based emergency alert systems are discussed and summative findings from field trials conducted with sensory challenged individuals are presented.

2009

Bryen, D.N. (2009). **Communication during times of natural or man-made emergencies.** *Journal of Pediatric Rehabilitation Medicine: An Interdisciplinary Approach, 2*(2), 123-129.
NARIC Accession Number: J58861
Project Number(s): H133E030018, H133E080011
ABSTRACT: Study identified the vocabulary needed during times of emergency to ensure accurate and timely communication with people who use augmentative and alternative communication (AAC). During man-made or natural emergencies, communication is essential; however, for individuals who have significant communication disabilities, spoken language may not be effective or efficient. As a result, emergencies can quickly turn into life-threatening situations. Alternatives to spoken language or AAC may be necessary to ensure effective and efficient communication. In order to identify needed vocabulary, two online focus groups generated and prioritized a vocabulary list. Based on the 209 words that were identified, 50 priority words were used to develop downloadable communication aids for use during times of natural or man-made emergencies. The communication aids that were developed in both English and Spanish can be found at http://disabilities.temple.edu/aacvocabulary/e4all.shtml.

Katzki, L., Katzki, D. (2009). **Disaster preparedness: It's never too early to plan ahead!** *Diabetes Self-Management, 26*(5), 27-31.
NARIC Accession Number: J57659
ABSTRACT: Article provides information to help people with diabetes to plan for a disaster or emergency situation. Tips are offered relating to where to stock supplies, how much to stock, food, water, warmth, shelter and tools, lighting, communication, sanitation and hygiene, first aid, and diabetes supplies.

Notaro, S.J., & Smith, D.L. (2009). **Personal emergency preparedness for people with disabilities from the 2006-2007 behavioral risk factor surveillance system.** *Disability and Health Journal, 2*(2), 86-94.
NARIC Accession Number: J61213
ABSTRACT: Study examined general emergency preparedness of people with disabilities compared to those without disabilities. The 2006-2007 Behavioral Risk Factor Surveillance System of 6 states included 188,288 self-reported respondents with disabilities who were surveyed regarding their general emergency preparedness. Chi square analysis examined the relationship of general preparedness variables with disability status. Logistic regression analysis examined how various demographic variables affected the likelihood of being unprepared for an emergency. Results indicated that people with disabilities were significantly more likely to state that they were not prepared at all for an emergency. They were also less likely to have a 3-day supply of water, a working battery-operated radio, and a working flashlight and to evacuate an emergency situation. Individuals with a disability are 1.22 times more likely to be unprepared for an emergency. For those with a disability, being female, nonwhite, with less education, less income, and uncoupled and living in an urban area increase the likelihood of being unprepared for an emergency. Increased effort must be made to empower people with disabilities to become involved in their own emergency preparedness.

2008

(2008). ***Emergency management research and people with disabilities: A resource guide.***
NARIC Accession Number: O17195
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=106783.
ABSTRACT: This online resource guide provides a listing and description of research projects funded by the federal government and non-federal entities, research recommendations that have come out of conferences on emergency management and disability, and a bibliography of relevant research publications. To facilitate navigation, each item listed in the table on contents is a hyperlink to its location in the document.

Dipner, R.W. (2008). **Evacuation and the ADA: Three common oversights.** *NFPA e-ACCESS, 1*(2), 12-16.
NARIC Accession Number: O17901
Project Number: H133A060079
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=114182.
ABSTRACT: Article briefly examines three common oversights that can significantly affect evacuation for people who are blind, deaf or hard of hearing, or who use wheelchairs. They are: exit signs, visual alarms, and entries and exits. The Americans with Disabilities Act standards for accessible design related to these three features are discussed.

2007

Blair, M.E., Christensen, K.M., & Holt, J.M. (2007). **The built environment, evacuation, and individuals with disabilities: A guiding framework for disaster policy and preparation.** *Journal of Disability Policy Studies, 17*(4), 249-254.
NARIC Accession Number: J52287
ABSTRACT: Article proposes a framework for understanding four forms of emergency evacuation (protective, preventive, rescue, and reconstructive) as well as three overlying factors that affect all emergency evacuations: the behavior of the individual, the planned systems active in the event, and the environment in which the event occurs. The intent of the framework is to clarify the assumptions associated with emergency evacuations and to evaluate the appropriateness of policy and planning initiatives. Interpreted according to the framework, the current Americans with Disabilities Act Design Requirements for Accessible Egress focus on facilitating the planned system of a rescue evacuation response rather than accessibility of the built environment, as intended. Policy and planning discussions for the evacuation of individuals with disabilities would benefit from a more informed and accepted understanding of the complexity of evacuation issues.

Bloodworth, D.M., Chiou-Tan, F.Y., Kevorkian, C.G., & Rumbaut, E. (2007). **Impairment and disability in the Astrodome after Hurricane Katrina: Lessons learned about the needs of the disabled after large population movements.** *American Journal of Physical Medicine and Rehabilitation, 86*(9), 770-775.
NARIC Accession Number: J52880
ABSTRACT: Article reviews the lessons learned about impairment and disability from the evacuation of people from the Superdome in New Orleans to the Astrodome in Houston, Texas following Hurricane Katrina. Observations from five physiatrists who provided treatment, including the four authors, are described and discussed in relation to mobility and transfers, sensory and cognitive impairments, medical supplies, the treatment of pain, and the handling of controlled substances.

Brandt, Z., & Enders, A. (2007). **Using geographic information system technology to improve emergency management and disaster response for people with disabilities.** *Journal of Disability Policy Studies, 17*(4), 223-229.
NARIC Accession Number: J52284
Project Number(s): H133B000500, H133B030501
ABSTRACT: Article explains how geographic information system (GIS) technology can be used to improve emergency management and disaster response for people with disabilities. GIS is a system for management, analysis, and display of geographic knowledge that can be used to associate resources and people spatially. The most essential elements of GIS are the data, tied to location, that support the visual images on a map. GIS allows disaster managers to quickly access and visually display critical information by location. A map showing the proximity of available resources demonstrates the importance of GIS to people with disabilities by identifying available resources in disaster response and recovery. The analytical abilities of GIS support all aspects of disaster management: planning, response and recovery, and records management.

Cahill, A., Fox, M.H., Rooney, C., & White, G.W. (2007). ***Assessing the impact of Hurricane Katrina on persons with disabilities.***
NARIC Accession Number: O16850
Project Number: H133B000500
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=104460.
ABSTRACT: This report describes findings from a study conducted to identify barriers faced by centers for independent living (CILs) and emergency managers in responding to the needs of people with disabilities during Hurricane Katrina. Data were collected through a combination of surveys, focus groups, and interviews in 6 research sites in the Gulf Coast states. Results revealed significant gaps in three key areas: (1) pre-disaster planning by CILs, people with disabilities, and local emergency management agencies; (2) pre- and post-disaster communication and information sharing within CILs, between CILs and consumers, and between local emergency management agencies; and (3) pre- and post-disaster coordination between CILs and other disability agencies, local and regional emergency management organizations, and community supports. Nine recommendations for addressing these gaps are detailed in the body of the report.

Connelly, T. (2007). ***Worst case scenarios: Be prepared.***
NARIC Accession Number: O19196
Project Number: H133N060033
Video is available at: http://sci.washington.edu/info/forums/reports/worst_case.asp#report.
ABSTRACT: Video forum provides information about both natural and man-made disasters and stresses the importance of being prepared and the benefits it creates. Issues of specific concern to individuals with spinal cord injury (SCI) are discussed along with tips and solutions for different kinds of worst-case scenarios. Presenter talks about earthquake safety, how important it is to plan and communicate with family and co-workers ahead of time to create a personal support network for use during and after an emergency situation, how to assemble and what to include in an emergency supply kit, creating and practicing a family disaster plan, and how to stay safe and organized during the aftermath. Run time: 1 hour 12 minutes 15 seconds.

Enders, A., & Kailes, J.I. (2007). **Moving beyond "special needs": A function-based framework for emergency management and planning.** *Journal of Disability Policy Studies, 17*(4), 230-237.
NARIC Accession Number: J52285
Project Number(s): H133B000500, H133B030501
ABSTRACT: Article describes the demographics of specific groups within the special needs population in order to better understand and meet their needs in an emergency. A framework for disaster planning is proposed based on identifying and addressing functional needs through the use of functional supports, leadership, service delivery, and training. The five areas of essential functional needs addressed are: communication, medical needs, maintaining functional independence, supervision, and transportation.

Fox, M.H., Rooney, C., Rowland, J.L., & White, G.W. (2007). **Disaster preparedness and response for persons with mobility impairments: Results from the University of Kansas nobody left behind study.** *Journal of Disability Policy Studies, 17*(4), 196-205.
NARIC Accession Number: J52281
ABSTRACT: This study assessed the county-level disaster preparedness and emergency response for people with mobility impairments. Managers from thirty randomly selected Federal Emergency Management Agency (FEMA) disaster sites were surveyed between 1998 and 2003 regarding disaster plans in three topic areas: (1) county programs, practices, and policies; (2) assessment of risk; and (3) assurance and policy development. Questions were designed to determine: disability surveillance capacity, the extent to which the disaster experience influenced changes in policies and practices, whether people with disabilities were involved in the planning process, what factors appeared to drive the planning process, and whether current policies and procedures could be considered "best practices". Results indicated that people with disabilities were poorly represented in emergency planning. Only 20 percent of emergency planners reported having disability guidelines in place. Sixty-six percent of the counties with no guidelines had no intention of enhancing their disaster plans to accommodate the needs of people with mobility impairments.

Fox, M.H., Rooney, C., Rowland, J.L., & White, G.W. (2007). **Emergency response training practices for people with disabilities: Analysis of some current practices and recommendations for future training programs.** *Journal of Disability Policy Studies, 17*(4), 216-222.
NARIC Accession Number: J52283
ABSTRACT: Study examined the scope of emergency personnel training practices to assist people with mobility impairments in three rural and three urban locations in Northeast Kansas. One emergency services administrator and 1 first responder from each location were interviewed. Although none of agencies in this study had current policies, guidelines, or procedures specifically designed to assist people with mobility impairments during emergencies, most thought this was important but did not know how to develop these procedures of what information should be included in new guidelines. Barriers and facilitators to specialized training identified by the respondents are discussed and recommendations are provided upon which to base future training programs.

Fuller, E.J., & Person, C. (2007). **Disaster care for persons with psychiatric disabilities: Recommendations for policy change.** *Journal of Disability Policy Studies, 17*(4), 238-248.
NARIC Accession Number: J52286
ABSTRACT: Article reviews the literature on the outcomes of people with psychiatric disabilities after disasters. A search of articles published in 3 widely used databases revealed only 12 articles on the subject. The studies examined people with psychiatric disabilities after natural disasters and acts of terrorism. The findings indicated that many people with psychiatric disabilities demonstrated an ability to handle the stress of the disaster. The literature also revealed that people with severe mental illness can experience posttraumatic stress disorder, depression, anxiety, and illness exacerbation after disaster. The evidence indicates that people with severe mental illness can be resilient in the short term when they are enrolled in an assertive community treatment program prior to the disaster; however, outcomes for people in other treatment modalities are unclear. Recommendations are provided for future studies and suggestions are offered for policy changes to improve the care of individuals with psychiatric disabilities after disasters.

Johnson, D.G. (2007). ***Abledata fact sheet on emergency alert systems.***
NARIC Accession Number: O17081
Project Number: ED-02-CO-0038
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=105367.
ABSTRACT: This fact sheet describes the various types of emergency alert systems that are currently available, including the standard personal emergency response system (PERS) and related options and alternatives. The typical PERS is composed of two main pieces of equipment: (1) a transmitter that can be worn constantly with a button that can be pressed easily in case of emergency, and (2) a base unit that connects to an existing telephone line the way an answering machine does. This document discussed issues involved in selecting a system, and includes a list of equipment manufacturers and monitoring services with their full contact information.

Johnstone, C., Moseley, C., & Salmi, P. (Eds.). (2007). **Impact: Feature issue on disaster preparedness and people with disabilities.** *Impact, 20*(1).
NARIC Accession Number: O17252
Project Number: H133B031116
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=107412.
ABSTRACT: This issue focuses on the inclusion of people with disabilities in disaster preparedness, response, and recovery efforts. Topics include: (1) including people with disabilities in emergency planning; (2) consumer experiences of emergency and disaster; (3) experiences of direct support professionals during Hurricanes Katrina and Rita; (4) the role of disability and aging organizations in disaster planning; (5) personal emergency preparedness; (6) preparing faith communities to assist during disasters; (7) emergency preparedness tools for individuals with disabilities, families, employers, and service providers; and (8) stories, strategies, and resources from around the country.

King, A., & Larson, S.A. (2007). **Experiences of direct support professionals during Hurricanes Katrina and Rita.** *Impact: Feature Issue on Disaster Preparedness and People with Disabilities, 20*(1), 6-7.
NARIC Accession Number: J54807
Project Number: H133B031116
ABSTRACT: Article describes the experiences of direct support professionals (DSPs) working for Volunteers of America (VOA) during the aftermath of Hurricanes Katrina and Rita. Interviews were conducted with staff from two of VOA's programs: (1) Supported Living Services (offering family and semi-independent living supports to adults and children with disabilities), and (2) Community Living Services (offering group homes for adults and children with developmental disabilities). The DSPs discussed what happened during the hurricane, what worked and did not work in the evacuation, why they returned to New Orleans, and offered recommendations for the future disaster response plans.

Krisberg, K. (2007). **New Hurricane Katrina report pinpoints several response gaps: Emergency planning often misses disability needs.** *The Nation's Health, May.*
NARIC Accession Number: J53636
Project Number: H133B000500
ABSTRACT: Article highlights major issues brought to light regarding the lack of emergency preparedness for people with disabilities as detailed in a recent report, "Assessing the Impact of Hurricane Katrina on Persons with Disabilities." The report found substantial gaps in planning and communication and calls for new initiatives that include people with disabilities in the emergency planning process.

Rooney, C., & White, G.W. (2007). **Consumer perspective: Narrative analysis of a disaster preparedness and emergency response survey from persons with mobility impairments.** *Journal of Disability Policy Studies, 17*(4), 206-216.
NARIC Accession Number: J52282
ABSTRACT: Data was analyzed for 56 people with mobility impairment who had experienced a catastrophic event and participated in an Internet survey. Respondents described what helpful for survival, what difficulties were experienced during and after the event, lessons learn, and future directions for emergency management. General and disability-specific preplanning and preparedness measures, personal networks, and help from first responders during and after the disaster were reported as useful for survival. Difficulties arose when there was a lack of community and workplace evacuation plans, someone was left behind during an evacuation, there were no accessible shelters or temporary housing, and infrastructure (power, public transportation, elevators) broke down. People with mobility impairments encouraged their peers to develop individual preparedness plans and to be active in community-based disaster planning.

White, G.W. (2007). **Katrina and other disasters: Lessons learned and lessons to teach: Introduction to the special series.** *Journal of Disability Policy Studies, 17*(4), 194-195.
NARIC Accession Number: J53632
Project Number: H133B000500
ABSTRACT: Article introduces a special series focused on issues related to disaster preparation and emergency response for people with disabilities. The topics include lessons learned through the catastrophic losses from Hurricanes Katrina and Rita, and other natural and man-made disaster. The author challenges readers to absorb these lessons and to teach others so that the same mistakes won't be repeated. The related articles are available under accession numbers J52281 through J52287.

2006

(2006). ***An ADA guide for local governments: Making community emergency preparedness and response programs accessible to people with disabilities.***
NARIC Accession Number: O16779
Available in HTML and full-text at: https://www.ada.gov/emergencyprep.htm.
ABSTRACT: Document outline the steps for developing community emergency management plans to include the needs of people with disabilities. Making local government emergency preparedness and response programs accessible to people with disabilities is required by the Americans with Disabilities Act (ADA). Key issues to be considered include notification; evacuation; emergency transportation; sheltering; access to medications, refrigeration, and back-up power; access to mobility devices or service animals while in transit or at shelters; and access to information.

Batiste, L.C., Hirsh, A., & Loy, B. (2006). **Including employees with disabilities in emergency evacuation plans: 9/11's effect on the demand for information.** *Work: A Journal of Prevention, Assessment, and Rehabilitation, 27*(4), 407-411.
NARIC Accession Number: J51906
ABSTRACT: Article discussed the impact of the events of September 11, 2001 (9/11) on the requests received by the Job Accommodation Network (JAN) for information on accommodating individuals with disabilities during emergency evacuation. Case data from the four years prior to 9/11 (September 11, 1997 to September 11, 2001) were compared to case data from the four years after 9/11 (September 11, 2001 to September 11, 2005). Results show that the demand for information on how to evacuate employees with disabilities increased after 9/11 and continues to the present.

Cahill, A., Fox, M.H., Rooney, C., & White, G.W. (2006). ***Assessing the impact of Hurricane Katrina on persons with disabilities: Interim report.***
NARIC Accession Number: O16766
Project Number: H133B000500
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=103474.
Abstract: Report provides an update on a research project focused on the experiences of staff and consumers of centers for independent living (CILs) in the Gulf Coast following Hurricane Katrina. The study has identified barriers and gaps that CIL personnel experienced in providing services to people with disabilities before, during, and after Katrina. The ultimate goal of the project, is to provide a series of recommendations for policies and programs that can be used to improve services provided to people with disabilities in future emergencies.

Mason, N. (2006). **Emergency preparedness for those with special needs.** *Exceptional Parent, 36*(5), 30-33.
NARIC Accession Number: J50882
ABSTRACT: Article provides advice for parents of children with disabilities on developing a plan of action in case of a natural disaster or emergency. Children can be included in the process by helping to create "go bags", evaluate medical needs, plan for a potential evacuation, and increase the awareness of safety issues for everyone in the family.

Sapolin, M. (2006). **Emergency preparedness.** *Journal of Visual Impairment & Blindness, 100(Special Supplement),* 865-867.
NARIC Accession Number: J52031
ABSTRACT: Article describes some of the federal initiatives and programs that address the needs of people with disabilities during emergencies. The role of the Federal Emergency Management Agency (FEMA) and the Red Cross are highlighted.

Smith, J. (2006). ***Higher ground: The dedication of direct support professionals during and after Hurricanes Katrina and Rita.***
NARIC Accession Number: O17243
Project Number: H133B031116
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=107402.
ABSTRACT: Report describes the dedication of the direct support professionals (DSPs) that continuously supported individuals with disabilities throughout Hurricanes Katrina and Rita and their aftermath. These stories, told by DSPs who worked for Volunteers of America (VOA) of Greater New Orleans, explain why they continued to work at VOA throughout the Katrina and Rita experiences. By far, the most common reasons DSPs reported staying with VOA were because they liked the people they supported and they felt that the people they supported liked, appreciated, and needed them.

2005

(2005). ***Nobody left behind: Analysis of local emergency management plans to determine whether the needs of persons with mobility limitations are being met.***
NARIC Accession Number: O16753
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=103447.
ABSTRACT: Telephone interviews were conducted with the emergency managers at 30 randomly selected sites in the United States that have recently experienced a natural or man-made disaster. During the interview, a request was made for a copy of the emergency plan at the time of the disaster and the most current plan. Of the 30 sites, 11 (38 percent) complied with the request. Three managers provided an entire plan, while the remaining 8 sites provided

a section or sections of their plan. Only 2 of the 11 sites had comprehensive provisions for the needs of people with disabilities in their plans. One plan created a separate appendix on people with disabilities, while the other one referenced how to address the needs of people with disabilities in the various appropriate sections.

(2005). ***Nobody left behind: Briefing paper: Objective one.***
NARIC Accession Number: O16757
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=103451.
ABSTRACT: This paper looks at objective 1 of the research project titled "Nobody Left Behind: Disaster Preparedness for Persons with Mobility Impairments" and the corresponding research questions to address the objective. The primary objective was to determine whether counties that experienced a natural or man-made disaster between 1998 and 2003 have systems in place for disaster preparedness and emergency response for residents with mobility impairments. Results indicated that the majority of the 30 emergency management sites surveyed did not have emergency and disaster systems in place for residents with mobility impairments. In a few cases, changes have been made to procedures to address the need of people with disabilities. There is limited representation of people with mobility impairments in the disaster preparedness and emergency response planning process.

(2005). ***Nobody left behind: Briefing paper: Objective two, surveillance.***
NARIC Accession Number: O16758
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=103452.
ABSTRACT: This paper looks at objective 2 of the research project titled "Nobody Left Behind: Disaster Preparedness for Persons with Mobility Impairments" and the corresponding research questions to address the objective. This objective called for the evaluation of surveillance systems at the county level that can identify morbidity and mortality frequency and prevalence for people with mobility impairments exposed to a disaster. Results indicated that the majority of the counties' emergency managers were not able to assess prevalence of individuals with mobility impairments in their jurisdictions. Existing surveillance systems need to be enhanced and new systems need to be developed to improve the ability of emergency managers to identify prevalence and assess the needs of people with mobility impairments and other disabilities.

(2005). ***Nobody left behind: Briefing paper: Objective three, part 1: Focus area: Assurance and policy development recommendations.***
NARIC Accession Number: O16759
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=103453.
ABSTRACT: This paper looks at the third objective of the research project titled "Nobody Left Behind: Disaster Preparedness for Persons with Mobility Impairments". The objective was to identify best practices in disaster plans and emergency responses to meet the needs of people with mobility impairments in hopes of preventing injuries and saving lives. Key research findings, questions to address specific issues raised by the findings, and recommendation to answer those questions are presented.

(2005). ***Saving lives: Including people with disabilities in emergency planning.***
NARIC Accession Number: O16027
Available in full-text at: https://ncd.gov/raw-media_repository/fd66f11a_8e9a_42e6_907f_a289e54e5f94.pdf.
ABSTRACT: Report provides an overview of steps the Federal government should take to include people with disabilities in emergency preparedness, disaster relief, and homeland security programs. It examines the following broad areas: (1) disaster experiences of people with disabilities and how their access to disaster services could be improved, (2) the experience of community-based organizations in disasters, and (3) how an effective disability-related homeland security and emergency preparedness infrastructure could be developed.

Davis, E., & Mincin, J. (2005). ***Incorporating special needs populations into emergency planning and exercises.***
NARIC Accession Number: O16755
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=103449.
ABSTRACTS: Paper discusses the issue of emergency management and special needs, challenges facing meaningful integration of special needs issues, current federal and legal trends, and best practices and recommendations for integration and inclusion of special needs issue in emergency planning, exercises, and drills. Case studies are provided, which demonstrate how the emergency management community can integrate disability issues into all aspects of planning and exercises.

Holloway, L. (Ed.). (2005). **Emergency planning for disabled and elder populations: Katrina's lessons for the future.** *CRP Brief, 4*(3).
NARIC Accession Number: O16465
ABSTRACT: Brief presents the results of an evaluation of the response of community-based organizations to the needs of the elderly and people with disabilities as a result of Hurricane Katrina. The Special Needs Assessment 4 Katrina (SNAKE) project was conducted to identify and review systemic points of weakness in the response efforts. Four major areas were assessed: sheltering; management, policies, and training; resources; and community-based organizations. Immediate and long-term issues were identified and recommendations for correctable actions to ensure effective delivery of services were offered.

Kailes, J.I. (2005). ***Why and how to include people with disabilities in your emergency planning process?***
NARIC Accession Number: O16754
Available in full-text at: http://search.naric.com/research/rehab/download.cfm?ID=103448.
ABSTRACT: Report examines the benefits of including people with disabilities in an organization's emergency planning process. It provides information on finding qualified representatives, paying for participants' time and expenses, and offering accommodation.

Full-text copies of these documents may be available through NARIC's document delivery service.

To order any of the documents listed above, note the accession number and call an information specialist at 800/346-2742.

There is a charge of 5 cents for copying and shipping with a $5 minimum on all orders.

Documents from the International Research Collection available through REHABDATA are listed below:

2016

Lee, J-S. (2016). **A Comparative Study on the Evacuation Preparedness and Guidelines for Peoples with Disability.** 장애인 행태를 고려한 피난 매뉴얼 비교연구, *17*(2), 470-478.
NARIC Accession Number: I241953
ABSTRACT: This study focused on establishing emergency evacuation guidelines in Korea by comparing the movement behaviors of Korean people with disabilities with the movement behaviors of people with disability and the procedures for emergency and hazards in United States. The results led to recommendations for the emergency preparedness and evacuation guidelines for Koreans with disabilities. First, it is necessary to establish requirements and building design guidelines considering the behaviors of inhabitants and the occupant load in social welfare facility for people with disabilities. Second, it is important to establish disaster preparedness and evacuation planning in emergency and hazards reflecting the movement behaviors of people with disabilities in national organizations and institutions on disability. Third, periodical emergency and fire drills are necessary for people with disabilities and should be managed considering the impairment prototypes, evacuation aids, and service animals.

2013

Fletcher, S., Gero, A., Kuruppu, N., Rumsey, M., Thiessen, J., & Willetts, J. (2013). **Traditional Coping Strategies and Disaster Response: Examples from the South Pacific Region.** *Journal of Environmental and Public Health, 2013*, 9 pages.
NARIC Accession Number: I172286
ABSTRACT: The Pacific Islands are vulnerable to climate change and increased risk of disasters not only because of their isolated and often low lying geographical setting but because of their economic status which renders them reliant on donor support. In a qualitative study exploring the adaptive capacity of Pacific Island Countries (PICs) across four countries, Cook Islands, Fiji, Samoa, and Vanuatu, it was clear that traditional coping strategies are consistently being applied as part of response to disasters and climate changes. This paper describes five common strategies employed in PICs as understood through this research: recognition of traditional methods; faith and religious beliefs; traditional governance and leadership; family and community involvement; and agriculture and food security. While this study does not trial the efficacy of these methods, it provides an indication of what methods are being used and therefore a starting point for further research into which of these traditional strategies are beneficial. These findings also provide important impetus for Pacific Island governments to recognise traditional approaches in their disaster preparedness and response processes. Abstract originally from the Hindawi Publishing Corporation. Reprinted with permission under a Creative Commons Attribution license.

2012

Al Khalaileh, M.A., Alasad, J.A., & Bond, E. (2012). **Jordanian nurses' perceptions of their preparedness for disaster management.** *International Emergency Nursing, 20*(1), 14-23.
NARIC Accession Number: I218463
Abstract is available at: https://www.ncbi.nlm.nih.gov/pubmed/22243713.

Fung, O.W., Lai, C.K., & Loke, A.Y. (2012). **At-home disaster preparedness of elderly people in Hong Kong.** *Geriatrics & Gerontology International, 12*(3), 524-31.
NARIC Accession Number: I224067
Abstract is available at: https://www.ncbi.nlm.nih.gov/pubmed/22122609.

Mizumura, H., Sato, H., & Tomio, J. (2012). **Disparity in disaster preparedness among rheumatoid arthritis patients with various general health, functional, and disability conditions.** *Environmental Health and Preventive Medicine, 17*(4), 322-331
NARIC Accession Number: I184028
Full-text is available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3390567/pdf/12199_2011_Article_257.pdf.
Abstract is available at: https://www.ncbi.nlm.nih.gov/pubmed/22187357.

2011

Gosney, J., Li, J., Rathore, F.A., & Reinhardt, J.D. (2011). **Disability and health-related rehabilitation in international disaster relief.** *Global Health Action, 4*, 7191.
NARIC Accession Number: I135901
Full-text is available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3160807/pdf/GHA-4-7191.pdf.
Abstract is available at: https://www.ncbi.nlm.nih.gov/pubmed/21866223.

2010

Kaji, H., Mori, K., Motoki, E., & Nonami, Y. (2010). **Development of disaster pamphlets based on health needs of patients with chronic illnesses.** *Prehospital and Disaster Medicine, 25*(4), 354-60.
NARIC Accession Number: I131835
Abstract is available at: https://www.ncbi.nlm.nih.gov/pubmed/20845325.

2008

Kernohan, W.G, Maijala, H., & Tuhkanen, S. (2008). **A disaster preparedness and response project in Afghanistan: Participants' perceptions.** *Journal of Advanced Nursing, 64*, 287-97 (33 ref).
NARIC Accession Number: I101225
Abstract is available at: https://www.ncbi.nlm.nih.gov/pubmed/18537841.

Documents from the Education Resource Information Center (ERIC) search at www.eric.ed.gov are listed below:

2017

Edmonds, C.O. (2017). **Designing emergency preparedness resources for children with autism.** *International Journal of Disability, Development, and Education, 64*(4), 404-419.
ERIC Number: EJ1146850
ABSTRACT: Emergency preparedness is a fast-developing field of education driven by the numerous disasters worldwide with more recent notable examples including the terrorist attacks of 9/11 in the US in 2001, the 2004 Indian Ocean Tsunami, Hurricane Katrina in 2005, the London bombings in 2005, the earthquake in China in 2008, the Great East Japan Earthquake in 2011, Hurricane Sandy in 2012 and more recently the Paris terror attacks in 2015. Whilst there is a growing literature focusing on the psychological implications of such disasters on children, there remains a lack of focus on disability, particularly neurodevelopmental disabilities such as autism. Due to the nature of autism, it is likely that this group will have specific needs during disasters and emergency situations and may find such situations more stressful than their typically developing peers, as such they can be considered a more at risk group in such events. In this article, I consider the need for an intervention for a nearly wholly neglected group in the field of education for emergency preparedness, children with autism, and report on phase one of a project aimed at designing resources for this group.

2015

Battle, D.E. (2015). **Persons with communication disabilities in natural disasters, war, and/or conflict.** *Communication Disorders Quarterly, 36*(4), 231-240.
ERIC Number: EJ1066891
ABSTRACT: The World Health Organization (WHO) estimates that 35 million people around the world have been displaced because of natural disasters such as floods, earthquakes, hurricanes, or tsunamis. In addition, there are a number of persons who have been displaced or who have fled their homeland due to civil conflict or war. The WHO estimates that between 3.5 and 5 million of the world's refugees and displaced persons in emergency shelters or refugee camps have disabilities, one third of them being children. This report will address the needs of people with disabilities who may be affected by natural disasters, conflict, and war. The aim is to ensure that they do not experience injustices during natural catastrophes and conflict and that emergency plans acknowledge and address the communication and other needs of displaced persons with disabilities.

2014

Bazzano, A., Eisenman, D.P., Koniak-Griffin, D., Lamb, K., Lehrer, D., Lewis, M-A., & Tseng, C-H. (2014). **Peer-mentored preparedness (PM-Prep): A new disaster preparedness program for adults living independently in the community.** *Intellectual and Developmental Disabilities, 52*(1), 49-59.
ERIC Number: EJ1024246
ABSTRACT: The authors studied a health promotion program called PM-Prep (Peer-Mentored Prep), which was designed to improve disaster preparedness among adults living independently in the community. PM-Prep consists of four 2-hour classes co-taught by a health educator and peer-mentors. Adults were randomly assigned to an experimental arm or a wait-list control arm. Earthquake safety knowledge and preparedness supplies were assessed prior to the intervention and at 1 month after the intervention ("N" = 82). Adults in the experimental arm significantly increased preparedness by 19 percentage points, from 56% to 75% completed ("p" < 0.0001), and improved their knowledge by 8 percentage points, from 79% to 87% correct ("p" = 0.001). This is the first peer-mentored, targeted, and tailored disaster preparedness program tested with this population.

2012

Boon, H.J., Brown, L., Pagliano, P., & Tsey, K. (2012). **An assessment of policies guiding school emergency disaster management for students with disabilities in Australia.** *Journal of Policy and Practice in Intellectual Disabilities, 9*(1), 17-26.
ERIC Number: EJ958987
ABSTRACT: Recent weather-related disasters (i.e., floods, fires) impacting Australia may potentially increase in frequency and severity as a result of predicted climate variability. The dearth of literature

pertaining to school emergency response planning for vulnerable students with disabilities (including those with intellectual disabilities) when such disasters occur and the lack of evidence-based support for school guidelines addressing the needs of such students led the authors to investigate the presence and extent of governmental policies and guidelines underpinning disaster management in schools in Australia. In the absence of routine policies and procedures, students with disabilities may be placed at risk to ill-advised evacuation efforts or neglected during severe emergencies. The study's results indicate that insufficient consideration has been given to the emergency preparedness planning and management with respect to meeting needs of vulnerable students with disabilities. The findings suggest that disaster preparedness is under-resourced and possibly neglected. Although the particular needs of vulnerable students with disabilities are briefly noted in the various state governments' education policies, they have not been systematically considered in the context of overall disaster planning for Australian schools, with the ambiguity of student characterization terms such as "special needs" adding to the problem. The study also scrutinized the terms with respect how they might impact school plans that relate to emergency management. The authors conclude that processes already embedded in local schools for students with disabilities may be possible vehicles to appropriate statewide emergency management planning. They recommend that education authorities worldwide review current emergency management policies in a consultative manner with schools, researchers, first responders, and carers so as to minimize risk for students with disabilities in natural disaster emergencies.

2011

Barnes, J.M. (2011). **Five essentials of emergency planning.** *Leadership, 40*(5), 14-16, 18.
ERIC Number: EJ965947
Available in full-text at: http://files.eric.ed.gov/fulltext/EJ965947.pdf.
ABSTRACT: Principals and other administrators seem to be perpetually overworked. There is always something that still needs to be done at the end of the day, and it is easy for disaster planning and preparedness to keep slipping to the bottom of the list. However, disaster preparation is essential, even when planning for the unknown. At some point in every school administrator's career, there will be some kind of emergency incident--and they will be in charge. This article discusses five items that will help ensure that administrators are ready: (1) Vulnerability assessment--How to tell what the hazards are; (2) School all-hazard plan--What to do in emergency situations; (3) Know your school population--Who has special needs during a disaster?; (4) A well-stocked school--What to have on hand and where; and (5) Organizing in a disaster--Who should do what?

Boon, H.J., Brown, L.H., Clark, B., Pagliano, P., Speare, R., Tsey, K., & Usher, K. (2011). **School disaster planning for children with disabilities: A critical review of the literature.** *International Journal of Special Education, 26*(3), 223-237.
ERIC Number: EJ959015
Available in full-text at: http://files.eric.ed.gov/fulltext/EJ959015.pdf.
ABSTRACT: Human systems have to adapt to climate change and the natural disasters predicted to increase in frequency as a result. These disasters have both direct and indirect health effects. Certain groups, the poor, the elderly, children and those with disabilities are set to be more seriously impacted by disasters because of their greater inherent vulnerability. Adaptation to the health impacts of disasters requires the cooperation and input from all sectors of government and civil society, including schools. This critical literature review examined the body of peer reviewed literature published in English addressing school disaster planning policies with a particular focus on children with disabilities. Results show that children and youth with disabilities are especially vulnerable to disasters because of socioeconomic and health factors inherent to disabilities. While schools in the U.S. have policies to deal with disasters, these policies are neither comprehensive nor inclusive. The empirical evidence base from which they are developed is severely limited. No publications were identified that represent the current disaster planning of schools in countries like Australia, the UK or Canada. Recommendations for future research are outlined to bridge knowledge gaps and help establish appropriate and inclusive school disaster policies for children with disabilities. (Contains 2 figures and 4 tables.)

2009

Davis, E., & Phillips, B. (2009). ***Effective emergency management: Making improvements for communities and people with disabilities. National Council on Disability.***
ERIC Number: ED507740
Available in full-text at: http://files.eric.ed.gov/fulltext/ED507740.pdf.
ABSTRACT: This report offers information and advice to assist all levels of government in its work to establish evidence-based policies, programs, and practices across the life cycle of disasters. This report provides examples of effective community efforts with respect to people with disabilities, and evaluates many emergency preparedness, disaster relief, and homeland security program efforts deployed by both public and private sectors. This report is based on the available literature, including empirical research as well as practical guidance materials. It is divided into three main parts, all related to disability issues. The first part explains key terms and scenarios, and examines the life cycle of comprehensive emergency management. This life cycle includes four phases: preparedness, response, recovery, and mitigation. The second section looks at strategies for working with emergency managers and maximizing the contributions of voluntary organizations. The third section reviews and summarizes policies, programs, initiatives, and trends; it culminates in a comprehensive set of interventions at the federal, state, local, and individual levels. The following appendices provide supporting materials:(1) Resources; (2) Voluntary organizations; (3) Annotated Bibliography; and (4) The Mission of the National Council on Disability.

Henderson, N. (2009). **When disaster strikes: Take steps now to plan for widespread emergencies.** *Exceptional Parent, 39*(2), 62-63, 65.
ERIC Number: EJ829858
ABSTRACT: This article presents part 2 of the series on emergency preparedness. Here, the author offers suggestions that exceptional families can use to prepare for emergencies. While the circumstances--terrorist events, disease epidemics, natural disasters--may vary, emergency preparedness experts agree on one thing: It is important for families, especially those who have children with special needs, to formulate a plan long before the unthinkable happens. The first step, experts say, is to brainstorm with one's family and come up with ideas.

Murphy, P. (2009). **Emergency communication: A unique work in progress for those with disabilities.** *Exceptional Parent, 39*(11), 20, 22-23.
ERIC Number: EJ866342
ABSTRACT: Clear communication in the best of human circumstances is often a work in progress, a goal yet to be attained. Efforts to make it happen in an emergency may be thwarted by the shock and distress of people involved or the need to get to a safe place fast. Unique complications may arise for people with limited, if any, natural speech and who are reliant on augmentative and alternative communication (AAC) tools and strategies as their voice. As many in the AAC and disability advocacy communities have learned through unfortunate events spanning the past decade, finding appropriate help in a catastrophic situation--or offering it--requires careful planning. Significant gaps remain in community emergency preparedness for populations with special needs in the four years since Hurricane Katrina, according to an August 12th "Washington Times" article summarizing a report by the National Council on Disability to be released this year. Its message echoes that of "Saving Lives: Emergency Planning for People with Disabilities," a similar report the council published in 2005 and based on post-9/11 research on the accessibility of emergency preparations across disability groups. While there is no direct reference to AAC in the 2005 document, the report cites the need to ensure that communication is possible during emergencies for individuals with speech, hearing or visual limitations. The "Times" article notes that the council, in its 2009 report, recommended improvements ensuring safe transport of assistive equipment and allocation of recovery funding for replacement of damaged equipment. For many individuals, that could mean an electronic speech communication device. The author discusses the advantage of electronic speech communication devices, such as the new DynaVox Xpress, in emergency preparations for those with disabilities.

2008

(2008). ***An investigation of best practices for evacuating and sheltering individuals with special needs and disabilities. National Clearinghouse for Educational Facilities.***
ERIC Number: ED539455
Available in full-text at: http://files.eric.ed.gov/fulltext/ED539455.pdf.
ABSTRACT: At the request of the U.S. Department of Education's Office of Safe and Drug-Free Schools, the National Clearinghouse for Educational Facilities (NCEF) has conducted "a literature search and review to identify best practices in [school] building design for accommodating the evacuation and sheltering needs of individuals with special needs or disabilities." NCEF's research included: a search of 13,000 abstracts in the NCEF database or subjects related to accessibility, special education accommodation, safety and security design, fire safety, and disaster preparedness; a search of the ERIC website and the websites of over 20 state school safety centers; a review of the school emergency preparedness plans of the thirty-nine states that post them online; a review of the numerous reports and guidelines for emergency preparedness planning for the special needs population in general; and a search of the Internet using the keywords "school facilities," "school buildings," and "educational facilities" coupled with the keywords "emergency evacuation," "sheltering," "emergency egress," "disabilities," and similar terms. The results are discussed in terms of evacuation, shelter, and communication. Recommendations are included. (Contains 2 endnotes.)

2007

Cavanagh, J., & Malia, A. (2007). **Prepping for emergencies with disabled or special-needs students.** *Education Digest: Essential Readings Condensed for Quick Review, 72*(7), 58-59.
ERIC Number: EJ769487
ABSTRACT: Disability-related emergency information that focuses on schools can be found at Emergency Info Online, a free online service and printer-friendly directory produced by Bridge Multimedia, a New York City-based media services company that develops universally accessible media. This preparedness tool offers a wealth of compiled digital information on emergency preparedness, response, and recovery--with a particular emphasis on individuals with special needs. It provides in-depth information to address a broad range of questions, including: (1) What exactly is involved in creating an emergency plan that includes the needs of students with disabilities?; (2) What do government agencies do to help ensure the inclusion of people with disabilities in emergency plans?; and (3) How to ensure that a child's school can accommodate the needs of children with disabilities in an emergency?

2006

(2006). **Working together for preparedness.** *Exceptional Parent, 36*(12), 36, 38.
ERIC Number: EJ750581
ABSTRACT: This article presents an interview with Daniel W. Sutherland, Officer for Civil Rights & Civil Liberties, Department of Homeland Security, to discuss some of the Department's future goals related to emergency preparedness for people with special needs and to find out how citizens can help in that quest. This article also focuses on topics such as: the policy to ensure the dignity of people with special needs, especially those that may have communication deficits; the goals regarding emergency management aiming for improvement; encouraging families of people with special health care needs to prepare for post disaster recovery; and the lessons learned from September 11th and Hurricane Katrina.

Gilbert, S., & Powell, R. (2006). ***The impact of hurricanes Katrina and Rita on people with disabilities: A look back and remaining challenges. National Council on Disability.***
ERIC Number: ED496270
Available in full-text at: http://files.eric.ed.gov/fulltext/ED496270.pdf.
ABSTRACT: This paper focuses on the effects of the hurricanes on people with all types of disabilities. The National Council on Disability (NCD) released another report that addressed in detail the specific challenges for people with psychiatric disabilities. Please refer to "The Needs of People with Psychiatric Disabilities During and After Hurricanes Katrina and Rita: Position Paper and Recommendations"

for a more detailed report about the population of mental health consumers affected by the hurricanes. Additionally, although the focus is on the emergency preparedness and response to Hurricanes Katrina and Rita, many of the problems addressed in this paper are systemic in nature and were not caused solely by the hurricanes. The challenges faced by people with disabilities during and after the Hurricanes, while unique in scope and proportion, were similar to the challenges people with disabilities face on a day-to-day basis. Therefore, many of the findings and recommendations related to Hurricanes Katrina and Rita echo NCD's previous research on improving the daily quality of life of people with disabilities. When America embraces the twin principles of inclusion and accessibility for everyday programs, policies, and infrastructure, Americans with disabilities surely will be counted among the survivors of the next disasters. NCD made detailed recommendations for disaster preparedness in its 2005 report, "Saving Lives: Including People with Disabilities in Emergency Planning. Since Hurricanes Katrina and Rita," many interested policymakers and emergency planners have used NCD's research to make their emergency plans more inclusive of people with disabilities. Some of the key recommendations from that report, along with recommendations based on lessons learned from Hurricanes Katrina and Rita, are included in this report under the Recommendations for Emergency Preparedness section. A section on Education details the crucial challenges for disaster recovery efforts in continuing the education of student-evacuees while rebuilding educational services on the Gulf Coast. (Contains 89 endnotes.)

2004

(2004). ***Emergency evacuation of people with physical disabilities from buildings: 2004 Conference Proceedings (Rockville, Maryland, October 13-14, 2004). US Department of Education.***
ERIC Number: ED489471
Available in full-text at: http://files.eric.ed.gov/fulltext/ED489471.pdf.
ABSTRACT: A two-day conference on Emergency Evacuation of People with Physical Disabilities from Buildings, sponsored by the Interagency Committee on Disability Research (ICDR), Interagency Subcommittee on Technology (IST), was held on October 13-14, 2004, in Rockville, Maryland. This document is meant to summarize the conference's presentations and discussions. William Peterson, from the National Institute on Disability and Rehabilitation Research (NIDRR), and the IST co-chair, welcomed those assembled. He emphasized that the title of the conference, which was limited only to physical disabilities, was intended to give participants a clear direction and focus. While the ICDR is concerned about issues pertaining to all people with disabilities, Peterson continued, a two-day conference does not allow time to fully explore and develop recommendations for each disability area. Among the 85 presenters and participants were federal employees involved in emergency preparedness; first responders and emergency management personnel; building and life safety code practitioners; manufacturers of evacuation devices; people with disabilities who have used evacuation devices; and leading researchers in mobility devices, human factors and egress modeling. The following are appended: (1) Final List of Participants; and (2) Final List of Presenters. [This report was produced under U.S. Department of Education on behalf of the Interagency Committee on Disability Research (ICDR), with CESSI.]

Documents from the National Library of Medicine PubMed search at www.pubmed.com are listed below:

2017

Doyle, C.J., & Mace, S.E. (2017). **Patients with access and functional needs in a disaster.** *Southern Medical Journal, 110*(8), 509-515.
PMID: 28771647
ABSTRACT: Individuals with special healthcare needs have some of the highest morbidity and mortality rates during disasters. Efforts to triage, transport, shelter, or treat vulnerable populations often fail to take into consideration disabilities and social situations, including caregiver availability. Communication, medical care, independence, supervision, and transportation needs should be considered in emergency preparedness planning. Inconsistencies with the definitions and scope of individuals with special healthcare needs exist. The problems and complexity of vulnerable populations, as well as potential solutions are considered to assist planners and disaster responders in the preplanning, mitigation, treatment, and recovery of these individuals.

2016

DeMatteo, C., Jeong, Y., Kim, H., Law, M., & Stratford, P. (2016). **The role of occupational therapists in the contexts of a natural disaster: A scoping review.** *Disability and Rehabilitation, 38*(16), 1620-31.
PMID: 26683777
ABSTRACT: PURPOSE: To identify and inform the experience and roles of occupational therapists (OTs) in the contexts of a natural disaster. METHOD: This scoping review was conducted via five steps: (1) identify the research question, (2) identify relevant academic articles published between 2000 and 2014 in English, (3) select articles based on the inclusion criteria, (4) chart the data and (5) collate, summarize, and report the results of the selected articles. The results were presented using descriptive numerical and thematic analyses. RESULTS: OTs can prepare a plan for evacuation of people with disabilities and their accommodation before a disaster occurs. Immediately after a disaster, they can provide emergency services for injuries and provide education and training in coping skills for psychological distress via a community-based rehabilitation approach. Consistent services for survivors' mental health and for building the OTs' capacity as part of disaster management are focused on in the recovery phase. CONCLUSION: The potential roles of OTs across the spectrum of a natural disaster were identified via this scoping review. This review will help OTs to become involved in a disaster management system for vulnerable groups across the three phases of preparedness to, respond to and recovery from a disaster. Implication for Rehabilitation Occupational therapists can be involved in disaster management to prepare for, respond to and recover from a natural disaster. Consistent services for psychological distress are needed for people affected by a disaster to return to normalcy. Community-based rehabilitation (CBR) is an important approach to help a wider group of people respond to a natural disaster in a timely manner.

Gardner, J.D., Martin, K., & McDermott, S. (2016). **Disaster response for people with disability.** *Disability and Health Journal, 9*(2), 183-5.
PMID: 26838471
ABSTRACT: Emergency Preparedness for people with a disability has been a steadfast activity in the state of South Carolina. In October 2015, the state experienced a natural disaster termed "The 1000 Year Flood". The disability response to the disaster was swift due to the strong collaborative network. However, the disaster did present challenges that need to be further addressed. The retelling of South Carolina's response should be informative to other state programs that provide advocacy for people with disability. Agencies and organizations that respond to disasters can learn from South Carolina's experience to ensure that the needs of people with disabilities are addressed rapidly and efficiently.

Gershon, R.R., Nwankwo, E.M., Portacolone, E., Qureshi, K.A., Raveis, V.H., & Zhi, Q. (2016). **Psychosocial influences on disaster preparedness in San Francisco recipients of home care.** *Journal of Urban Health, doi: 10.1007/s11524-016-0104-3. [Epub ahead of print].*
PMID: 28028677
ABSTRACT: Disasters disproportionately impact certain segments of the population, including children, pregnant women, people living with disabilities and

chronic conditions and those who are underserved and under-resourced. One of the most vulnerable groups includes the community-dwelling elderly. Post-disaster analyses indicate that these individuals have higher risk of disaster-related morbidity and mortality. They also have suboptimal levels of disaster preparedness in terms of their ability to shelter-in-place or evacuate to a shelter. The reasons for this have not been well characterized, although impaired health, financial limitations, and social isolation are believed to act as barriers to preparedness as well as to adaptability to changes in the environment both during and in the immediate aftermath of disasters. In order to identify strategies that address barriers to preparedness, we recently conducted a qualitative study of 50 elderly home care recipients living in San Francisco. Data were collected during in-home, in-person interviews using a semi-structured interview guide that included psychosocial constructs based on the social cognitive preparedness model and a new 13-item preparedness checklist. The mean preparedness score was 4.74 (max 13, range 1-11, SD. 2.11). Over 60 percent of the participants reported that they had not made back-up plans for caregiver assistance during times of crisis, 74 percent had not made plans for transportation to a shelter, 56 percent lacked a back-up plan for electrical equipment in case of power outages, and 44 percent had not prepared an emergency contacts list-the most basic element of preparedness. Impairments, disabilities, and resource limitations served as barriers to preparedness. Cognitive processes that underlie motivation and intentions for preparedness behaviors were lacking. There were limitations with respect to critical awareness of hazards (saliency), self-efficacy, outcome expectancy, and perceived responsibility. There was also a lack of trust in response agencies and authorities and a limited sense of community. Participants wanted to be prepared and welcomed training, but physical limitations kept many of them home bound. Training of home care aides, the provision of needed resources, and improved community outreach may be helpful in improving disaster outcomes in this vulnerable segment of the population.

Kitamura, Y., & Takahashi, K. (2016). **Disaster anxiety and self-assistance behaviors among persons with cervical cord injury in Japan: A qualitative study.** *BMJ Open, 6*(4), e009929.
PMID: 27091817
Available in full-text at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4838694/pdf/bmjopen-2015-009929.pdf.
ABSTRACT: OBJECTIVES: Persons with disabilities, especially those with a severe disability, have a vague anxiety about future disasters; however, the measures of self-assistance for disaster preparedness have not been standardized. The present study aimed to describe disaster-related anxiety and behaviors related to disaster preparedness among persons who have cervical cord injury in Japan. DESIGN: Qualitative study. SETTING: Tokyo Metropolitan area, Japan. PARTICIPANTS: 16 persons with cervical cord injury participated. Inclusion criteria were being 20 years old and older, being diagnosed with cervical cord injury, being able to communicate verbally, having an interest in disaster preparedness, and belonging to a self-help group of persons with cervical cord injury in the Tokyo Metropolitan area. RESULTS: Participants usually had 'anxiety about health management' and it became more serious once they thought about a disaster. We identified three themes in relation to their anxiety: 'storing needed items,' 'staying in a safe place' and 'having reliable caregivers.' We also identified three other themes that were the reasons behind these themes: 'travel experiences,' 'experiences of failure' and 'information from peers.' CONCLUSIONS: To buffer the anxiety about health management in a disaster, it would be important for persons with cervical cord injury to store needed items, stay in a safe place and have reliable caregivers. Various daily experiences, including experiences of failure, would encourage such behaviors.

2015

Bandini, L., Curtin, C., Hamad, C.D., Maslin, M., & Wolf-Fordham, S. (2015). **Emergency preparedness of families of children with developmental disabilities: What public health and safety emergency planners need to know.** *American Journal of Disaster Medicine, 10*(1), 23-34.
PMID: 26102042
ABSTRACT: OBJECTIVE: To assess the emergency preparedness knowledge, behaviors, and training needs of families of children with developmental disabilities (DD). DESIGN: An online survey. PARTICIPANTS: A sample of 314 self-selecting US parents/

guardians of children with DD, aged birth-21 years. MAIN OUTCOME MEASURES: 1) Preparedness self-assessment; 2) self-report regarding the extent to which families followed 11 specific preparedness action steps derived from publicly available preparedness guides; and 3) parent training and support needs. RESULTS: Although most participants assessed themselves to be somewhat to moderately well prepared, even those who reported being "very well prepared" had taken fewer than half of 11 recommended action steps. Most participants expressed a need for preparedness support; virtually all the respondents felt that training was either important or very important. CONCLUSIONS: Children with disabilities are known to be particularly vulnerable to negative disaster impacts. Overall, parents in this study appeared under-prepared to meet family disaster needs, although they recognized its importance. The results suggest opportunities and methods for public health and safety planning, education and outreach to parents of children with DD who would benefit from targeted training such as information and skill building to develop effective family preparedness plans and connections to local emergency management and responders.

Dostal, P.J. (2015). **Vulnerability of urban homebound older adults in disasters: A survey of evacuation preparedness.** *Disaster Medicine and Public Health Preparedness, 9*(3), 301-6.
PMID: 25906972
ABSTRACT: OBJECTIVE: Recent disasters within the United States, such as Hurricanes Katrina and Sandy, have highlighted the vulnerability of older adults, and recent litigation has upheld the responsibility of government in assisting the public during mandatory evacuations. Older adults designated as homebound due to their disabilities are at greatest risk of poor outcomes in disasters. This study aimed at assessing the willingness and ability of homebound older adults to evacuate, as well as categorizing their medical needs in the event they are relocated to an emergency shelter. METHODS: Fifty-six homebound older adults and medical decision surrogates from one homebound primary care practice in Philadelphia were assessed with a novel structured interview. RESULTS: Respondents reported limitations in both their ability and their willingness to evacuate their neighborhoods. Medical needs of homebound older adults were on par with those of nursing home residents. CONCLUSIONS: Many homebound older adults are unable or unwilling to evacuate in a mandatory evacuation situation, highlighting a need for public assistance. Their complex medical needs will require significant preparation by special needs shelters.

Zakour, M.J. (2015). **Effects of support on evacuation preparedness of persons with disabilities.** *Journal of Social Work in Disability & Rehabilitation, 14*(1), 1-22.
PMID: 25651376
ABSTRACT: Many persons with a disability are not prepared to evacuate in disasters. Subjects (N = 710) from 7 U.S. states responded to a survey measuring level of social support in a crisis, number of organizational memberships, frequency of personal assistance services, and evacuation preparedness. A hierarchical regression, controlling for degree of limitation from disability, shows that informal social support ($\beta = .345$), voluntary memberships ($\beta = .106$), and personal assistance frequency ($\beta = .113$) are statistically significant ($p < .01$) predictors of preparedness ($R = .383$, $R(2) = .148$). Interventions that increase the levels of these supports increase disaster preparedness.

2014

Cornell, V., Every, D., Rainbird, S., Smith, B., Thompson, K., & Trigg, J. (2014). **No pet or their person left behind: Increasing the disaster resilience of vulnerable groups through animal attachment, activities and networks.** *Animals: An Open Access Journal from MDPI, 4*(2), 214-40.
PMID: 26480038
Available in full-text at: http://www.mdpi.com/2076-2615/4/2/214/pdf.
ABSTRACT: Increased vulnerability to natural disasters has been associated with particular groups in the community. This includes those who are considered de facto vulnerable (children, older people, those with disabilities etc.) and those who own pets (not to mention pets themselves). The potential for reconfiguring pet ownership from a risk factor to a protective factor for natural disaster survival has been

recently proposed. But how might this resilience-building proposition apply to vulnerable members of the community who own pets or other animals? This article addresses this important question by synthesizing information about what makes particular groups vulnerable, the challenges to increasing their resilience and how animals figure in their lives. Despite different vulnerabilities, animals were found to be important to the disaster resilience of seven vulnerable groups in Australia. Animal attachment and animal-related activities and networks are identified as underexplored devices for disseminating or 'piggybacking' disaster-related information and engaging vulnerable people in resilience building behaviors (in addition to including animals in disaster planning initiatives in general). Animals may provide the kind of innovative approach required to overcome the challenges in accessing and engaging vulnerable groups. As the survival of humans and animals are so often intertwined, the benefits of increasing the resilience of vulnerable communities through animal attachment is twofold: human and animal lives can be saved together.

Dahrouge, D., Engelman, A., Gurung, S., Huang, D., Ivey, S.L., Neuhauser, L., & Tseng, W. (2014). **Assessment of state- and territorial-level preparedness capacity for serving Deaf and hard-of-hearing populations in disasters.** *Public Health Reports, 129*(2), 148-55.
PMID: 24587549
Available in full-text at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3904894/pdf/phr129000148.pdf.
ABSTRACT: OBJECTIVES: Substantial evidence exists that emergency preparedness and response efforts are not effectively reaching populations with functional and access needs, especially barriers related to literacy, language, culture, or disabilities. More than 36 million Americans are Deaf or hard of hearing (Deaf/HH). These groups experienced higher risks of injury, death, and property loss in recent disasters than the general public. We conducted a participatory research study to examine national recommendations on preparedness communication for the Deaf/HH. METHODS: We assessed whether previous recommendations regarding the Deaf/HH have been incorporated into state- and territorial-level emergency operations plans (EOPs), interviewed state- and territorial-level preparedness directors about capacity to serve the Deaf/HH, and proposed strategies to benefit Deaf/HH populations during emergencies. We analyzed 55 EOPs and 50 key informant (KI) interviews with state directors. RESULTS: Fifty-five percent of EOPs mentioned vulnerable populations; however, only 31% specifically mentioned Deaf/HH populations in their plan. Study findings indicated significant relationships among the following factors: a state-level KI's familiarity with communication issues for the Deaf/HH, making relay calls (i.e., calls to services to relay communication between Deaf and hearing people), and whether the KI's department provides trainings about serving Deaf/HH populations in emergencies. We found significant associations between a state's percentage of Deaf/HH individuals and a KI's familiarity with Deaf/HH communication issues and provision by government of any disability services to Deaf/HH populations in emergencies. Further, we found significant relationships between KIs attending training on serving the Deaf/HH and familiarity with Deaf/HH communication issues, including how to make relay calls. CONCLUSION: This study provides new knowledge that can help emergency agencies improve their preparedness training, planning, and capacity to serve Deaf/HH populations in emergencies.

Fick-Osborne, R., Peters, E.B., & Zod, R. (2014). **A functional needs approach to emergency planning.** *Disaster Medicine and Public Health Preparedness, 8*(4), 301-9.
PMID: 24999063
ABSTRACT: OBJECTIVE: This study was conducted to test the ability of the St. Louis County Department of Health to efficiently dispense medication to individuals with functional needs during a public health emergency and develop new guidelines for future emergency planning. Historically, people with functional needs have been vulnerable in emergency situations, and emergency planners are responsible for creating equal access for mass prophylaxis events. METHODS: Measures to create access for individuals with functional needs were tested in a countywide exercise in which 40 volunteers with functional needs walked through an open point of dispensing location to collect medication as if it were a real emergency.

Actions were informed by representatives from the functional needs community in the St Louis area. RESULTS: During the exercise, medications were successfully dispensed to all participants. Many participants offered feedback for future program design. CONCLUSIONS: Outcomes indicated the importance of working closely with the community organizations that serve people with functional needs in designing appropriate response measures, providing sensitivity training to staff members, employing useful technology, and using visual and verbal cues. The lessons learned from this exercise apply to emergency planning nationwide, as planning efforts for persons with functional needs still lag significantly.

Webster, E.M. (2014). **Emergency planning for people with disabilities and others with access and functional needs to ensure inclusiveness.** *Journal of Emergency Management, 12*(3), 211-8.
PMID: 25062821
ABSTRACT: Recent investigations and litigation have prompted a shift in the way the field of emergency management plans for people with disabilities and others with access and functional needs. The purpose of this article is to aid readers in understanding some of the legal and practical requirements that may apply to jurisdictions' emergency preparedness programs to ensure the ability of plans, planning efforts, programs, and services to meet the needs of people with disabilities and others with access and functional needs. The cases of Communities Actively Living Independent and Free (CALIF) v. City of Los Angeles and Brooklyn Center for Independence of the Disabled v. Bloomberg will be used as case studies. Note that this is not intended nor should it be construed as legal advice.

2013

Castañeda, H., Christensen, J.J., & Richey, E.D. (2013). **Seeking safety: Predictors of hurricane evacuation of community-dwelling families affected by Alzheimer's disease or a related disorder in South Florida.** *American Journal of Alzheimer's Disease and Other Dementias, 28*(7), 682-92.
PMID: 24005855
ABSTRACT: This article explores how dyads of 186 community-dwelling individuals with a diagnosis of Alzheimer's disease or a related disorder (ADRD) and their caregivers (dyads) plan to respond to hurricane evacuation warnings in South Florida. Predictors of dyad evacuation for a category 1-3 storm include (1) a younger age of the person with an ADRD diagnosis, (2) the caregiver living in a different residence than the person with ADRD, (3) lack of hurricane shutters, and (4) lower income. A dyad is more likely to evacuate in a category 4 or 5 hurricane if there is (1) a younger age person with an ADRD diagnosis, (2) a more recent diagnosis of ADRD, (3) a residence in an evacuation zone, and if (4) they report needing a shelter. Emergency management teams, especially those who assist with special needs shelters or other outreach programs for people with cognitive disabilities, can use these guidelines to estimate service usage and needs.

Gershon, R.R., Kailes, J.I., Kraus, L.E., Raveis, V.H., & Sherman, M.F. (2013). **Emergency preparedness in a sample of persons with disabilities.** *American Journal of Disaster Medicine, 8*(1), 35-47.
PMID: 23716372
ABSTRACT: OBJECTIVE: The objective of this study was to characterize emergency preparedness in this vulnerable population, and to ascertain the role of the personal assistant (PA) and the potential impact of prior emergency experience on preparedness efforts. DESIGN: Cross-sectional Internet-based survey conducted in 2011. SETTING: Convenience sample. PARTICIPANTS: Two-hundred fifty-three community residents with cognitive and /or physical disabilities, all receiving personal assistance services. MAIN OUTCOME VARIABLES: Emergency preparedness, operationalized as responses to a seven-item scale. RESULTS: The mean score for the emergency preparedness scale was 2.32 (SD = 2.74), range 0-7. Even though 62.8 percent (n = 159) of the participants had previously experienced one or more large-scale emergencies, only 47.4 percent (n = 120) of the entire sample and 55.3 percent (n = 88) of those with actual emergency experience reported preparing an emergency plan. Sixty-three percent (n = 76) of those reporting a plan had involved their PA in its development. Participants who reported such involvement were significantly more likely to have higher scores on the emergency preparedness scale ($p < 0.001$). Participants who had experienced a prior emergency were also more likely to score higher on the emergency preparedness scale ($p < 0.001$). In general, participants reported limited attention to

other basic preparedness recommendations: only 28 percent (n = 70) had prepared a "go-bag" with necessary supplies, 29 percent (n = 74) had developed a strategy for communicating with their PA during emergencies, and 32 percent (n = 81) had stockpiled emergency supplies. Of particular importance, only 26 percent (n = 66) had made alternative back-up plans for personal assistance. CONCLUSIONS: Involving the PA in the planning process and experiencing an emergency were both significantly associated with higher emergency preparedness scores in this sample of people living with disabilities. However, critical deficiencies in preparedness were noted, such as lack of back-up plans for replacing their PA. Despite a concerted national effort to improve preparedness in the population of people living with disabilities, important preparedness gaps remain. These findings highlight the need for additional study on emergency preparedness barriers in people living with disabilities so that effective strategies to reduce vulnerabilities can be identified.

2012

Frommelt-Kuhle, M., Lavin, R.P., & Schemmel-Rettenmeier, L. (2012). **Reconsidering "special needs" populations during a disaster.** *Annual Review of Nursing Research, 30*(1), 125-47.
PMID: 24894055
ABSTRACT: Meeting the "special needs" of at-risk populations affected by disasters is of the utmost importance. In the United States, there are 54 million people who fit into the special needs category who are defined as handicapped, disabled, vulnerable, challenged, or having special needs. The paramount importance for the special needs population is maintaining human dignity throughout the disaster management cycle. Government agencies, nongovernmental organizations, and advocacy organizations have all worked together to attempt to address and ensure that the needs of all individuals are addressed throughout the disaster cycle. Each provider and emergency responder should be familiar with the Americans with Disabilities Act requirements, but this alone does not begin to address the needs of children, the elderly, or other individuals and their special needs. There are multiple theoretical frameworks that may be useful, but the most human approach may be to consider needs based on Maslow's hierarchy of needs.

2011

Bethel, J.W., Burke, S.C., & Foreman, A.N. (2011). **Disaster preparedness among medically vulnerable populations.** *American Journal of Preventive Medicine, 40*(2), 139-43.
PMID: 21238861
ABSTRACT: BACKGROUND: Vulnerable populations such as those with poor health, disabilities, and chronic diseases are at an increased risk of adverse health outcomes resulting from natural disasters. PURPOSE: The objective of this study was to examine the association of general health status, disability status, and chronic disease status, respectively, with disaster preparedness, among Behavioral Risk Factor Surveillance System (BRFSS) survey respondents. METHODS: BRFSS data were obtained for six states that implemented the optional general preparedness module from 2006 through 2008. Three dependent variables were analyzed, including presence of four preparedness items (i.e., food, water, flashlight, radio); emergency evacuation plan; and 3-day supply of medication. Primary independent variables included perceived health status, disability status, and number of chronic diseases. Data were analyzed in 2010 and accounted for BRFSS complex sampling design. RESULTS: Respondents with fair/poor perceived health (OR=0.76, 95 percent CI=0.65, 0.89); a disability (activity limitation; OR=0.81, 95 percent CI=0.73, 0.90); and three or more chronic diseases (OR=0.77, 95 percent CI=0.58, 1.02) were less likely to have all four preparedness items than their healthier counterparts. However, all these groups were more likely to have a 3-day supply of medication than their healthier counterparts. Results varied for presence of an emergency evacuation plan. CONCLUSIONS: Vulnerable populations were generally less likely to have household preparedness items but more likely to have medication supplies than their counterparts. Public health officials should target these groups to increase levels of disaster preparedness.

Murray, J.S. (2011). **Disaster preparedness for children with special healthcare needs and disabilities.** *Journal for Specialists in Pediatric Nursing, 16*(3), 226-32.
PMID: 21702884
ABSTRACT: Ask the Expert provides research-based answers to practice questions submitted by JSPN readers.

2009

Asch, S., Eisenman, D.P., Glik, D., Long, A., Ong, M., & Zhou, Q. (2009). **Variations in disaster preparedness by mental health, perceived general health, and disability status.** *Disaster Medicine and Public Health Preparedness, 3*(1), 33-41.
PMID: 19293742
ABSTRACT: OBJECTIVES: Chronic medical and mental illness and disability increase vulnerability to disasters. National efforts have focused on preparing people with disabilities, and studies find them to be increasingly prepared, but less is known about people with chronic mental and medical illnesses. We examined the relation between health status (mental health, perceived general health, and disability) and disaster preparedness (home disaster supplies and family communication plan). METHODS: A random-digit-dial telephone survey of the Los Angeles County population was conducted October 2004 to January 2005 in 6 languages. Separate multivariate regressions modeled determinants of disaster preparedness, adjusting for sociodemographic covariates then sociodemographic variables and health status variables. RESULTS: Only 40.7 percent of people who rated their health as fair/poor have disaster supplies compared with 53.1 percent of those who rate their health as excellent ($P < 0.001$). Only 34.8 percent of people who rated their health as fair/poor have an emergency plan compared with 44.8 percent of those who rate their health as excellent ($P < 0.01$). Only 29.5 percent of people who have a serious mental illness have disaster supplies compared with 49.2 percent of those who do not have a serious mental illness ($P < 0.001$). People with fair/poor health remained less likely to have disaster supplies (adjusted odds ratio [AOR] 0.69, 95 percent confidence interval [CI] 0.50-0.96) and less likely to have an emergency plan (AOR 0.68, 95 percent CI 0.51-0.92) compared with those who rate their health as excellent, after adjusting for the sociodemographic covariates. People with serious mental illness remained less likely to have disaster supplies after adjusting for the sociodemographic covariates (AOR 0.67, 95 percent CI 0.48-0.93). Disability status was not associated with lower rates of disaster supplies or emergency communication plans in bivariate or multivariate analyses. Finally, adjusting for the sociodemographic and other health variables, people with fair/poor health remained less likely to have an emergency plan (AOR 0.66, 95 percent CI 0.48-0.92) and people with serious mental illness remained less likely to have disaster supplies (AOR 0.67, 95 percent CI 0.47-0.95). CONCLUSIONS: People who report fair/poor general health and probable serious mental illness are less likely to report household disaster preparedness and an emergency communication plan. Our results could add to our understanding of why people with preexisting health problems suffer disproportionately from disasters. Public health may consider collaborating with community partners and health services providers to improve preparedness among people with chronic illness and people who are mentally ill.

DeMara, P., Hagen, M.G., Hausman, A.J., Heake, G., Powell, S., & Uscher-Pines, L. (2009). **Disaster preparedness of households with special needs in southeastern Pennsylvania.** *American Journal of Preventive Medicine, 37*(3), 227-30.
PMID: 19595556
ABSTRACT: BACKGROUND: Individuals with disabilities are disproportionately vulnerable in evacuation emergencies, and they face numerous challenges accessing resources for response and recovery. PURPOSE: The aim of this study was to compare the preparedness behaviors of households with and without special-needs members. METHODS: A random-digit-dial telephone survey was conducted of 501 adults in southeastern Pennsylvania in 2008. The survey instrument gathered data on sociodemographic characteristics, disability status/functional limitations, and preparedness behaviors related to an evacuation emergency. Analyses were conducted in 2009 and included multiple logistic regressions. Data were weighted to correct for unequal probabilities of selection and response. RESULTS: Nineteen percent (n=95) of respondents reported living in a household in which someone had a transportation-related special need requiring assistance in case of an emergency. Households with a special-needs member had greater odds of having arranged a place to meet (OR=2.2; 95 percent CI=1.26, 3.88); located a shelter (OR=1.8; 95 percent CI=1.05, 3.24); or packed a bag (OR=1.8; 95 percent CI=1.02, 3.21). No significant differences were identified with respect to awareness of evacuation routes, purchasing of food and water, or creation

of an emergency plan to guide evacuation decision-making. CONCLUSIONS: Despite both greater vulnerability to disaster and numerous messages by governmental and nongovernmental organizations, households with special-needs members are not more likely to engage in time-consuming preparedness behaviors such as planning and buying. Understanding the motivations and behaviors of special-needs groups is critical to designing informed risk-communication messages and interventions to bolster the preparedness of the most vulnerable populations.

2008

Aldrich, N., & Benson, W.F. (2008). **Disaster preparedness and the chronic disease needs of vulnerable older adults.** *Preventing Chronic Disease, 5*(1), A27.
PMID: 18082016
Available in full-text at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2248769/pdf/PCD51A27.pdf.
ABSTRACT: About 80 percent of older adults have at least one chronic condition that makes them more vulnerable than healthy people during a disaster. These chronic conditions—combined with the physiological, sensory, and cognitive changes experienced as part of aging—result in frail older adults having special needs during emergencies. Planning and coordination among public health and emergency preparedness professionals and professionals who provide services for the aging are essential to meet these special needs. Several tools and strategies already exist to help prepare these professionals to protect and assist older adults during a disaster. These include having professionals from diverse fields work and train in coalitions, ensuring that advocates for older adults participate in community-wide emergency preparedness, and using community mapping data to identify areas where many older adults live.

Cahill, A. (2008). **Emergency management and disability: A 2008 scorecard.** *Disability and Health Journal, 1*(3), 125-6.
PMID: 21122719
No abstract is available.

2006

Stein, M.A., & Waterstone, M.E. (2006). **Emergency preparedness and disability.** *Mental and Physical Disability Law Reporter, 30*(3), 338-9.
PMID: 16881559
No abstract is available.

Quick Looks

Online Resources Related to Emergency and Disaster Preparedness, and Management

For the approximately 57 million people with disabilities, emergencies, such as fires, floods, earthquakes, tornados, and acts of terrorism can present a real challenge. Emergencies and natural disasters can strike without warning, forcing people to quickly leave or be confined in their home. Natural disasters and emergencies are not something one can predict but they are something one can prepare for. The following are a selection of resources related to inclusive emergency and disaster preparedness, and management:

An ADA Guide for Local Governments: Making Community Emergency Preparedness and Response Programs Accessible to People with Disabilities
https://www.ada.gov/emergencyprep.htm.

Apps for Enhancing Emergency Alerts (WEA) Access from the Rehabilitation Engineering Research Center for Wireless Inclusive Technologies (Wireless RERC)
http://www.wirelessrerc.gatech.edu/sites/default/files/publications/appsforenhancingweaaccess2017.pdf.

Checklist for Integrating People with Disabilities and Others with Access and Functional Needs into Emergency Preparedness, Planning, Response, and Recovery
http://www.jik.com/plancklst.pdf.

Disaster Safety for People with Disabilities from the American Red Cross
http://www.redcross.org/get-help/how-to-prepare-for-emergencies/disaster-safety-for-people-with-disabilities#Plan-Ahead.

Emergency Preparedness Fact Sheets from the ADA Network Knowledge Translation Center
Emergency Supply Kits: https://adata.org/fact-sheet/emergency-supply.
Emergency Power Planning for People who use Electricity and Battery-Dependent Assistive Technology and Medical Devices: https://adata.org/factsheet/emergency-power.
Bedside Emergency Supply Kit Checklist: https://adata.org/factsheet/bedside-checklist.

Emergency Preparedness Fact Sheets from the Pacific ADA Center
Car Emergency Supplies Kit Checklist: http://www.adapacific.org/docs/Car%20Emergency%20Supplies%20Kit%20Checklist%20Factsheet.pdf.
Carry On You Emergency Supplies Kit Checklist: http://www.adapacific.org/docs/Carry%20On%20You%20Emergency%20Supplies%20Kit%20Checklist%20Factsheet.pdf.
Emergency Food and Water Checklist: http://www.adapacific.org/docs/Emergency%20Food%20and%20Water%20Checklist%20Factsheet.pdf.
Transportation Planning Checklist: http://www.adapacific.org/docs/Transportation%20Planning%20Factsheet.pdf.

Emergency Preparedness Resources from the Centers for Disease Control and Prevention (CDC)
Resources for the general public and emergency health professions related to a variety of emergency and natural disaster situations.
Disaster Information for People with Chronic Conditions and Disabilities – https://www.cdc.gov/disasters/chronic.html.
Emergency Preparedness: Including People with Disabilities – https://www.cdc.gov/ncbddd/disabilityandhealth/emergencypreparedness.html.
Emergency Preparedness for Older Adults – https://www.cdc.gov/aging/emergency.
https://emergency.cdc.gov.

Emergency Preparedness Resources from the Rehabilitation Research and Training Center on Community Living

The Prepared Lifestyle – http://rtcil.org/sites/rtcil.drupal.ku.edu/files/images/galleries/Prepared%20Lifestyle%20Checklists.pdf.

Assessing the Impact of Hurricane Katrina on Persons with Disabilities – http://rtcil.org/sites/rtcil.drupal.ku.edu/files/images/galleries/NIDRR_FinalKatrinaReport.pdf.

Community Disaster Preparedness Checklist – http://rtcil.org/sites/rtcil.drupal.ku.edu/files/images/galleries/Revised%203.11%20Community%20Disaster%20Preparedness.pdf.

Individual Disaster Preparedness Checklist – http://rtcil.org/sites/rtcil.drupal.ku.edu/files/images/galleries/Revised%203.11%20Individual%20Disaster%20Preparedness.pdf.

Service Animal/Pet Identification Form and In Case of Emergency Form – http://rtcil.org/sites/rtcil.drupal.ku.edu/files/images/galleries/Service%20Animal%20and%20Pet%20ID%20Form.pdf.

Emergency Preparedness Webinars from the Pacific ADA Center

National state, and local entities and communities are increasingly planning emergency management and preparedness to handle disasters. Emergencies and disasters can be particularly concerning for people with disabilities. Successful outcomes for people with disabilities in disasters will depend on the how inclusive the plans are. These free webinars focus on key strategies and approaches at various levels (federal, state, and local) toward emergency management and preparedness and the inclusion of people with disabilities
http://www.adapacific.org/emergency/webinars.php.

Employer's Guide to Including Employees with Disabilities in Emergency Evacuation Plans **from the Job Accommodation Network (JAN)**
https://askjan.org/media/EmployersGuideEmergencyEvacuation.pdf.

Federal Emergency Management Agency (FEMA)

Assistance for Disaster Survivors: 800/621-3362 (V), 800/462-7585 (TTY)
Disability: https://www.fema.gov/disability.
Office of Disability Integration and Coordination: https://www.fema.gov/office-disability-integration-and-coordination.
Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters: https://www.fema.gov/pdf/about/odic/fnss_guidance.pdf.
Pet/Service Animal Preparedness: Facilitator Guide: https://emilms.fema.gov/IS909/assets/12_Pets&ServiceAnimals.pdf.

How to Create a Disaster Plan for Service and Working Dogs
https://www.anythingpawsable.com/service-dog-disaster-plan.

Information Regarding Insulin Storage and Switching between Products in an Emergency from the US Food & Drug Administration (FDA)
https://www.fda.gov/Drugs/EmergencyPreparedness/ucm085213.htm.

National Council on Disability (NCD)

Effective Communications for People with Disabilities: Before, During, and After Emergencies: https://ncd.gov/publications/2014/05272014.
Effective Emergency Management: Making Improvements for Communities and People with Disabilities: https://ncd.gov/rawmedia_repository/50b76caf_054c_491d_ae88_587c096d8b3a.pdf.
Saving Lives: Including People with Disabilities in Emergency Planning: https://ncd.gov/rawmedia_repository/fd66f11a_8e9a_42e6_907f_a289e54e5f94.pdf.

Continued on next page ...

... Continued from previous page

National Organization on Disability (NOD)
Prepare Yourself: Disaster Readiness Tips for People with Disabilities: http://www.disastersrus.org/mydisasters/disability/epips1disability.pdf.
Functional Needs of People with Disabilities: A Guide for Emergency Managers, Planners, and Responders:
http://www.preventionweb.net/files/39632_guideemergencyplanners1.pdf.

Preparing the Workplace for Everyone: Accounting for the Needs of People with Disabilities
A framework of emergency preparedness guidelines for Federal agencies
https://www.dol.gov/odep/pubs/ep/preparing/Workplace_Final.pdf.

Ready.gov
Launched in February 2003, Ready is a National public service campaign designed to educate and empower the American people to prepare for, respond to and mitigate emergencies, including natural and man-made disasters.
Individuals with disabilities – https://www.ready.gov/individuals-access-functional-needs.
Pets and Animals – https://www.ready.gov/animals.
Plan for Locations – https://www.ready.gov/plan-for-locations.
Preparing Makes Sense for People with Disabilities and Special Needs – https://www.ready.gov/sites/default/files/documents/files/PrinterFriendly_DisabilitesSpecialNeeds.pdf.

Tips for Effectively Communicating with the Whole Community in Disasters
https://www.dhs.gov/publication/tips-effectively-communicating-protected-populations-during-preparedness-response-and.

Search Terms for Emergency and Disaster Preparedness, & Management

- 🕮 Accessibility
- 🕮 Access
- 🕮 Accessibility
- 🕮 Accessible Media
- 🕮 ADA
- 🕮 Administrator Role
- 🕮 Adolescent
- 🕮 Adult
- 🕮 Advocacy
- 🕮 Agency Cooperation
- 🕮 Allied Health Personnel
- 🕮 Alternative Formats
- 🕮 Alzheimer's Disease
- 🕮 Architectural Accessibility
- 🕮 Assistive Technology
- 🕮 At Risk Students
- 🕮 Attendant Care
- 🕮 Attitudes
- 🕮 Attitudes Toward Disabilities
- 🕮 Audiovisual Materials
- 🕮 Augmentative and Alternative Communication
- 🕮 Autism
- 🕮 Barriers
- 🕮 Best Practices
- 🕮 Bioterrorism
- 🕮 Blind
- 🕮 Braille
- 🕮 Captioning
- 🕮 Caregivers
- 🕮 Caregiving
- 🕮 Case Management
- 🕮 Case Studies
- 🕮 Centers for Independent Living
- 🕮 Children
- 🕮 Chronic Disease
- 🕮 Civil Rights
- 🕮 Client Characteristics
- 🕮 Cognitive Disabilities
- 🕮 Communication/Devices/Problems/Skills Speech
- 🕮 Community Centers/Resources
- 🕮 Community-Based Rehabilitation/Services
- 🕮 Consumers
- 🕮 Coping
- 🕮 Crisis Management
- 🕮 Culture
- 🕮 Cyclonic Storms
- 🕮 Data Collection
- 🕮 Deaf
- 🕮 Deaf-Blind
- 🕮 Demographics
- 🕮 Dependency
- 🕮 Developmental Disabilities
- 🕮 Disabilities
- 🕮 Disability/Evaluation/Legislation/Management Studies
- 🕮 Disaster Management
- 🕮 Disaster Planning/Legislation/Methods Standards
- 🕮 Disaster Preparedness/Recovery/Response
- 🕮 Disasters
- 🕮 Diseases
- 🕮 Education
- 🕮 Elderly
- 🕮 Emergency Medical Services/Administration Organizations/Standards
- 🕮 Emergency Preparedness/Programs/Shelters
- 🕮 Employment
- 🕮 Empowerment
- 🕮 Ethnic Groups
- 🕮 Evacuation/Preparedness
- 🕮 Family/Needs
- 🕮 Federal Agencies/Government/Programs
- 🕮 Fire
- 🕮 Flood
- 🕮 Foreign Countries
- 🕮 Functional Limitations
- 🕮 Geriatric Assessment
- 🕮 Government
- 🕮 Guides/Guidelines
- 🕮 Health Care/Needs
- 🕮 Health Personnel/Programs/Promotion
- 🕮 Health Services/Accessibility/Needs
- 🕮 Hearing Impairments
- 🕮 Home Care/Health Aides

Continued on next page ...

Search Terms for Emergency and Disaster Preparedness & Management continued....

- 🕮 Housing
- 🕮 Hurricane
- 🕮 Inclusion
- 🕮 Independent Living
- 🕮 Individual Needs
- 🕮 Information Dissemination/Methods Networks/Resources/Systems
- 🕮 International
- 🕮 Intervention
- 🕮 Legislation
- 🕮 Local Government
- 🕮 Media
- 🕮 Mental Health/Stress
- 🕮 Mobility/Devices/Impairments/Limitations
- 🕮 National Security
- 🕮 Natural Disasters
- 🕮 Needs Assessment
- 🕮 Nursing
- 🕮 Occupational Therapy
- 🕮 Older Adults
- 🕮 Outcomes
- 🕮 Paraplegia
- 🕮 Parents
- 🕮 Participatory Action Research
- 🕮 Peer Teaching
- 🕮 People with Disabilities
- 🕮 Personal Assistance Services (PAS)
- 🕮 Persons with Hearing Impairments
- 🕮 Pets
- 🕮 Physical Disabilities
- 🕮 Physical Stress/Therapy
- 🕮 Planning
- 🕮 Policy
- 🕮 Practice
- 🕮 Preparedness
- 🕮 Prescription Medications
- 🕮 Program Accessibility/Descriptions Development/Effectiveness/Evaluation
- 🕮 Programs
- 🕮 Psychiatric Disabilities
- 🕮 Psychological Aspects
- 🕮 Psychosocial Factors
- 🕮 Public Agencies/Health/Policy
- 🕮 Quadriplegia
- 🕮 Qualitative Analysis
- 🕮 Quality of Life
- 🕮 Questionnaires
- 🕮 Radio
- 🕮 Readiness
- 🕮 Refugees
- 🕮 Rehabilitation Engineering Centers (RECs)
- 🕮 Rehabilitation/Programs/Services
- 🕮 Rescue Organizations/Work
- 🕮 Research/Methodology/Reports
- 🕮 Response and Recovery
- 🕮 Risk Factors
- 🕮 Safety
- 🕮 Self Help
- 🕮 Sensory Aids/Impairments
- 🕮 Service Animals
- 🕮 Service Delivery/Integration
- 🕮 Social Networks/Supports
- 🕮 Spinal Cord Injuries (SCI)
- 🕮 Staff Development
- 🕮 Strategic Planning
- 🕮 Students with Disabilities
- 🕮 Surveys
- 🕮 Technology Development/Evaluation/Transfer
- 🕮 Telecommunications
- 🕮 Telephones
- 🕮 Television
- 🕮 Terrorism
- 🕮 Training
- 🕮 Transportation
- 🕮 United States
- 🕮 Universal Design
- 🕮 Urban Population
- 🕮 Visual Impairments
- 🕮 Volunteer Agencies
- 🕮 Volunteerism
- 🕮 Vulnerability
- 🕮 Vulnerable Populations
- 🕮 War
- 🕮 Wheelchairs
- 🕮 Young Adults

About ***re*Search**:

*re*Search is an information product from the National Rehabilitation Information Center (NARIC). Each issue is based on real-world queries received by our information specialists from researchers, educators, and rehabilitation professionals around the world.

We search several sources both in-house and online, to fill these requests including:

- 🕮 REHABDATA and the NIDILRR Program database
- 🕮 Education Resources Information Center
- 🕮 National Clearinghouse of Rehabilitation Training Materials
- 🕮 Campbell and Cochrane Collaborations
- 🕮 PubMed and other National Library of Medicine databases
- 🕮 Agency for Health Care Policy and Research databases
- 🕮 and other reputable, scholarly information resources.

We hope you find these *reSearch* briefs informative in your own research.

- *NARIC Information and Media Team*

NARIC is operated by HeiTech Serivces, Inc., for the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) under contract number GS-06F-0726Z.