# RESEARCH COUNTS MAQQ QUEITEDING

MASS SHELTERING SPECIAL COLLECTION



University of Colorado Boulder

# **WHY MASS SHELTERING?**

Mass shelters are a critical, life-saving component of emergency response that provide communities with food, clean water, medical care, and other essential resources during a disaster. Substantial planning and coordination is needed to operate these facilities and ensure that the needs of disaster-affected populations are met.

To better support the information needs of shelter planning and organization, the Natural Hazards Center once again partnered with the Centers for Disease Control and Prevention to bring you a focused collection of *Research Counts*. This latest collection examines the public health aspects of mass sheltering and care with a special focus on at-risk populations.

The special collection features articles, public health implications, further readings, and tools for practitioners. The collection is organized into the following four overarching themes:

- Roles and Responsibilities for Shelter Operations.
- Leveraging Community Groups for Coordination of Mass Care.
- Mass Care Delivery and Capability Assessments.
- Mass Sheltering for At-Risk Populations.

*Research Counts* articles are intended for a broad audience of public health practitioners, emergency managers, policy makers, journalists, and others interested in the impacts of disaster.

## RESEARCH MATTERS, AND WE WANT TO HELP MAKE IT COUNT.

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Residents settle into a Houston shelter in advance of Hurricane Harvey. Image Credit: All Stock Photos, 2017.

## **INTRODUCTION:** MASS SHELTERING AND DISASTERS By Jolie Breeden, Rachel Adams, Lori Peek, Tracy N. Thomas, and Daire R. Jansson

The word "shelter" conjures thoughts of protection and safety—a haven from whatever storm needs to be weathered. During disasters of all types, shelter is one of the services our nation's emergency management system strives to provide for those in harm's way.

Mass shelters—also called evacuation and reception centers, mass care facilities, emergency shelters, and a variety of other names—are a critical, life-saving component of disaster response. Shelters, which are often coordinated by local public health and emergency response agencies with the assistance of the Federal Emergency Management Agency and the Red Cross, provide those who access them with food, clean water, medical care and supplies, and other resources meant to offer stability and comfort during a time of uncertainty. Shelter coordination also involves conducting rapid needs assessments and surveillance to ensure the health and safety of evacuees.

These services are vital because those who access mass shelters are often among the most marginalized in our communities, including people of low socioeconomic status, children and unaccompanied minors, medically fragile people, and those experiencing homelessness. Disasters can exacerbate these social vulnerabilities and contribute to a range of negative health outcomes. But it is also possible to implement evidence-based policies and practices that ameliorate pre-existing inequalities rather than amplify them.

**RESEARCH COUNTS 2021: MASS SHELTERING** 

#### WHY A SPECIAL COLLECTION ON MASS SHELTERS?

Despite careful preparation and coordination, a number of barriers to accessing safe shelters persist. Negative public perceptions of mass shelters can influence whether people shelter in place or evacuate to potentially unsafe locations. Those who do seek safety in a shelter may worry about security, discrimination, or that they will not have access to culturally appropriate accommodations, medicine, or necessary supplies. Individuals and families are often concerned that they may be forced to leave beloved pets behind. Once in a mass shelter, people might not understand what services are available to them. Even when they do, they may be unable to access these services due to long lines, childcare responsibilities, or other obstacles to attaining proper support.

It is imperative that those responsible for coordinating, staffing, supplying, and operating these crucial care facilities have the most up-to-date and accurate information and resources for developing evacuation and shelter plans, supporting operations, and conducting rapid needs assessments and surveillance. This special collection of *Research Counts* is dedicated to highlighting the findings of leading researchers to help advance such efforts.

#### THEMES IN THIS COLLECTION

Though mass shelters have been established to assist those at risk and affected by disaster for decades, a recent Government Accountability Office (GAO) report found that there were many opportunities to strengthen how mass shelters in the United States operate.

We have structured this *Research Counts* Special Collection on Mass Sheltering and Disasters around the many important findings the GAO report brought to light. The articles and the corresponding tools and readings are therefore organized into four overarching themes:

- Roles and responsibilities for shelter operations.
- Leveraging community groups for coordination of mass care.
- Mass care delivery and capability assessments.
- Mass sheltering for at-risk populations.

While these themes provide an organizational framework for the special collection, they are meant to be broad and cross-cutting since certain articles and tools transcend multiple themes. In addition, the pieces emphasize the special considerations required to meet the needs of diverse groups who may access shelters after wildfires, hurricanes, tornadoes, and other extreme events. All of the articles exist at the nexus of research and practice.

#### **ABOUT THIS COLLECTION**

This special collection of *Research Counts*—the second such collection developed in partnership between the Natural Hazards Center and the Centers for Disease Control and Prevention—aims to bring recent research on mass shelters to a wide audience. For the first time, a wide array of research on this topic is gathered together (and also available in a free, online format) to ensure that crucial research findings are accessible to those who need them most. This effort advances the broader vision for the series, which is designed to share actionable research on the human dimensions of hazards preparedness and mitigation, as well as enduring lessons regarding disaster response and recovery.

The collection includes original briefs from experts in public health and medicine, psychology, sociology, and many other disciplines. The authors have extensive experience studying how coordination of mental and physical health care, the allocation of resources, and many other issues unfold in mass shelter settings. Their contributions detail the ways we can better accommodate and provide potentially life-saving services to all shelter residents. Importantly, the articles also highlight how public health practitioners, emergency managers, and other decision makers can advance planning and response efforts by considering evidence-based recommendations for mass sheltering.

Each contribution includes research insights about shelter planning and mass care provision, as well as a specific callout box to underscore implications for public health practitioners, emergency managers, and other professionals. In addition, our team has prepared a list of tools and suggested further readings that are readily available and freely accessible online. Our hope is that practitioners will be able to use these readings and the associated resources to strengthen planning, communication, collaboration, and service delivery in mass shelter settings.

When a disaster approaches, those in harm's way must be able to make the choice to seek shelter quickly and decisively. It is vital that data from research is available to help practitioners improve mass sheltering through evidence-informed decision-making. This can ultimately reduce human suffering and accelerate the process of recovery.

Research matters, and we want to help make it count.

#### **ABOUT THE AUTHORS**

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# ARTICLES: ROLES AND RESPONSIBILITIES FOR SHELTER OPERATIONS

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Jurisdictions that develop a comprehensive, actionable plan for sheltering companion animals can help protect pets and the physical and mental health of pet owners during a disaster.

An evacuee watches his dog nurse her puppies after Hurricane Katrina. Some people chose to shelter in place after learning they could not evacuate with their pets. ©Federal Emergency Management Agency/Win Henderson, 2005.

## ALL IN THE FAMILY Planning for animals is planning for people by jessica austin

For most people with pets, their beloved cats, dogs, and other animals are much more than companions—they're considered members of the family. It is therefore unsurprising that, when faced with leaving their animals behind, many pet owners choose to remain in their homes rather than evacuate in times of emergency. Given that there are nearly 77 million dogs and 58 million cats in U.S. households, emergency management officials at all levels would benefit from designing plans for disaster response that accommodate companion animals. Unfortunately, the extent to which animals are included in evacuation and shelter planning varies widely across states, resulting in a piecemeal landscape of companion animal preparedness.

When pets are not included in planning, their owners can suffer. They may be less likely to take protective action for themselves, for instance. There may be increased stress on their present and future mental health—pet loss in a disaster situation predicts higher levels of psychological distress, post-traumatic stress disorder, and anxiety among companion animal owners. For the animals left behind, they are at risk of harm, illness, and death. These factors place economic burdens on both human and veterinary care systems, which might already be overwhelmed in times of disaster. As the State of New York (2020) points out in its Comprehensive Emergency Management Plan, "It is clear through analysis of these local and national disasters that planning for animal welfare is planning for human welfare."

#### DIFFERENT LEVELS OF EMERGENCY PLANNING

The United States Congress recognized the need to plan for human and animal welfare following Hurricane Katrina, in which thousands of people were forced to leave their pets behind in order to access safe shelter. Soon after, the Pets Evacuation and Transportation Standards (PETS) Act was passed, stipulating that states that receive federal funding for emergency operations must incorporate protections for companion animals into their emergency plans. Even though companion animal emergency planning is now mandated by law, it varies quite widely among states. Aiming to find where these differences lie, I analyzed the companion animal planning documents for nine randomly selected states, one from each of the Federal Emergency Management Agency's 10 planning regions: Alabama, Hawaii, Illinois, Iowa, Louisiana, New York, Rhode Island, Utah, and Washington (the tenth selected state, Delaware, did not respond to requests for information). I conducted a comprehensive literature review to determine the model attributes of both general and pet-specific emergency planning documents and compared adherence to the recommendations across states.

I found that some states have highly considered, robust plans, while others have only rudimentary plans or no plans at all. The extent to which states adhered to recommended plan elements (attention to data; consistency with legislation; clarity of authority; responsibility for public information; collaboration with multiple sectors; and detailed logistics) varied widely. For example, although the American Veterinary Medical Association offers formulas to assist jurisdictions in estimating their companion animal population, only two of the nine states included an estimated number of animals potentially requiring shelter in their plans. All states specified which entities were in charge of providing or arranging housing and care for companion animals; however, only four supplied specific checklists of necessary supplies, and only two states listed an inventory of supplies on hand. Moreover, the majority of states did not specify where animals would be housed or procedures for sheltering companion animals, whether with their owners or separately. All of the state plans enlisted the aid of nongovernmental organizations to meet their animal care needs. However, less than half of states had written memoranda of understanding or mutual aid agreements between agencies. These agreements are important not only to ensure continuity, but to provide a measure of accountability and commitment between partners.

#### **RECOMMENDATIONS AND RESOURCES**

As companion animal safety remains a critical consideration for individuals and families, many organizations have created templates and kits to assist jurisdictions in emergency planning. For example, the Louisiana Department of Agriculture and Forestry's Cohabitated Human/Household Pet Sheltering Toolkit is a comprehensive planning document that contains information on planning and preparation, including a site selection worksheet, coordination and readiness checklists, and sample memoranda of agreement; operations, including public health and safety guidelines, personnel roles and responsibilities, and cleaning protocols; and templates for intake/discharge, veterinary records, volunteer registration, and pet owner agreements, among others.

Evacuation failures due to lack of sheltering options for people's cherished animal family members are unfortunately common. Jurisdictions can lighten burdens on the economy, public health, and public safety by implementing a rigorous planning process to ensure pets are cared for during times of disaster. Knowing that their pets are in safe temporary homes will pay dividends in emotional wellbeing for people who share their lives with animal companions.

#### **ABOUT THE AUTHOR**

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A man sheltering from Hurricane Dorian at the Naval Medical Center at Camp Lejeune checks on his dog housed in the center's pet room. ©Navy Medicine, 2019.

## دونه SUGGESTED TOOLS

#### Developing a Local All-Disaster Animal Evacuation and Sheltering Plan | Regional Institute for Community Policing | This document was created to assist local personnel in developing an evacuation and sheltering plan for animals. It contains tools for planning; forms for field rescue and transportation; and guidelines for public communications, among other essential considerations for mass shelters.

#### Cohabitated Human/Household Pet Sheltering Toolkit | Louisiana Department of Agriculture and Forestru | A collection of

of Agriculture and Forestry | A collection of guidance documents, checklists, forms, and other templates to assist in offering cohabitated shelter for pets and owners.



An emergency official gives a woman worried about her pet Dalmatian information on the evacuation procedure for animal owners. ©Federal Emergency Management Agency/Win Henderson, 2005.

## **PET PODS** INCLUDING PETS IN YOUR COMMUNITY EVACUATION SHELTER PLAN BY JENNIFER L. FEDERICO

Making the choice to evacuate the comforts of home during a disaster can be daunting—and even more so if you are forced to leave your pets behind. Among the best-case scenarios would be the ability to evacuate with your pet, knowing you could provide care and comfort as needed.

Wake County Emergency Management in North Carolina has created a system to allow just that. We have long used a system of pods—large, portable storage containers to deploy supplies to evacuation shelters and so we developed "PET PODs" based on the same concept. Since having plans and supplies in place before disaster strikes is the best way to ensure pets are accommodated at evacuation shelters, in 2015 we designed, stocked, and developed standard operating procedures for PET PODs and incorporated their deployment into the plan for opening evacuation shelters.

#### PET PODS OVERVIEW

Based on research conducted following Hurricane Katrina, we know people are more likely to seek shelter when they know pets are welcome too. Pets help with depression, anxiety, and stress—all of which can be associated with disasters. By including pets, shelters can positively impact the mental health of the pet owners staying at an evacuation shelter.

The Pets Evacuation and Transportation Standards (PETS) Act, which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act, mandates that state and local emergency preparedness operational plans include provisions for individuals with household pets and service animals following a major disaster or emergency. It doesn't, however, clearly delineate how such provisions should be implemented or funded. While events that garner headlines bring in support from national organizations such as the American Society for the Prevention of Cruelty to Animals or the Humane Society of the United States, many more events occur at the local level and it's up to local agencies to respond.

PUBLIC HEALTH Implications

The unwillingness to abandon pets can lead people to choose not to evacuate in disasters. Accommodating pets in shelters can help encourage evacuation and can provide psychological support to shelter inhabitants during the stress of being

In our case, the county-operated animal shelter worked with the emergency preparedness department to develop PET PODs, which laid a foundation for our evacuation shelters to accommodate pets and ensure high-quality animal welfare.

Each PET POD contains the supplies needed to set up a pet section within the shelter, conduct the intake of animals, and sustain pets during their stay. Inside, each PET POD is divided into three distinct sections with supplies for dogs, cats, and the shelter workers who will operate the pet section including instructions, resources, and record-keeping tools to ensure everyone is reunited after the emergency ends.

#### **ANIMALS SERVED**

Wake County's first major use of PET PODs came in 2018, when local evacuation shelters hosted 90 animals during the fallout from Hurricane Florence. Although PET PODs were only equipped with supplies for cats and dogs, other pets were also welcome at the shelter. The PETS Act defines "household pet" as a domesticated animal, such as a dog, bird, rabbit, rodent, or turtle, that is traditionally kept in the home for pleasure rather than for commercial purposes, can travel in commercial carriers, and be housed in temporary facilities. In our interpretation and planning, it was determined that dogs and cats would likely be the primary occupants and most likely would not be brought in suitable crates for long-term housing. However, reptiles, bird, or small mammals—such as hamsters, guinea pigs, and rats were also admitted but only with the appropriate housing.

For public safety purposes, our emergency evacuation shelters reserved the right to ask owners to remove any pet they were unwilling or unable to reasonably control. Wake County had determined it could not shelter farm animals, wildlife, venomous snakes, constrictor-type snakes, primates of any kind, or any "inherently dangerous animals," such as big cats or bears. For the species of pets allowed in the shelter, there were no breed restrictions.

#### PET OWNER RESPONSIBILITY

For many people, pets are family. To know that your "family" is nearby and that you can care for them daily eases one major stress of evacuation. Pet owners were responsible for the daily care of their animals, so they had to reside at the same evacuation shelter as their pets. Keeping owners close to their pets also reduced the chance of abandonment or accidental separation of owners and animals. Although pets were not allowed in the human section of the shelter, owners could visit the pet section as often as they would like during hours of operation. Dog owners could take their dogs out for as many walks as they wanted to during the day. The pet owners during Hurricane Florence spent a great deal of time with their pets.

Daily care requirements were outlined for owners in the standard operating procedure. They included walking dogs, cleaning up crates, and providing ample food and water. Litter scoops for cats, poop bags for dogs, cleaning products, and gloves were included in PET PODs supplies. Owners had to bring their own pet food, and if they did not have food available, a request was sent to the emergency operations center. During Hurricane Florence, pet food donations were accepted.

At night check, shelter staff ensured each animal had water and a clean crate. If not, pet owners were called to care for their animals. At 10 p.m., lights were turned off to allow the pets time to rest, which can help reduce animals' stress levels while being housed in an evacuation shelter. The pet section of the shelter reopened each morning at 8 a.m.

#### CONCLUSION

Local emergency preparation for pets should start with a collaboration between the local emergency management agency and the local government animal shelter. Local agencies can use the PET PODs concept to prepare for potential disasters, and the pods can be sized to suit their community's needs.



A Wake County PET POD sits packed and ready to deploy. © Jennifer L. Federico, 2015.

During Hurricane Florence, all pets stayed united with their owners, no animals were abandoned at the shelter, and no bites or other negative situations occurred at Wake County evacuation shelters. With prior planning and preparation of PET PODs, other communities can experience these same positive outcomes.



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#### **ABOUT THE AUTHOR**

JENNIFER L. FEDERICO, originally from Long Island, is a graduate of North Carolina State University College of Veterinary Medicine. After three years in private practice, she started as a shelter medicine veterinarian at the Wake County Animal Center. In 2012, Federico became the animal services director and in 2021, she became a board-certified diplomate with the American College

of Animal Welfare. She leads a dynamic team that strives to provide a humane community for pets and people by advocating for animals, increasing the live release rate, and instituting best practices. Federico heads the Animal Protection Branch within the County's Emergency Operation Center. She shares her life with two horses and five dogs.

## दिन्ते SUGGESTED TOOLS

Wake County Evacuation Shelter—Pet Section Standard Operating Procedures I Wake County Animal Center I This manual describes standard operating procedures for the companion animal section of a shelter allowing people to bring their pets. Information regarding setup and teardown of the shelter; care requirements for cats and dogs; and administrative procedures complement descriptions of Wake County's Pet PODs system, including necessary supplies and photos of the PODs in action.

#### Animal Information Sheet Template I Wake County Animal Center I The Animal Information Sheet collects information about

companion animals at shelter intake and discharge to ensure pets are identifiable and matched with their owners.

Shelter Registration and Agreement | Wake County Animal Center | This form details expectations of companion animal owners in shelter settings, including daily care, veterinary treatment, pet abandonment, and bite policies. The form additionally releases the shelter operator from liability and collects

owner contact information.



Women and girls may face health risks and emotional hardship when emergency shelters don't provide the necessary products and facilities to address menstrual hygiene. Including menstrual hygiene management in mass care plans can help protect this population's health and alleviate stress surrounding menstruation.

## **CODE RED** Addressing Menstrual Needs During Emergencies by Darcy Sullivan and Joane Nagel

Periods don't stop during disasters. Although menstruation is a topic many people find awkward, emergency responders and those who manage evacuations and shelters can't avoid the subject. Not planning for menstrual hygiene needs can make a disaster even more stressful for women and girls who are menstruating.

Every day, an estimated 14 million American women and girls are managing their periods. When hazards such as floods, fires, or hurricanes destroy homes and businesses, women often lose access to menstrual products. During evacuation or relocation, these products might not be available, resulting in extended use of soiled products or bloodstained clothing. These unmet menstrual hygiene management (MHM) needs can become a source of self-consciousness and embarrassment for menstruating women and girls.

#### IMPACTS OF UNMET MENSTRUAL HEALTH MANAGEMENT NEEDS

When women lack access to proper menstrual hygiene products such as menstrual pads or tampons, they might be forced to reuse these items or use them for longer periods than recommended by health experts. This can lead to physical health issues such as urinary tract infections or toxic shock syndrome. Perhaps more common are impacts on girls' and women's dignity and mental health when they are unable to attend to their menstrual needs. Although lack of planning for menstrual hygiene needs has been a documented problem in emergency situations, the issue persists.

Menstruation was among the many challenges facing women and girls in New Orleans during and immediately after Hurricane Katrina in 2005. In one instance, a 50-year-old woman with obvious, heavy menstrual bleeding on her dress and legs was evacuated from a rooftop in New Orleans by a male rescuer. This embarrassing condition was compounded for the woman when, during her several-day stay in a shelter, she had no access to MHM products or clean underwear.

For young girls who have less experience with menstruating, such a situation can be especially distressing. One mother displaced by Hurricane Katrina reported that her daughter had her first menstrual period while they were living in a shelter at the Cajundome. She said, "I was just so sorry it had to happen there...She was confused about it, no privacy. She would say, 'Mom, hurry, hurry.' I just sat her down and talked and hugged her."

#### EMERGENCY RESPONDERS ALSO MENSTRUATE

Menstrual hygiene during disasters is not only a gender issue for those impacted by disasters, but also for the professionals who respond to them. Female emergency responders face MHM challenges in the field where they might not have the time and privacy to take care of their needs. They might also be confronted by dismissive or negative attitudes within the organizations in which they serve.

Women in firefighting and the armed forces report that they must sometimes manage their menstrual cycles in difficult situations that range from a lack of access to menstrual products to stereotypes about women's emotions and premenstrual syndrome (PMS) to outright sexual harassment. For instance, former U.S. Forest Service (USFS) wildfire crew member Alisha Dabney said she left the USFS after a series of discriminatory incidents including being ordered by a supervisor to report when her menstrual cycle started. Such challenges have led some women emergency responders to take drugs to suppress menstruation.

## RECOMMENDATIONS FOR PERIOD SUPPORT DURING DISASTERS

Addressing menstrual hygiene management needs during disasters is an unrecognized challenge. Twelve years later, in the mass displacements from Hurricane Harvey in Texas, researchers at the Columbia University Mailman School of Public Health found that MHM was largely missing from the agendas of responding agencies. They noted that even the American Red Cross "does not highlight provision of feminine hygiene products in its list of health services and basic supplies."

Since, come fire or high water, women will continue to menstruate, it would be wise for emergency planners to address the MHM needs of women and girls in emergencies. The good news is there are several simple, easily instituted actions that could greatly improve their experience:

- Make girls and women's menstrual needs visible, straightforward, and matter-of-fact by including MHM in emergency plans and supplies.
- Include menstrual products and period packs in emergency relief kits.
- Stockpile menstrual products—which are often inexpensive when purchased directly from distributors in large quantities— in advance.
- Ensure toileting facilities have bins with lids to properly dispose of pads and tampons, as well as running water to wash reusable hygiene products and underwear.
- Equip toileting facilities with proper doors, locks, and lighting for women's privacy and safety.
- Include people who menstruate in emergency policymaking, planning, and response.

Although our society deems menstruation an uncomfortable subject, it is a fact of life and one that impacts women and girls in disasters from multiple viewpoints—those who respond, those who must evacuate, and those forced to stay temporarily in public shelters. With just a little pre-planning and awareness, we can work to address this important and sensitive public health issue.

#### **ABOUT THE AUTHORS**

DARCY SULLIVAN is a doctoral student of sociology at the University of Kansas. Her research investigates reproductive health disparities experienced by women with disabilities. Her current projects examine pregnancy intentions and desires among women with disabilities and analyze how women manage menstruation during natural disasters. Sullivan holds a master's degree in sociology from the University of Kansas and a bachelor's in sociology from Murray State University.

JOANE NAGEL is a University Distinguished Professor of Sociology at the University of Kansas. She is a political and cultural sociologist whose work focuses on gender and global climate change. Her recent publications include *Gender and Climate Change* and "Gender, Conflict, and the Militarization of Climate Change," in *Peace Review*. She currently is working on a book, Toxic Femininity: Menstruation, Misogyny, and Mobilization.



## جني SUGGESTED TOOLS

A Toolkit for Integrating Menstrual Hygiene Management into Humanitarian Response | Columbia University and International Rescue Committee | The Menstrual Hygiene Management (MHM) in Emergencies toolkit provides streamlined guidance to support organizations and agencies seeking to rapidly integrate MHM into existing humanitarian response. This is designed to address the needs of women and girls living in emergency contexts who are directly affected by this issue.



Security guards report for duty at a Houston shelter after Hurricane Harvey. Image source: Michelmond/Shutterstock Images, 2017.

## **SAFE SHELTER** OVERCOMING FEAR OF CRIME IN PUBLIC SHELTERS BY ASHLEY K. FARMER

After Hurricane Katrina, news reports of crime and disorder—including stories of rape and violence at the temporary shelter located in New Orleans' Superdome were rampant. These stories, most of which were later proven false, had lasting effects on those who saw them. The takeaway for many, especially residents in other hurricane-prone areas, was that public shelters are not safe.

In actuality, crime is uncommon in disasters. Such fears, however, still drive evacuation and shelter decision-making and behavior, and can deter residents from leaving their homes or staying in shelters. It is important to understand why residents might not consider public shelters a viable option for sheltering and what can be done to quell their concerns about safety and violence . When people view public shelters as a last resort, it can impact the evacuation process, since many residents will try to leave the area and seek shelter elsewhere. Others might choose to remain in their homes when it is unwise to do so. In these cases, the public is best served by understanding that shelters are a safer option.

Such apprehension can also pose challenges in managing misinformation for those who operate public shelters and complicates local resident awareness of the safe and cost-effective sheltering alternatives available to them. The perception that crime exists in public shelters can keep people from taking advantage of such resources. In our 2017 study on fear of crime and public sheltering, few respondents said they would consider staying in a public shelter, even if their first choice of alternative housing was unavailable. Based on telephone surveys of 424 residents of North Carolina—a location prone to hurricanes—179 people cited safety concerns about staying in a public shelter. The most common reasons for concern were general worries about personal security, mistrust of strangers, and falling victim to violent crime or property crimes. Being victimized was the most commonly cited safety issue for staying in a shelter, even more than the building integrity, health, or sanitation issues.

PUBLIC HEALTH IMPLICATIONS

**Clear communication** 

shelters can address potential fears and reassure disaster-affected populations that public shelters are safe.

about the security of public

Women were more fearful of becoming victims of violent crime and sexual assault if staying in public shelters. Regardless of the actual incidence of crime, women are more likely to feel vulnerable in general, given the context of fear in public spaces. This is particularly true when they are alone. Public shelters are places where people with little to no previous contact must exist in close proximity. Several respondents mentioned a perceived lack of security in shelters, including the fact that they believed police would not be present to ensure safety. Overall, these concerns demonstrate that staying in a public shelter is accompanied by a heightened sense of risk.

Previous management of public shelters in disaster can also influence perceptions of safety. After Hurricane Katrina in 2005, there were numerous reports and rumors of crime,



Louisiana National Guard military police help with set up and security at a Baton Rouge Shelter. ©U.S. Army National Guard/Garret L. Dipuma, 2016.

including sexual victimization, at emergency shelters. Though it has now been determined many of these reports were exaggerated or untrue, the concern about crime in shelters lingers. Respondents in our study often mentioned that they saw strangers as dangerous and not to be trusted, which added to their concern about crime. This is part of a larger narrative about crime that is not limited to disasters, but in disaster situations these misconceptions might seem more likely. That is why it is important to address such concerns when emergency managers and practitioners advocate for the use of public shelters.

Considering the misinformation about and distrust of public shelters during disasters—as well as the public's fear of crime in general—those who oversee public shelters have several options to counteract falsities. Emergency communications should be developed for residents in disaster-prone communities to improve the perceptions about safety in local public shelters. These might include:

- Reassuring the public that their safety is paramount and providing examples of what shelters do to address safety concerns—including having a security presence at the shelter, if possible.
- Clearly communicating about what evacuees can bring to a public shelter and what they can do with their personal property and valuables when there.
- Providing information to evacuees about what safety services are available and who they can report to if they are victimized while at a shelter.
- Including public safety and law enforcement personnel in shelter preparedness planning exercises and highlighting their presence and role during disaster public information briefings.

Even though incidents of serious crime are rare after disasters, perceptions and fear of crime affects people's decisions to use public shelters. Public awareness campaigns about disaster shelters could be used to influence perceptions of crime during disasters. By emphasizing the safety and security of public shelters, emergency managers can address these fears and reassure residents that public shelters are safe locations.

#### **ABOUT THE AUTHOR**

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## suggested tools الم

Sexual Violence in Disasters: A Planning Guide for Prevention and Response | Louisiana Foundation Against Sexual Assault & National Sexual Violence Resource Center | This guide provides resources and practices for prevention of, and response to, sexual victimization in times of disaster. Its worksheets provide considerations and best practices for practitioners before, during, and after disaster.

Improving Public Messaging for Evacuation and Shelter in Place | Federal Emergency Management Agency | A guide for emergency managers that summarizes peer-reviewed research findings on public understanding and decision-making for evacuation and shelter-in-place protective actions, and datadriven recommendations for improving public messaging to inform the public about risk and to increase compliance with instructions to evacuate or to shelter-in-place.



PUBLIC HEALTH Implications

Nongovernmental organizations and local businesses can provide unplanned resources when shelters become overwhelmed. Shelters should consider including plans to leverage these additional resources in times of need.

Multiple utility vehicles work to restore power after Hurricane Michael struck Florida. In some areas, outside utility workers came to repair power lines more quickly. ©Robert Blouin, 2017.

## PLANNING FOR UNPLANNED RESOURCES EXTENDING EMERGENCY SHELTER CAPACITY THROUGH COOPERATION By Juyeong Choi, Eren Erman Ozguven, and Tarek Abichou

During disasters, shelters provide essential services by distributing water, food, and other necessities and giving evacuees a safe place to stay until they can return to their homes. Government agencies often have detailed plans to ensure the success of these critical facilities. Recent disasters, however, have been so extreme that even well-planned shelters can easily be overwhelmed.

When shelter resources are exhausted, nongovernmental organizations (NGOs) and local businesses often step in to provide the extra supplies and labor required to meet community needs. As hazards grow frequent and intense, this is increasingly the case. Therefore, shelter planners might benefit not only from making accurate predictions of resources needed, but also by learning how to stretch their capacity when they face immense challenges. This can be done by harnessing the power of unplanned resources.

Imagine a Category 5 hurricane bearing down on a highly urbanized city. Because of the low probability but high impact of such an event, it's not likely that the city's shelters will be fully prepared to handle the disaster. The municipal utilities and public transport systems expected to support shelters could be disrupted and the capacity of local government agencies maxed out by the devastating impact of the storm. Further exacerbating the situation, the shelters are likely to experience a surge of people seeking safe spaces. In such

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a scenario, the planned resources—such as stockpiles of food and water, medical supplies, and fuel for generators— will run out quickly in the face of the high demand. In a rural context, resource shortages and lifeline infrastructure issues would potentially be even more severe due to supply chain disruptions or other challenges that can stem from geographic isolation.

We argue that what we refer to as "unplanned resources" may be mobilized in emergency scenarios and can help support shelter operations. These resources refer to supplies and assistance from NGOs, local businesses, and community volunteers that can extend the capacity of overstretched shelters. If cities or rural municipalities have a plan in place to call for and make use of such unplanned resources, it could mean the difference between successfully providing shelter or furthering the harm of the event.

#### ACTIVELY ENGAGING WITH UNPLANNED Resource providers

Many researchers and government organizations recognize the importance of leveraging unplanned resources and have developed planning frameworks and guides to facilitate active engagement to support the use of both planned and unplanned resources in response and mitigation. In our work, for example, we have identified important players who help build resilience in seven infrastructure domains—civil, civic, social, cyber/ communication, environmental, educational, and financial. Building on an earlier research framework, we identified entities within these seven domains that emerge to bolster the demand on shelters' planned resources by providing unplanned resources. As such, it's essential to encourage open communication and collaboration between infrastructure entities and shelters to ensure successful response and, ultimately, community resilience.

Consider, for example, that during Hurricane Michael in 2018, about 375,000 people in the Florida Panhandle evacuated their homes. Our research team investigated the operation of hurricane shelters in Bay County, Florida, and found that effective, timely coordination and collaboration between diverse entities was key for successful shelter management. Michael—a Category 5 hurricane—affected local water, electricity, wastewater, and road infrastructure and challenged hurricane shelter operations in the county. For instance, large-scale power outages impacted numerous other systems, causing one of the shelters to close after its wastewater disposal system was disrupted by lack of electricity.

Despite the devastating impact, local emergency agencies were able to successfully supply all shelter needs and close the shelters a month earlier than expected after finding long-term lodging solutions for shelter residents. Figure 1 (available in online version) shows the interplay between such entities on the timescale of Hurricane Michael. Specifically, it illustrates how the massive power outage in Bay County could have delayed the recovery of affected communities and threatened the operations of many shelters. This did not come to pass, however, because in addition to planned restoration efforts of municipal utility operators, more than 5,000 crew members from outside the county—an unplanned resource—were deployed to expedite power restoration for Bay County. Such previously uncommitted resources enabled shelter residents to return to their daily lives much quicker than expected based on the county's restoration capacity.

#### **PLANNING AHEAD**

Currently, many agencies lack empirical data—such as who was previously able to provide unplanned resources and what resources were available—to guide them in promoting the interplay between diverse entities to support shelters. Since entities such as NGOs and local businesses often don't have formal commitments to provide localized assistance, it might be difficult to identify them in the planning stage.

Many hurricane-prone states, including Florida, South Carolina, and Virginia, activate shelters regularly and so have recognized the significance of these organizations and endeavored to engage them in disaster planning. That is, they're trying to convert unplanned resources into planned resources. In order to tackle the lack of data, these states have established multiagency sheltering task forces that connect organizations that supported previous hurricane response efforts to federal, local, state, NGO, and private sector partners. The end goal is to ensure that shelter planning can be more effectively coordinated beyond the immediate response to preparation for future events.

As disasters increase in frequency and magnitude, typical planning methods might not sufficiently prepare shelters for future extreme events. With this in mind, we should focus more on ways to extend the planned resources for shelters when they are challenged. By cooperating and collaborating with emerging players who can supplement the capacity of affected infrastructure services, shelter planners can hope for the best and be prepared for the worst.

## **ABOUT THE AUTHORS**

JUYEONG CHOI is an assistant professor in the department of civil and environmental engineering at Florida A&M University and Florida State University College of Engineering. Choi's master's research developed a functional stress-strain framework to quantitatively understand postdisaster operation of civil infrastructure, which he expanded with his doctoral work. Based on Choi's interdisciplinary research, he has developed a decision support system for healthcare facilities that facilitates capacity building planning for potential flood events.

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#### جرامی SUGGESTED TOOLS

Shelter Field Guide | Federal Emergency Management Agency and American Red Cross | A guide that provides a basic overview of shelter operations to organizations without previous disaster experience that describes how to open and manage an emergency shelter during a disaster.

Multi-Agency Sheltering/Sheltering Support Plan Template | Federal Emergency Management Agency and American Red Cross | A supplement for jurisdictional

emergency operations plans or mass care annexes that provides guidance and suggested procedures to be considered when developing a sheltering plan. This template places an emphasis on jurisdictional roles in managing and supporting sheltering activities.

# ARTICLES: LEVERAGING COMMUNITY GROUPS FOR COORDINATION OF MASS CARE

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Public libraries have an understanding of local contexts and can provide shelter during disasters. Libraries can play a supportive role in community response and recovery from disasters and should be involved in pre-disaster planning and decision-making. Libraries are flexible. Because we are flexible, we can mold the library to fit the need, whatever that need might be—if we need to be a shelter, if we need to have extended hours, or if we need to be a place for people to have community meetings.

This reflects an orientation to thinking and acting in less conventional ways when necessary and becoming more creative, innovative, and available to the community.

## THE DEFENSIVE MANAGER

Defensive library managers are hesitant about libraries playing a role in community-based disaster response, possibly because they feel that libraries lack the necessary expertise and are short on resources. Public service for the defensive manager involves maintaining and protecting the long-term institutional identity of the public library rather than changing and transforming it. Accordingly, for them, a clear public duty is not to respond to new demands but to resist any library misuse. One manager stated:

I see the library as doing more of what we always do. I don't necessarily see libraries as a place that would shelter people. A building isn't built for that. We don't have showers, we don't have kitchens, we're very different from a place that would be used as a shelter. I don't know that that's a role we would play.

Defensive managers are more motivated to act on issues they believe will damage the organizational image. Anything that is perceived as a risk to their organization and its image is considered a threat and triggers resistance.



The Rosa F. Keller Library was restored using FEMA funds after Hurricane Katrina. ©FEMA, 2012.

#### **MOVING FORWARD**

Promoting a more proactive and holistic approach to disaster response involves recognizing local public service organizations, such as public libraries, ahead of time and inviting them to participate in disasterrelated planning and decision-making. Predicting which organization will be part of the network, however, involves understanding manager perspectives. Although some might be reluctant to assume a new role, others will be open to take less-conventional directions. Public officials can therefore guide local emergency authorities to identify opportunities—such as mass care and sheltering, distributing supplies or health-related information, and otherwise supporting community response and recovery—where libraries and other local public service organizations can assist during disasters.

*This article originally appeared in the Research Counts series on January 4, 2018. This is an updated version.* 



MICHAL LINDER is currently a postdoctoral fellow at Ben Gurion University in Israel. Before that, she was employed by Virginia Polytechnic Institute and State University. Her research focuses on inter/intraorganizational behavior before, during, and after crises and disasters, with an emphasis on the range of managerial and community organizations' responses to emergencies.

Children help with the ribbon cutting at the reopening of the historic Cita Hubbell Library in New Orleans. Libraries can play a supportive role in community response and recovery from disasters. ©FEMA, 2013.

## **MANAGERIAL PERSPECTIVES** ON THE ROLE OF PUBLIC LIBRARIES IN DISASTER RESPONSE By Michal Linder

Disasters can prompt local public service organizations such as public libraries—to assume crisis-related roles to meet the needs of the community. These entities don't regularly focus on disaster management in their daily operations; yet they have deep understanding of local contexts and diverse expertise that can be useful in crises. Indeed, during times of disaster, libraries often provide space for medical care and may even become a temporary shelter or site for distributing donations.

Although these organizations often rise to the challenge of responding to disasters, their efforts aren't always visible and their capacities have not been systematically harnessed. This is the case, in part, because it is often challenging to predict the disaster-related responses of groups and organizations that do not routinely deal with emergency activities. Managers of these organizations have different perceptions and assumptions about their roles and capacity to assist in disaster situations. Organizations might also be unsure of which actions to take and to what extent their managers are willing to address community needs by providing shelter or other aid during disasters.

There is a need, however, to anticipate the potential decisions of these organizations by developing disaster response plans that take greater advantage of their resources and capabilities. This in turn could provide insight into ways to mobilize and incorporate potential

disaster-related efforts systematically into a broader whole community response.

To advance knowledge in this area of study, I interviewed public library managers and directors in Hampton Roads, Virginia, and found that although most officials agree that libraries should play a supportive role in disasters, they differ on the extent to which libraries should be formally involved in planning and response. For many, the dynamics of change seemed complex. Managers perceived a conflict between ingenuity and relying on expertise. Accordingly, respondent narratives reflected both rigid and adaptable components and included both defensive and proactive characteristics. The differences in perspectives can be explained by library policies, combined with how managers identify with their public service role. Two distinct types of managers emerged when characterizing such identification.

#### THE PROACTIVE MANAGER

Proactive library managers believe libraries should play a greater role in disasters. These managers do not always adhere to formal rules and procedures when making disasterrelated decisions, but rather remain open to new possibilities, such as deploying the organization's assets, at least temporarily, as if it were a first responder agency. These managers were open to using libraries to provide shelter and relief to affected populations. Proactive managers do not think of the organizational mission narrowly and so are open to innovative ways to reposition the library and adapt to new demands. One library director said:



#### The Librarian's Disaster Planning and Community Resiliency Guidebook | New Jersey State Library | This guidebook helps librarians to develop a resilience plan for their library and personal readiness plans for their staff.



PUBLIC HEALTH

Investing the time and resources necessary to partner with community- and faith-based organizations can enhance local health department capacity to provide mass care and shelter to disaster-stricken communities.

A pastor oversees a shelter for those evacuating from Hurricane Katrina. © John Whelan, 2005.

## THE INSIDE EDGE ENHANCING SHELTERS THROUGH COMMUNITY PARTNERSHIPS By Rachel Adams

Before disasters strike, local public health departments are ready to spring into action to prepare shelters for those who need them. They are responsible for assessing the environmental health and safety of shelters, conducting disease surveillance, coordinating the provision of mass care services, and ensuring shelter accessibility. But addressing the public health needs of disaster-afflicted communities can't be done without support-and that's where partnering with community groups can be particularly valuable. Community and faith-based organizations, or CFBOs, play a critical role in disaster preparedness and response. With their insider knowledge of the communities they serve, CFBOs can help local health departments plan for disasters by identifying community needs, communicating messages to the public, and reaching at-risk populations. One of the most important ways CFBOs directly support emergency response efforts is by providing mass care and shelter to disaster-stricken communities.

Federal emergency planning documents, such as the Federal Emergency Management's Strategic Plan and the Department of Homeland Security's National Response Framework, emphasize the importance of engaging CFBOs in disaster planning. These documents, however, offer limited guidance on what contributes to successful relationships. A team of researchers at UCLA surveyed 273 disaster preparedness coordinators at local health departments in the United States to learn how to strengthen partnerships

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between government and nongovernmental organizations. Results from this survey suggest that more full-time department staff, positive attitudes towards non-governmental organizations, and inter-organizational trust are associated with engagement between local health departments and CFBOs.

#### **COMMUNITY ENGAGEMENT ACTIVITIES**

There are many ways that government agencies can engage community organizations in disaster preparedness and response. These collaborative activities can be grouped into four overarching categories:

**Communication and outreach** involve the creation, distribution, and promotion of disaster information materials by health departments. Examples can include participating in community education sessions, health fairs, or other events and disseminating emergency preparedness and response communication materials—such as the American Red Cross Shelter Opening Plan, Shelter Rapid Needs Recognition Cards, and Multilingual Shelter Communication Tool—to CFBOs.

**Resource sharing** occurs when health departments and CFBOs share resources, such as services, facilities, and volunteers, to support disaster preparedness and response. For instance, Voluntary Organizations Active in Disaster (VOADs) is a network of volunteer organizations that participate in preparedness, response, recovery, and mitigation efforts to help disaster survivors and their communities. VOADs can assist health departments in shelter operations by providing disaster case management to evacuees, managing donated goods, and supporting spiritual and emotional care.

**Capacity building** can occur when health departments work with and train staff at CFBOs so that they can help community members during a disaster. For example, a booklet called Show Me: A Communication Tool for Emergency Shelters was developed by the Massachusetts Department of Public Health Office of Preparedness and Emergency Management as a resource for volunteer organizations and staffers, mental health workers, and public safety personnel to better assist individuals with access and functional needs in an emergency shelter setting. Another example of a capacity building activity is conducting community outreach with CFBO staff, which can help public health organizations better connect with vulnerable and hard-to-reach populations. Ensuring CFBOs have emergency supplies on hand is yet another way to build their capacity.

Partnership planning involves activities that local health departments can engage in to develop and maintain relationships with CFBOs. These include working with CFBOs to create a community-wide disaster preparedness plan with defined roles and responsibilities, establishing formal and informal agreements with partners, developing a National Incident Management System-compliant plan to be used in an emergency with CFBOs, and incorporating mechanisms for these organizations to provide input about emergency preparedness for vulnerable populations. For example, health departments can work with CFBOs to update shelter management plans and

manuals so that they include the latest information and guidance.

#### FACILITATING PARTNERSHIPS

When local health departments have full-time staff dedicated to preparedness, they can better participate in communication and outreach activities with and alongside CFBOs. Unfortunately, limited resources at local health departments make hiring additional staff an ongoing challenge. As such, resource sharing with CFBOs is a more sustainable way to increase staff capacity. Local health departments should therefore work with CFBOs to mobilize volunteers to distribute and promote disaster information materials that can facilitate shelter coordination.

CFBO trust in local health departments is associated with greater participation in capacity building and partnership planning. These activities require strong commitment from CFBOs since they must work alongside local health departments to develop emergency response plans, such as those pertaining to shelter operations, and train to become emergency responders in these settings. To build trust, local health departments need to invest time in these relationships and develop mechanisms to address obstacles they may encounter. For instance, establishing a memorandum of understanding that outlines clear roles and responsibilities can help manage expectations needed for effective shelter management. Additional suggestions for activities to strengthen inter-organizational partnerships can be found in the Assessment for Disaster Engagement with Partners Tool.



Volunteers from the nonprofit Angels for Action serve community members displaced by Superstorm Sandy. ©Angels For Action, 2012.



The knowledge, community connections, and insights of CFBOs can improve public health and emergency management actions during disasters, especially in relation to mass sheltering. Although this does require an investment of time and resources—which are often scarce—the outcome is greater trust, more capacity, and ultimately, a safer and more prepared community.



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#### **ABOUT THE AUTHOR**

RACHEL ADAMS is a research associate at the Natural Hazards Center and the National Science Foundation-funded CONVERGE initiative. Her research interests include building community resilience, reducing social vulnerability to disasters, and translating evidence-based practices in mergency preparedness and response. She earned her PhD in community health sciences from the University of California, Los Angeles Fielding School of Public Health and her Master of Public Health degree in epidemiology and biostatistics from the University of Southern California.



National Guard members and community groups help serve food to those impacted by Hurricane Sandy in Staten Island. ©A. Katz, 2012.

#### PUBLIC HEALTH Implications

Building relationships between public health agencies and community-based organizations before disasters can increase individual and collective capacity to provide assistance when needed most.

(국습) SUGGESTED TOOLS

CONVERGE Cultural Competence in Hazards and Disaster Research Training Module I CONVERGE Facility, University of Colorado Boulder I An online training module that focuses on culturally competent research and offers guidance on how hazards and disaster researchers can build cultural competence.

Shelter Opening Plan | American Red Cross | A form that can be used by shelter managers and staff to plan the opening of an emergency shelter.

Shelter Rapid Needs Recognition Cards | American Red Cross | These cards include questions to assist shelter workers in making assessments of clients' immediate needs at reception and as needed throughout the shelter setting.

Multilingual Shelter Communication Tool I American Red Crosss I A manual that helps bridge the gap when shelter residents and workers cannot communicate adequately via a common language.

Show Me: A Communication Tool for Emergency Shelters | Massachusetts Department of Public Health | A booklet to assist individuals with access and functional needs in an emergency shelter setting.

Assessment for Disaster Engagement with Partners Tool | UCLA Center for Public Health and Disasters | An assessment tool that helps local health departments evaluate their partnership activities with community and faith-based organizations and provides recommendations to enhance local collaboration efforts.

## **RELATIONSHIP BUILDING** THE POWER OF PARTNERSHIPS IN PREPARING SHELTERS BY MICHAEL STAJURA

Relationships are hard, but succeeding without them is harder. This is true for individuals, but it is even more essential for organizations that serve the public. It is difficult, though, to create new relationships in times of duress. Public health emergency planners—who are responsible for coordinating mass care, ensuring accessibility, and monitoring health concerns in shelters need to have critical relationships in place before the next disaster. Establishing interorganizational relationships that include community- and faith-based organizations isn't just an essential element of their jobs; it makes their job easier when it counts most.

Fundamentally, all disasters and public health emergencies are local events and, paradoxically, the larger the scale of the disaster, the more local the response. Response to the COVID-19 pandemic is an excellent example of why local relationships matter. When the capacities of all localities are strained at varying levels, effective local relationships can strengthen the emergency response by helping to maximize information and resource sharing.

It's essential to dispel a common misconception about what community-based groups want when they enter into interorganizational relationships with local government. The presumed answer is that community groups must want something costly—funding, supplies, training, or money. The reality is wildly different. How do we know? We asked them. The research team I was a part of at University of California, Los Angles conducted key informant interviews with community-based organizations active in disasters. Even though these community-based groups cut across jurisdictional population density, organizational mission and purpose, geographic region, and other traits, they shared a common desire. In our study, we found that the primary aim of these groups is to be treated as respected partners.

#### **PARTNERSHIPS THAT WORK**

Community groups have much to offer local disaster planning and response agencies and just want a seat at the table so they can effectively contribute. And in many cases, especially within specific populations, they could be better equipped to do so than local governments.

From our research, a good example of partnership emerged. A community center in the Pacific Northwest reported that they developed the trust of a large immigrant population in their geographical community. They had credibility and mutual respect. They had cultural and linguistic competence. The center had facilities and space and volunteers. When the H1N1 pandemic and the Severe Acute Respiratory Syndrome (SARS) crises were unfolding, the community center had a great deal more to offer than what the local public health department asked them for, which was information dissemination. The community center knew they had more to offer, but because they weren't present in planning, the health department didn't. The same is often true with disability services organizations, amateur radio clubs, houses of worship, Community Emergency Response Team (CERT) volunteers, and other groups.

When relationships are established before emergencies, everyone involved has a better sense of each other's capabilities and can increase their individual and collective capacities. A promising example of this was demonstrated in Southern California when a local health department collaborated with student volunteers from a local school of public health. When the use of medication points-ofdispensing increased in response to flu pandemic planning, the local health department was able to address their staffing needs by using supervised graduate student volunteers for tasks that did not require special training or certification, such as helping community members with intake and screening. This included completing forms, identifying any allergies or contraindications for the vaccine, and serving as translators.

#### HOW TO BUILD STRONG RELATIONSHIPS

There is clearly much to be gained by cooperating with community partners, but it does cost time. There is no denying that staff time matters and may be in short supply for often understaffed public health departments. While our research points to the fact that it's worth the time and effort to create and expand relationships, the problem is that the payoff isn't always fully realized until a disaster creates unmet needs. This can lead local government agencies to perceive that the investment in such relationships may never pay off. Our research, though, indicates that relationships are worth the investment over time even if their dividends are not immediately evident.

To learn more and increase relationship-building skills, local disaster and public health emergency planners might consider conducting a social network analysis (with a social network map) among their local community organizations active in disasters and invest in steps to improve their social network measures. Similarly, dedicated staff familiar with social networks and group dynamics would be ideal to manage relationships. There is an untapped body of knowledge from organizational studies that could be leveraged to help manage and facilitate interorganizational relationships.

Organizations that can't devote staff or funds to such endeavors can still improve their interorganizational relationships using available resources. The Assessment for Disaster Engagement with Partners Toolkit (ADEPT) is a great resource created by the University of California, Los Angeles Fielding School of Public Health, and the RAND Corporation has put together the ENGAGED Toolkit. Both resources can help guide disaster and public health emergency planners in evaluating partnerships and promoting collaboration.



The American Red Cross and volunteers from Harleyville First Baptist Church partnered to provide hot meals for those impacted by Hurricane Matthew in South Carolina. ©U.S. Air Force/Gracie Olson, 2016.

Yes, relationships are hard. Yes, they take time and effort. They're worth it, though. The power of relationships becomes readily apparent when a disaster displaces local populations, creating needs for mass care. When they are needed most, stakeholders will be glad that they put forth the effort on the front end.





#### **ABOUT THE AUTHOR**

MICHAEL STAJURA studied disaster sociology and public health emergencies at the University of California, Los Angeles. He has also published several widely syndicated essays relating to being a former foster youth who earned a PhD and on his experience of going from homelessness to graduating from West Point and becoming a U.S. Army officer in five years. Stajura currently works for the State of California.

## دوني SUGGESTED TOOLS

#### CERT Basic Training Participant Manual

Federal Emergency Management Agency | The Community Emergency Response Team (CERT) Basic Training manual helps train and organize teams of volunteers to assist their communities during emergencies. The manual focuses on, among other important topics, the provision of mass care and distribution of information is emergency shelters.

#### Assessment for Disaster Engagement with Partners Tool | UCLA Center for Public

Health and Disasters | An assessment tool that helps local health departments evaluate their partnership activities with community and faith-based organizations and provides recommendations to enhance local collaboration efforts.

#### **ENGAGED Toolkit | RAND Corporation | A toolkit designed to improve the engagement of nongovernmental organizations (NGOs) specifically, voluntary associations, philanthropic organizations, advocacy groups, community groups, and businesses—in disaster response and recovery. The toolkit provides suggestions on the different goods and services that NGOs can provide to community members who are sheltering during a disaster.**



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#### PUBLIC HEALTH IMPLICATIONS

Coordination and teamwork are key to planning for and providing essential mental health services such as counseling, acute treatment, and medication—in large-scale emergency shelters.

Volunteers wait for evacuees at a large-scale shelter in Texas. Image Credit: Shutterstock Images, 2017.

## MENTAL HEALTH NEEDS IN LARGE-SCALE SHELTERS LESSONS FROM DALLAS By Richard V. King and Carol S. North

As a major population center with major hurricane risks, the Dallas, Texas metropolitan area is no stranger to establishing large disaster evacuee shelters with robust mental health services. During Hurricanes Katrina and Rita in 2005, and Gustav and Ike in 2008, thousands of Gulf Coast residents were evacuated to Dallas, where the city had set up large shelters in the Dallas Convention Center, as well as smaller shelters in the area.

Providing mental health support in shelters of this size which can accommodate thousands of displaced people—is both necessary and complex. The experiences of Dallas during these mass evacuation events can help guide other communities that need to deliver mental health services on such a scale. Our research team has documented the lessons learned from these repeated experiences to help inform future mass evacuation responses.

#### THE DALLAS DESIGN

Part of the success of mental health care offerings in the Dallas shelters was that each followed a consistent design that situated a mental health clinic, staffed by volunteer mental health professionals, next to the main medical clinic. A first-stop entry desk for the clinics assessed and triaged patients, referring them for further psychiatric care or to crisis counseling to address their psychosocial needs. For the first few days following the hurricanes, the clinics were staffed around the clock by psychiatric providers and later reduced to regular daytime hours with on-call availability after hours.

Psychiatric providers in the clinics conducted focused psychiatric assessments, dispensed or prescribed medication, and ensured patients were referred to the level of treatment needed. Adjacent mental health counseling areas were staffed by counselors, social workers, and psychologists who met with shelter guests and regularly circulated through the shelter checking for unmet needs.

#### **CONSULTATION NEEDS**

Initially, mental healthcare workers in the Dallas shelters had to adjust their approaches. For instance, during Hurricane Katrina, posttraumatic stress disorder (PTSD) was originally expected to be one of the main presenting psychiatric problems at the shelter. However, since PTSD cannot be diagnosed until a month after exposure to the instigating stressor, this was not the case. Furthermore, a majority of evacuees were not directly exposed to physical disaster trauma. Instead, workers came to realize that clinical consultations would be primarily for pre-existing chronic psychiatric illnesses, as well as alcohol and drug addiction—all of which were over-represented in the disadvantaged populations of evacuees transported from other overpopulated shelters. Individuals who presented to the clinics for other reasons commonly needed to refill medications that had been left behind while evacuating or had run out. Additionally, the stress of evacuation, displacement, and separation from loved ones often generated anxiety, sadness, anger, and disrupted sleep in many evacuees.

#### **PSYCHOLOGICAL FIRST AID**

These normal responses to the extraordinary stresses of disaster were largely addressed through provision of psychological first aid and dispensation of nighttime sleep aids. Psychological first aid is an essential skill for disaster workers that consists of targeted listening and information-gathering, followed by providing education, immediate comfort, compassion, and social and emotional support. De-escalation of acute mental states and triage to appropriate care might also be employed. Caring for oneself and colleagues is also an essential part of psychological first aid, since it can be difficult to help others if you're in crisis. This reality, however, can be easily forgotten in the adrenaline rush of acute emergency response and cause personal capacity to be overextended.

#### STRATEGIES FOR PROVIDING CARE

After documenting many of these lessons, our team developed a plan for large evacuee shelter mental health care that can be adapted by shelter planners and responders who need to plan for and deliver resilient mental health care in their large shelter. A few main strategies to achieve this are:

- Surveilling mental health needs in the shelter population.
- Stabilizing pre-existing and emerging psychiatric conditions.
- Managing acute mental health problems using appropriate supportive counseling.
- Replacing or providing small amounts of medication, as needed.
- Triaging patients to higher levels of care or long-term treatment, as appropriate.

In addition to the comprehensive plan, a supplemental publication with more detailed information and an extensive collection of checklists, forms, floor plans, and templates that can be used in disaster health care operations is also available. These materials were informed by the Federal Emergency Management Agency National Incident Management System and can be modified to meet specific shelter needs.

Shelters housing large numbers of individuals need special consideration in addressing the mental health needs of evacuees. Counseling, medication provision, and active surveillance are essential services to ensure these needs are satisfied. Successful delivery of mental health services in mass evacuations and sheltering depends on coordination and teamwork in the shelter setting. Placing these values at the center of pre-disaster planning can help ensure that no mental health need is unmet.

#### **ABOUT THE AUTHORS**

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#### Shelter Rapid Needs Recognition Cards | American Red Cross | Cards with questions to assist shelter workers in making assessments of clients' immediate needs at reception and as needed throughout the shelter.

CONVERGE Disaster Mental Health Training

*Module* | CONVERGE Facility, University of Colorado Boulder | An online training module that focuses on mental health outcomes associated with disasters, with a particular emphasis on risk factors over time that make certain populations vulnerable to poor disaster mental health outcomes.

#### Psychological First Aid: Guide for Field Workers | World Health Organization |

Psychological First Aid is an evidence-informed modular approach to help children, adolescents, adults, and families in the immediate aftermath of disaster and terrorism. It is designed to reduce the initial distress caused by traumatic events and to foster short- and long-term adaptive functioning and coping.

#### Planning for Mental Health Care in Disaster

Shelters | Carol North, Richard King, Raymond Fowler, Rita Kucmierz, Jess Wade, Dave Hogan, and John Carlo | A formalized set of policies and guidelines to use in planning for a mass shelter response.

# PSYCHOSOCIAL SUPPOR

PUBLIC HEALTH Implications

Mental health care in emergency shelters is critical to both short- and long-term emotional recovery. Planning for provision of mental health services should consider availability of medication, confidentiality, and outreach to ensure individuals are aware of resources.

## MENTAL HEALTH INTERVENTIONS IN SHELTERS LESSONS FROM HURRICANE HARVEY By THANH THUY TRUONG, ASIM SHAH, WAYNE K. GOODMAN, SOPHIA BANU, ALISON SALLOUM, LAUREL WILLIAMS, AND ERIC A. STORCH

Most of us trudge through our daily activities with a sense of familiarity and routine. We go to work or school, tend to our loved ones, and care for ourselves if time permits. Anticipation and preparation for a natural disaster might not be priority for most people, and even if it were, an event as destructive as Hurricane Harvey could render many plans ineffectual.

This was the case for some when Harvey submerged Houston, Texas, seemingly overnight on August 25, 2017. Nearly 800,000 Houstonians were evacuated as water poured into their homes and multi-story houses, cars, and treasured objects were completely underwater. Many lost loved ones, including pets, who were swept away by the rushing current. As houses disappeared and lives were uprooted in an instant, the city faced a humanitarian crisis that warranted the largest disaster response in the history of the state. Houston's healthcare system was tasked with providing medical and mental health care to thousands of displaced residents in an emergency setting, which raised challenges such as having limited individual healthcare information, staff turnover, and low supplies of medication.

As part of that response, our team of psychiatrists and therapists from Baylor College of Medicine arrived at the

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George R. Brown Convention Center (GRBCC) to help deliver mental health care to those displaced, although information and supplies were limited. The experiences and information gathered can provide useful lessons in how to better prepare shelters to provide mental health services.

The GRBCC is a place where tourists and residents typically gather to enjoy entertainment. But for the thousands of weary people escaping the impacts of the hurricane, it became a haven where they could find dry clothes and space to rest. The GRBCC was one of 692 temporary shelters that were erected in less than a week, housing about 10,000 of the 42,000 displaced residents whose other options had been destroyed in the storm.

Mass shelter situations can be stressful for even the most stable individuals, but for those with serious psychiatric conditions such as depression, bipolar disorder, or schizophrenia, they can be especially trying. It is imperative that shelter staff be able to assess the immediate medical needs of evacuees. We found that in some cases, people arrived at the GRBCC shelter without access to their medications, which had been left behind during the emergency evacuation. Some experienced a worsening of symptoms such as anxiety, while others developed new symptoms from the trauma. Insomnia was pervasive, draining energy and interfering with the ability to think clearly. Initially, only two medications—generic versions of Prozac and Zoloft were available at the rapidly established on-site pharmacy. Fortunately, a generous donation from a local pharmacy stocked most needed medications in just two days. We found another challenge was recordkeeping. Keeping documentation consistent was problematic due to providers switching shifts and collaborating with other organizations such as the Federal Disaster Medical Assistance Team. Even with the best efforts, organizing notes and ensuring appropriate follow-up care after leaving the shelter was difficult.

Regardless of the extent to which mental health services are needed—or offered—our findings show the shelter atmosphere is not conducive to seeking treatment. The privacy needed to discuss the whirlwind of emotions that people are experiencing is often an unavailable luxury. Despite GRBCC boasting nearly two million square feet of space, the center seemed crowded with evacuees bustling about trying to gather essential items and plan their next steps. The shelter had a makeshift clinic, but it wasn't located in a discreet spot, so many individuals did not feel comfortable seeking psychological support or returning after their initial meeting.

The mental health team made creative attempts at engaging evacuees with signs stating, "Need to talk?". However, when in psychological and physical shock, words can escape us. Confronted with such a powerful force as a natural disaster, vulnerabilities are laid bare. People often need to feel safe before they can verbalize their internal experiences. The team was able to intuit the multifaceted and complex ways in which people were processing trauma and provided support by other means—including assisting with access to food, clothing vouchers, medical care, or simply being present. We learned that support for basic physical needs is enough for most.

Disaster relief involves a complex system of moving parts, and psychiatric services are an important element. The invisibility of psychological disruptions can shift mental health to the backseat during a disaster response. Yet mental health concerns increase dramatically after disasters for children and adults alike. When individuals who need mental health support arrive at evacuation centers and are faced with limited medication supplies, and in non-ideal settings (e.g., limited confidentiality), it can discourage them from seeking help. We learned that faster intervention could occur if evacuation centers kept an emergency supply of common medications.

Without proper follow-up, these individuals are likely to deteriorate and experience even greater barriers to treatment such as transportation and cost. Providing patients with a list of options for treatment, a small supply of medications, and an appointment if possible may increase rates of follow-up. Our work at the GRBCC highlights the necessity of integrating emergency psychiatric services into disaster relief efforts to enhance emotional recovery and reduce risk of long-term psychiatric problems.

## द्धि SUGGESTED TOOLS

Addressing the Needs of the Seriously Mentally III in Disaster | Center for the Study of Traumatic Stress | This fact sheet reports on the needs of people with serious mental illness (SMI) after disasters and how their needs differ from those of people without SMI. It also discusses the ways disasters disrupt mental health services and how to help those with SMI.

*Initial Intake and Assessment Tool* | American Red Cross and U.S. Department of Health and Human Services | A shelter intake form for quickly assessing an individual's functional, health, and psychosocial needs.

#### **ABOUT THE AUTHORS**

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Implementing a steppedcare approach to mental health triage, screening, and referral for children in shelters can make sure they receive the mental health care they require sooner rather than later.

Children entertain themselves in a Houston shelter during Hurricane Harvey. Image Credit: All Stock Photos, 2017.

## **STEPPED-CARE** MENTAL HEALTH TRIAGE, SCREENING, & REFERRAL FOR CHILDREN IN SHELTERS by betty prefferbaum, anne K. Jacobs, and Merritt D. Schreiber

When families with children evacuate to a disaster shelter, they have likely suffered serious trauma or loss—experiences that can stress children, exacerbate preexisting emotional and behavioral difficulties, and put them at risk for incident-related clinical disorders. The shelter experience itself can also increase the risk for maladaptive psychological outcomes, especially in children from socially disadvantaged backgrounds, those who have faced childhood adversities, and those with pre-existing mental health problems.

While responding to children's psychological needs might seem to slow and complicate response and recovery efforts, it is important to ensure that children are referred early to appropriate services, including clinical evaluation and intervention if needed. Triage and screening in shelter situations can decrease this burden. The straightforward triage, screening, and referral process—which ideally would be applied to all children—can be performed relatively quickly and has the added benefit of informing decisionmaking about the allocation of limited resources.

#### A STEPPED-CARE APPROACH TO TRIAGE, Screening, and referral

A stepped-care approach to triage, screening, and referral can be implemented in shelters, along with various models

of psychological first aid, to make sure children receive the mental health care they require sooner rather than later. The approach relies on assessment to determine what services are appropriate and to advance successively to more intense services.

**Step 1:** The first step consists of rapid triage, conducted by non-mental health care providers, that ascertains a child's disaster experience (such as sustaining an injury or witnessing a troubling scene), losses, and initial reactions (such as extreme fear or a perceived threat to their life). Initial rapid triage is a primary assessment of risk based largely on reported objective aspects of exposure. This can help distinguish children who are at risk for developing a psychiatric disorder, those with normative distress that is likely to be transitory, and those who might need crisis intervention. Children who express the intent to harm themselves or others, those who show disorganized or uncontrollable behavior, and those with an urgent need for medication require immediate crisis intervention with a mental health clinician and referral for a formal clinical evaluation.

**Step 2:** Children who are less vulnerable but still considered to be at moderate risk for the development or exacerbation of psychiatric disorders are prioritized for secondary mental health screening (using interviews or written instruments) and supervised by child mental health professionals trained in traumatic stress assessment. Screening is a secondary

assessment that requires more in-depth interaction with children and their caregivers. Shelter workers cannot relu solely on caregivers in assessing children's reactions to disaster or their needs, because caregivers are likely to underestimate the child's distress and children sometimes conceal their feelings to avoid upsetting their caregiver. Caregivers are better at reporting externalized reactions, such as anger or behavior problems, while children provide more information about internalized reactions, such as sadness or worry. Therefore, in addition to questioning children directly, screeners should ask caregivers to provide information about the child's experiences and reactions. Such screening does not establish diagnoses—for instance, post-traumatic stress disorder or major depression-but instead, identifies children who are at risk for emotional and behavioral difficulties.

**Step 3:** Children with positive secondary screenings should be referred for a comprehensive clinical evaluation and empirically supported clinical intervention, including



"Some children will lack the ability to effectively communicate their needs in the response to disaster and, therefore, might be overlooked. Triage and screening can quickly identify children in need and refer them to the appropriate services." traditional clinical treatment if necessary. Referral is based on triage and screening that identify not simply global risk, but also the type of risk, which also informs specific resources needed to help the child. Referrals can address a range of concerns from meeting basic needs to connecting children with intensive psychological interventions. For example, unaccompanied children might be referred to social services and to services for those with traumatic loss. Children who manifest normative distress can be referred to empirically supported psychosocial interventions designed to provide support, promote adaptation, and enhance coping. Examples of these brief interventions include helping children put feelings into words, strategies to improve sleep, and techniques to reduce distressing reactions to trauma reminders.

#### TOOLS, RESOURCES, AND TECHNOLOGY

Shelter organizers who want to implement a stepped-care approach to children's mental health needs have a variety of resources at their disposal. For instance, PsySTART is a rapid mental health triage technology used to identify and refer children at general risk for psychiatric illness. The system also geocodes and aggregates de-identified individual triage information for real-time situational awareness. This can help to produce an overview of risk (such as the number of children involved and the severity and types of mental health risk) for the entire child population exposed to an event. There are multiple resources available to assist in screening for child trauma.

Several elements should be considered when selecting screening interviews and tools. Ideally, tools should be brief, uncomplicated, and acceptable to those being screened, as well as appropriate for the child's developmental level and culture, the time when assessment occurs relative to the disaster, and the shelter environment. Screening items should be adapted for incident-specific features to assess the evolving aspects of children's disaster exposure, the loss of or separation from family and pets, their initial reactions to the disaster, and existing adversities such as diminished social or economic resources.

When children suffer as a result of their disaster and sheltering experiences, their caregivers are likely to be distressed and distracted as they attend to next steps. Some children will lack the ability to effectively communicate their needs in response to the disaster and, therefore, might be overlooked. Triage and screening can quickly identify children in need and refer them to the appropriate services both within and outside shelters, thus improving post-disaster efficiency and effectiveness. A stepped-care approach connects children with appropriate services including clinical evaluation and empirically supported intervention if needed and has the additional benefit of informing decision-making about the use of limited resources.

#### **ABOUT THE AUTHORS**



BETTY PFEFFERBAUM is the George Lynn Cross Research Professor Emeritus in the department of psychiatry and behavioral sciences in the College of Medicine at The University of Oklahoma Health Sciences Center in Oklahoma City, Oklahoma. She is internationally recognized as a leader in child disaster mental health.



ANNE K. JACOBS collaborated for more than a decade with the Terrorism and Disaster Center of the National Child Traumatic Stress Network. She published numerous scholarly works including Psychological First Aid Field Operations Guide (2nd Ed.) and has been interviewed by news outlets on various topics related to youth and trauma. Currently, Jacobs enjoys serving children, adolescents, and their families through her private practice in Edmond, Oklahoma

MERRITT D. SCHREIBER is a professor of clinical pediatrics in the department of pediatrics at Harbor-UCLA Medical Center Lundquist Institute and the David Geffen School of Medicine at University of California, Los Angeles. Schreiber created the PsySTART Rapid Mental Health Triage Incident Management System for stepped triage to care via rapid identification of at-risk victims and emergency responders. PsySTART has been used throughout the United States and internationally. Schreiber also developed "Anticipate, Plan and Deter," a disaster responder resilience system.

## **SUGGESTED TOOLS**

Listen, Protect, and Connect: Family to Family, hbor to Neighbor | County of Los Angeles **Department of Public Health Emergency** Preparedness and Response Program | A psychological first aid system designed for families and communities to help each other during disasters.

Psychological First Aid Field Operations Guide | National Child Traumatic Stress Network and National Center for PTSD | A handbook detailing the tenets of delivering psychological first aid, along with resources for provider care, worksheets, and handouts for disaster survivors. This guide can be used in mass care settings such as emergency shelters.

National Children's Disaster Mental Health Concept of Operations | Terrorism and Disaster Center at the University of Oklahoma Health Sciences Center | This tool outlines a triage-enhanced children's disaster mental health incident response strategy for preparedness, response, and recovery operations. It outlines PsySTART, a rapid mental health triage technology used to identify and refer children at general risk for psychopathology.

Screening and Assessment Considerations for entation | National Child Traumatic Stress Network | A set of auidelines to consider when selecting trauma screening or assessment tools to implement in a given system.



An American Red Cross nurse assesses the healthcare needs of a shelter resident in Panama City, Florida.

#### **PUBLIC HEALTH** IMPLICATIONS

Public health surveillance in disaster shelters is a critical tool to identifu and address immediate health needs and future preparedness.

©Daniel Cima/American Red Cross, 2018.

## **TAKE SHELTER** MONITORING THE HEALTH OF DIVERSE POPULATIONS DURING DISASTER **BY AMY HELENE SCHNALL**

The 2017 hurricane season was one of the most active seasons on record. Hurricanes Harvey, Irma, and Maria caused catastrophic damage, including the widespread loss of power, destruction of homes, and critical infrastructure failures. Although some people remained in their homes, thousands of residents sought refuge at available shelters, many of which were opened in partnership with the American Red Cross.

During such large-scale disaster responses, public health surveillance is an important means for tracking emerging illnesses and injuries, identifying populations disproportionately impacted, and assessing the effectiveness of response efforts. Timely morbidity surveillance—or monitoring and tracking physical and emotional well-being-of sheltered populations is crucial for identifying and addressing immediate needs and can improve preparedness for future disasters.

Shelter health surveillance is an efficient means of quickly identifying and characterizing health issues and concerns in sheltered populations. Identifying and foreseeing potential or actual health risks is a fundamental duty of those managing disasters, and shelter data enables them in developing evidence-based strategies to address identified needs. When incorporated into broader surveillance strategies using multiple data sources, shelter surveillance can assist disaster epidemiologists and paint a more comprehensive picture of community health.

#### COLLECTING HEALTH DATA IN DISASTER RESPONSE

The American Red Cross collects information on daily visits to the shelter health clinic using an Aggregate Morbidity Report form. This is also referred to as the "tally form" because daily client visits are tallied on a separate form every 24 hours. Because disasters often create travel and communication challenges that complicate the collection and transmission of surveillance data, the Centers for Disease Control and Prevention (CDC) and the American Red Cross began a protocol during the 2012 Hurricane Sandy response to transmit tally forms to the CDC via cellular phone photographs for remote real-time reporting.

This protocol was challenged during the complicated 2017 hurricane response in the U.S. Virgin Islands (USVI). In that response, the majority of communication systems in the region were down. There were also limited American Red Cross Disaster Health Services staff on the islands. In response, we partnered with shelter volunteers to implement the tally form and collect the data every 48 hours in person. Currently, the American Red Cross and CDC are collaborating with a third party to develop an electronic version of the form that can be easily adopted to rapidly collect and report information.

The tally form collects demographic information on clients who visit shelter clinics, including reason for visit (i.e., the complaint with which person presented or reason why they sought care) and how it was resolved. Visit reasons—for example, pain, blood pressure checks, or gastrointestinal illnesses—are broadly categorized into five main groups: (1) acute illness/symptoms, (2) injuries, (3) behavioral or mental health, (4) exacerbation of chronic illness, and (5) health care maintenance. Clients can have multiple reasons for each visit, and a client visit disposition could include both treatment at the shelter and referral to other locations such as hospitals or dental offices. If an individual accesses care more than once per day, each visit is counted individually and is included in the total.

#### SEEKING CARE IN THE 2017 HURRICANE RESPONSE

Morbidity data were collected from 24 American Red Cross shelters in Texas between August and September 2017 and from all five shelters on St. Thomas and St. Croix between September and October 2017. Similar to other disasters, exacerbation of chronic disease was a top reason for visits in both Texas and the U.S. Virgin Islands during the 2017 hurricane season. Respiratory and gastrointestinal visits remain of concern in mass sheltering situations, although these visits represent a small percentage overall, with pain being the most frequent reason for an acute illnessrelated visit. These data demonstrate that routine health maintenance and chronic conditions are of more concern in general population shelters than infectious diseases. Behavioral health is another important aspect of shelter surveillance. This is because displaced populations may be more at risk of experiencing mental health effects related to the disaster. Unfortunately, the tally form likely underrepresents behavioral and mental health because individuals may be less likely to seek mental health care from shelter nursing stations and there are often separate mental health teams within the shelters.

#### WHY THESE DATA MATTER

Shelter staff provide important services for those displaced during disasters, especially for populations disproportionately impacted, such as older adults and those with chronic illnesses. The 2017 hurricanes caused widespread power outages, reduced functionality of USVI hospitals, and closed clinics, disrupting health management and continuity of care. Therefore, the burden of chronic illness and routine care was partially placed on shelter volunteers.

During the response to Hurricanes Irma and Maria in USVI, shelter surveillance was one of the only sources of near realtime public health data available. These data were integral to the response and allowed for the USVI Department of Health to monitor the well-being of shelter populations, determine changing needs, and assist in resource allocation based on evidence.







Reasons for Accessing Shelter Health Services

Oth-

Shelter surveillance can quickly identify and characterize health issues in disaster shelters, allowing evidence-based strategies that address identified needs to be developed. When woven into broad surveillance strategies along with other data sources, shelter data can help disaster epidemiologists to provide more comprehensive community health information, as well as plan for and respond to health issues both in and outside of shelters.

#### **ABOUT THE AUTHOR**

AMY HELENE SCHNALL has been an epidemiologist on the Disaster Epidemiology and Response Team with CDC National Center for Environmental Health since 2008. She focuses on surveillance and assessments throughout the disaster cycle. Schnall leads the Disaster Epidemiology Training, Community Assessment for Public Health

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Disaster-Related Morbidity and Mortality Surveillance eLearning | Centers for Disease Control and Prevention | This eLearning module discusses why disaster-related public health surveillance is important, reviews the purpose of morbidity and mortality surveillance, and offers tools to assist in conducting both. The goal is to provide an overview of disaster surveillance, so the reader has a baseline understanding of surveillance activities conducted throughout a disaster response.

#### **Disaster-Related Morbidity Surveillance**

Forms | Centers for Disease Control and Prevention | This website provides various forms to capture ad-hoc active surveillance within acute care facilities such as shelters with medical/nursing staff. The Natural Disaster Morbidity Surveillance Tally Sheet is modeled after the American Red Cross Aggregate Morbidity Report Form.

A Primer for Understanding the Principles and Practices of Disaster Surveillance in the United States | Centers for Disease Control and Prevention | This document outlines a public health surveillance approach that may be used during a disaster response and reviews principles and practices of disaster surveillance. It provides key concepts and challenges to consider when conducting disaster surveillance.



Kaila Yeager, regional emergency response advisor for the Florida Department of Health, trains shelter staff on operations during the COVID-19 pandemic. ©Elizabeth Dunn, 2020.

Mental health interventions at both the organizational and individual level can help shelter staff manage the acute and chronic stress caused by cooccurring disasters. Simple techniques for recovery can include:

- Catching up on sleep.
- Exercising.
- Journaling.
- Taking a "time out" when things are particularly stressful.
- Practicing mindfulness.
- Joining a support group.
- Seeing a mental health counselor or therapist.

#### **CHRONIC STRESS**

Emergency management and public health workers have been responding to the pandemic for nearly a year now, often working overtime because of the complexities of managing and planning for such an uncertain threat.

Our staff have been going through this COVID thing now for months. They've been working extra duty. They've been working under the anxiety of perhaps taking home COVID to their families. I think for this particular season, there is going to be a heightened level of fatigue [that] starts before we even get into hurricane season and have a storm. —Working Group participant

As job demands increase and individuals are disconnected from social support networks by the pandemic, stressors can manifest in higher levels of burnout, emotional exhaustion, and compassion fatigue. Chronic stress and burnout can lead to a host of psychological and physiological health issues, including depressive and anxiety disorders, headaches, dysregulated sleep, and respiratory infections.

Reducing burnout doesn't happen overnight and often requires managing these chronic stressors. Individual strategies to reduce stressors include establishing adaptive time management techniques, developing strong social connections, and taking steps to rediscover personal meaning in life and work.

Employers can also help reduce staff and volunteer burnout by assuring workforce resources match demands, developing disaster behavioral health plans, and adapting staffing patterns that reduce stress and support recovery. Just-in-time trainings—including those focused on stress management and disaster behavioral health—can help workers prepare for increased stress, as can relevant resources delivered through virtual incident management systems. Using a job hazards assessment approach in planning and mitigating physical and emotional hazards is also effective.

#### CONCLUSION

Serving shelter clients while experiencing anxiety heightened by COVID-19 will exacerbate both short- and longer-term emotional stresses and other challenges for shelter workers. A broad strategy that recognizes the cumulative impacts of compounding disasters is needed. Interventions such as reflective supervision, employee assistance programs, or cognitive behavior therapy can be implemented at both organizational and individual levels. Making these resources available to staff and volunteers can assure that those who run the nation's shelters are cared for to the same degree as those who stay there.



## HURRICANE SHELTERS & COVID-19 PROTECTING WORKERS' EMOTIONAL WELL-BEING By Kelsey Merlo, Katrina Conen, wie Yusuf, Jennifer Marshall, Joshua G. Behr, and Elizabeth Dunn

When disaster strikes, employees and volunteers mobilize to provide shelter for those affected. In 2020, those involved in mass care planning and sheltering dealt with a historic hurricane season characterized by a record number of named storms. Simultaneously, the ongoing COVID-19 pandemic jeopardized the psychological well-being of the emergency management workforce, including those who work at emergency or special medical needs shelters.

Because these personnel are fundamental to shelter functioning and the protection of the populations they serve, action to mitigate potential turnover, absenteeism, and staffing shortages—all of which diminish our nation's hurricane response capabilities—is critical. One way to decrease these issues is by addressing the psychological needs of shelter workers. With this in mind, we formed a CONVERGE COVID-19 Working Group with the goal of identifying psychological health concerns of hurricane shelter workers and well-being strategies that might support them.

#### ACUTE STRESS AMONG SHELTER WORKERS

An impending hurricane can cause collective anxiety as people assess storm risk, plan for potential damage, and determine how to best weather the storm. During the 2020 hurricane season, however, shelter staff and volunteers also faced the possibility of contracting COVID-19, either in shelters or in their community.

As with any other season, we always have those concerns about our families. Are they safe? Then with this COVID-19 issue, we have the concern about 'If I serve like I'm supposed to, am I going to get sick? Am I going to take the illness back to my family?' And that just adds to all the normal concerns. —Working Group participant

Good communication about shelter practices, such as those put in place to protect physical health, can help lessen such concerns. Information should be delivered in an honest, specific, and consistent manner and provide insight into an organization's plan to mitigate risks in the shelter environment.

Shelter staff can also practice techniques to limit negative emotional experiences. In particular, we suggest individual strategies that help workers reduce adverse feelings before they escalate. This could include reaching out to others for support or engaging in calming activities. Shelter staff and volunteers might choose to bring small items—such as books, writing journals, playing cards, or headphones—to help proactively regulate emotions in stressful shelter environments. Taking time to recharge during or after a sheltering event is also a good idea.



#### Emergency Evacuation and Sheltering During the COVID-19 Pandemic | National Academies of Sciences, Engineering, and Medicine | This rapid expert consultation aims to help emergency planners and other decision makers identify strategies for updating evacuation plans, sheltering operations, and risk communication practices to prepare for hazards and disasters that may occur during the COVID-19 pandemic and during future large-scale public health

Tips for Disaster Responders: Understanding Compassion Fatigue I Substance Abuse and Mental Health

threats.

Substance Abuse and Mental Health Services Administration | Tip sheet for disaster responders that describes the causes and signs of burnout and secondary traumatic stress and provides tips for how to reduce these occurrences.

Navigating the Emotional Demands of Work | University of South Florida | A webinar providing guidance on how to navigate the emotional demands of work during a sheltering event.

A QuickGuide to Disaster Workforce Planning during the 2020 Hurricane-Coronavirus Pandemic Season and Beyond I University of South Florida | A guide to assist emergency planners in recruiting and developing a disaster response workforce during compounding disasters.

Job Hazard Analysis of Shelter Operations Tool | University of South Florida | A job hazard analysis of shelter operations worksheet to inventory job processes, identify their associated hazards, implement controls, and evaluate level of risk associated with each job.



KELSEY MERLO is an assistant professor in the industrial-organizational psychology program at the University of South Florida. Her research captures the day-to-day emotional experience of working as it unfolds in the moment and across time. In particular, Merlo explores the influence of emotions on worker functioning in the moment and the accumulation of emotional experiences to the end of the day. Her research has been published in peerreviewed outlets (e.g., *Current Directions in Psychological Science, Cell*, and *Journal of Business and Psychology*) and featured in popular press outlets like Psychology Today.

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JENNIFER MARSHALL is an associate professor and interdisciplinary faculty lead at the University of South Florida College of Public Health, Chiles Center, and she serves as the director of planning and evaluation for the National Institute for Occupational Safety and Health-funded Sunshine ERC for occupational health, safety and wellness. Her research examines health disparities, social determinants of health, and social services in perinatal home visiting, disability, mental health, substance dependence, and disaster response. Areas of expertise include mixed-methods, communitybased, participatory research, and program evaluation. Marshall has led community-based research on systems of care and family supports related to the Zika epidemic, hurricanes, and the COVID-19 pandemic.

JOSHUA 6. BEHR is a research associate professor at the Virginia Modeling, Analysis, and Simulation Center at Old Dominion University. Behr's research focuses on community resilience, catastrophic events, evacuation behavior, recurrent flooding, and the disposition of medically fragile and vulnerable populations in the post-event recovery process. Behr uses this research to forecast storm damage, displaced populations, recovery times, well being of populations, and cost pressure on health systems, in addition to developing indicators of household and community vulnerability in the modeled recovery processes.

**ELIZABETH DUNN's** experiences involve grassroots initiatives for development and disaster response, conducting needs assessments, data analysis, and utilizing that information to provide consultation for program development and/or identifying innovative solutions to improve current practices. She serves as an instructor at the University of South Florida College of Public Health, focusing on disaster management, international humanitarian relief, and homeland security. Dunn's research interests include examining and evaluating disaster management systems working primarily with vulnerable populations, community engagement and multidisciplinary collaboration, and examining how the built environment and social determinants impact at-risk neighborhoods, population movements, and resettlement (i.e., evacuation orders, IDPS/refugees, human trafficking).



Shelter workers are called on to provide many different services, including medical care and mental health support. ©Spanish Red Cross, 2016.

## **PLANNING IN ADVANCE** PROMOTING HEALTH AND WELLNESS IN DISASTER SHELTERS by tener goodwin veenema and mary casey-lockyer

Emergency shelters regularly provide services to at-risk populations. These groups—including children, older adults, those experiencing homelessness, and those who are poor or chronically ill—are often disproportionately impacted by disaster. Relocation to a shelter environment can further affect their physical, mental, and emotional well-being.

The interplay of poverty, long-standing health conditions, and psychological trauma creates further layers of vulnerability that can result in poor outcomes for those impacted by disaster. For example, following recent major hurricanes, many shelter residents had high rates of chronic disease, often lacked health insurance, and received some type of public assistance. The burden of chronic disease among shelter populations—compounded by stress, anxiety, grief, and sleeplessness—contributes to the challenges of delivering healthcare services to clients residing in disaster shelters.

For these and many other reasons, healthcare professionals and shelter managers provide healthcare services that can range from basic first aid to advanced chronic disease management. Planning in advance to support healthcare workers and ensure robust healthcare service provision can make all the difference in disasters.

# HOW HEALTHCARE PROVISION VARIES ACROSS SHELTERS

The American Red Cross (ARC) is designated in the U.S. National Response Framework under Emergency Support

Function 6 (ESF-6) as the support agency for mass care and sheltering. As part of a congressional mandate to provide sheltering after disasters and other major events, ARC operates approximately 60% of all disaster shelters in the United States with support from the Federal Emergency Management Agency. The other 40% of shelters are run by a complex mix of non-governmental and faith-based organizations, as well as local and state providers.

**PUBLIC HEALTH** 

IMPLICATIONS

Health outcomes in emergency

shelters can be improved

disease control, medication

management, mental health

services, and communication

among providers before

disasters strike.

by creating systems for

After large scale events, shelters often serve as satellite healthcare settings that function outside of the normal regulatory oversight of the U.S. healthcare system. Because of this, and because of a lack of consistency in shelter operator processes and procedures, the quality of healthcare services can vary from shelter to shelter. Some shelters might be staffed by federal disaster medical assistance teams, while others might rely on volunteers and retired registered nurses, resulting in variability in the scope and types of healthcare services offered.

#### **RESEARCH ON PROMOTING HEALTH IN SHELTERS**

Our research team conducted an integrative review of published papers and shelter reports to find out what factors were associated with promoting the best health outcomes in shelter populations. Notably, we found that systematic analysis of the quality of health services rendered in disaster

shelters is underrepresented in the literature and the true health outcomes of disaster shelter residents are currently unknown.

This is problematic because many disaster victims arrive in need of medications for a range of chronic and acute healthcare needs. In high-population shelters, it is critical that individuals are systematically assessed and tracked by licensed healthcare providers knowledgeable about public health in order to prevent disease outbreaks. Moreover, writing and filling prescriptions requires systems to be in place for medication procurement and distribution. Infection control and prevention measures, such as surveillance, detection, isolation, and quarantine, are crucial for promoting health and so also need to be in place. In addition, the need for mental health services also suggests that the presence of mental health professionals on site would improve quality and completeness of care.

The Centers for Disease Control and Prevention has guidance documents specific to disaster relief for healthcare professionals, as well as a surveillance reporting system and a tool for conducting disaster shelter assessments. Cot-to-cot assessment and surveillance interviews identify possible disease outbreak situations and shelter residents in need of care or referral. The presence of systems to ensure clear and ongoing communication between providers and healthcare organizations about shelter clients and public health reporting can improve overall health and wellness. Finally, our research revealed that identifying a sufficient number of qualified, disastertrained individuals before an event can ensure that the best healthcare providers and shelter staff are available to support diverse and at-risk shelter populations.

#### THE TAKEAWAY

Our study findings suggest that adequate healthcare staffing levels and staff preparedness, access to medications and medication management, rigorous infection assessment and control programs, timely referrals, bi-directional communication, and access to mental health services are vital to enhancing disaster healthcare services. Most importantly, better pre-event planning and robust preparation for service provision could improve health outcomes, especially among the most at-risk populations, in disaster shelters.

#### **ABOUT THE AUTHOR**

TENER GOODWIN VEENEMA is a professor of nursing at the Johns Hopkins School of Nursing and in the department of international health at the Johns Hopkins Bloomberg School of Public Health. She is an internationally recognized expert in disaster nursing and public health emergency preparedness. Her research is directed toward informing policy related to public health emergency preparedness and response for catastrophic events.

MARY CASEY-LOCKYER is the lead for Disaster Health Services at national headquarters of the American Red Cross. In this capacity, she leads all disaster health program development and initiatives. She holds a bachelor's degree in nursing from DePaul University and a master's in homeland security for public health preparedness from the Pennsylvania State University.

## 문학 SUGGESTED TOOLS

Aggregate Morbidity Report Form | Centers for Disease Control and Prevention | This form allows medical staff to conduct active surveillance in shelters during a disaster. The form contains sections pertaining to specific infectious conditions, chronic conditions, mental health, injuries, and routine health maintenance.

Environmental Health Assessment Form for Shelters | Centers for Disease Control and Prevention | A rapid assessment form of shelter conditions to identify immediate public health threats and their sources during a disaster.



Volunteers serve meals early in the COVID-19 pandemic. Image credit: Shutterstock.

## EVACUATION SHELTERS DURING A PANDEMIC Planning for Staff, Volunteer, and client well-being by Joshua G. Behr, wie Yusuf, Jennifer I. Whytlaw, Nicole S. Hutton, Jennifer Marshall, and Kelsey Merlo

Shelter staffing and management requires a range of expertise, including social-psychological and clinical skills. This has especially been the case during the COVID-19 pandemic, where the need to limit the spread of infection through distancing, heightened sanitation, and limited social interactions compounds the complexity.

Our CONVERGE COVID-19 Working Group identified issues that can impact the well-being of evacuees in congregate shelters. With input from more than 250 disaster professionals and researchers who participated in our Working Group sessions, we developed insights and knowledge useful for planning and operations in sheltering facilities under pandemic conditions. These takeaways, categorized below, should be fully considered in state and local sheltering planning policies and practices.

## **SHELTER OPERATIONS**

The number, type, and capacities of shelters can change during pandemics due to the need for social distancing, quarantining, and careful management of at-risk populations. Social distancing and quarantining might require shelter capacity to be adjusted downward, as well as additional sheltering venues to be identified to meet projected demands. Within shelters, internal movement, directional flow, visitation, and the ability to exit and reenter should also be reconsidered.

**PUBLIC HEALTH** 

IMPLICATIONS

The COVID-19 pandemic

that must be addressed to

ensure safe evacuation and

messaging, and workforce

dynamics.

sheltering, including evacuee

care, shelter operations, public

introduces new considerations

#### **SHELTER SUPPLIES**

The COVID-19 pandemic has changed the types and amounts of supplies needed in shelters while simultaneously disrupting supply chains. Higher-level sanitation protocols require additional cleaning supplies, equipment, and training. More disposable products are needed for food preparation, as well as the delivery of medical services. These supplies must be planned for, procured, staged, inventoried, and stored safely. Anticipating shifts in demand for these products and equipment and identifying reliable supply chains ahead of time are necessary.

#### INFECTIOUS DISEASE CONTROL AND CLIENT CARE

The pandemic introduces new concerns related to protocols and training for initial and periodic infectious disease

screening within shelters. Thought must be given to the setup of isolation areas and how to best staff and secure them. Prescription medication acquisition, distribution, and administration will also require additional planning.

#### PUBLIC MESSAGING AND COMMUNICATIONS

Anxiety about COVID-19 exposure in shelters is likely to be heightened, so messaging should effectively communicate risks and mitigation measures along with disaster updates delivered in a calm and reassuring manner. Communications should be tailored to clients who speak English as a second language, and to those who have sensory or cognitive impairments.

#### WORKFORCE STAFFING AND VOLUNTEERS

The pandemic environment could decrease the number of staff and volunteers available to manage shelters, affecting workplace dynamics. Staff and volunteers have the same concerns about infection as the larger population, so some will be hesitant or unable to work. In some cases, a decline in experienced staff and volunteers could erode the natural continuity that comes from experienced personnel mentoring junior workers in an active shelter environment. Increased work demands also require innovations in work and rest schedules to reduce fatigue and maintain compassion. Attending to these workforce demands the rethinking of roles, tasks, and schedules to ensure adequate staffing.

#### **WORKFORCE TRAINING**

Changes in client care, security, and sanitation protocols mean that new or enhanced certification, training (e.g.,

functional, cross-training, and infection control), and delivery methods should be considered. Special attention must be paid to personal protective equipment, hygiene, and sanitation. Cleaning practices must be regular and monitored, requiring a compliance and reporting regimen. Staff will need to be familiar with screening and triage protocols to separate ill and vulnerable evacuees from those who are healthy. Additional training on communicating with diverse groups who are under stress might be needed to do this in a safe, respectful way.

## **PSYCHOLOGICAL ADJUSTMENT**

Chronic and acute stressors are part of typical evacuation and sheltering and can be exacerbated in a pandemic environment. Shelter management should consider the longer-term impacts on well-being, workforce productivity, career satisfaction, and mental health that stem from evacuation and sheltering during a pandemic. Enhanced methods for training shelter staff and volunteers to identify and act on mental health issues should be explored, as should the potential of embedding mental health professionals into shelter management teams.

## CONCLUSION

The COVID-19 environment means that planning practices and policies for nearly all aspects of evacuation and congregate sheltering must be revisited. Innovative methods and refined protocols should be developed to address the issues mentioned above. Grappling with the new reality of evacuation and sheltering under a COVID environment is necessary for the protection and well-being of both sheltered populations and sheltering teams.



CDC Interim Guidance for General Population Disaster Shelters During the COVID-19 Pandemic | Centers for Disease Control and Prevention | This document outlines a public health surveillance approach that may be used during a disaster response and reviews principles and practices of disaster surveillance. It provides key concepts and challenges to consider when conducting disaster surveillance.

Hurricane Key Messages: COVID-19 Annex | Centers for Disease Control and Prevention | A resource providing examples of public messaging to help people safely prepare, evacuate, and shelter for severe storms while protecting themselves and others from COVID-19.

A QuickGuide to Disaster Workforce Planning during the 2020 Hurricane-Coronavirus Pandemic Season and Beyond I University of South Florida | A guide to assist emergency planners in recruiting and developing a disaster response workforce during compounding disasters.



JOSHUA C. BEHR is a research associate professor at the Virginia Modeling, Analysis, and Simulation Center at Old Dominion University. Behr's research focuses on community resilience, catastrophic events, evacuation behavior, recurrent flooding, and the disposition of medically fragile and vulnerable populations in the post-event recovery process. Behr uses this research to forecast storm damage, displaced populations, recovery times, well being of populations, and cost pressure on health systems, in addition to developing indicators of household and community vulnerability in the modeled recovery processes.

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JENNIFER L. WHYTLAW is an assistant professor of applied GIS at Old Dominion University. She is a certified GIS professional with a PhD in geography and more than 16 years of experience working in both private-sector and academic environments. Her current research is focused on utilizing geospatial analyses and visualizations to understand how environmental hazard events influence personal understanding of vulnerabilities within communities. Whytlaw has worked on projects related to environmental management, health equity, hazard mitigation and resilience, emergency management construction management, geospatial intelligence, transportation, and marine spatial planning.



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JENNIFER MARSHALL is an associate professor and interdisciplinary faculty lead at the University of South Florida College of Public Health, Chiles Center, and she serves as the director of planning and evaluation for the National Institute for Occupational Safety and Health-funded Sunshine ERC for occupational health, safety and wellness. Her research examines health disparities, social determinants of health, and social services in perinatal home visiting, disability, mental health, substance dependence, and disaster response. Areas of expertise include mixed-methods, communitybased, participatory research, and program evaluation. Marshall has led community-based research on systems of care and family supports related to the Zika epidemic, hurricanes, and the COVID-19 pandemic.

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# ARTICLES: MASS SHELTERING FOR AT-RISK POPULATIONS



People with disabilities face specific challenges in disaster shelters, including lack of accessibility and a shortage of personnel trained to recognize and support special needs. Organizations that serve individuals with disabilities should be consulted to ensure effective disaster planning, response, and recovery.

A shelter in Alachua County, Florida, provides services for those with various needs during Hurricane Irma. ©Alachua County, 2017.

## EQUALIZING ACCESS ENSURING PEOPLE WITH DISABILITIES DON'T LOSE OUT IN EMERGENCY SHELTERS BY JOHN TWIGG

People with physical, psychosocial, and cognitive disabilities face particular challenges in disasters. They are less likely to receive timely hazard warnings, evacuation routes and public shelters can be difficult or impossible to access, and shelter facilities often fail to supply many of their needs.

Once in a public shelter, people with disabilities face another range of obstacles. They may not be admitted on the grounds that the shelter cannot manage their disability—particularly those with cognitive impairments or mental health issues. Registration and assessment procedures might not detect special needs, especially functional needs that help maintain independence. Signage, captioning, and translation might not be accommodated, restrooms, cots and bathrooms can be inaccessible, and it can be difficult to get necessary medication and medical equipment. Family, caregivers, and personal support networks may be discouraged or even barred from accompanying people with disabilities into shelters. Service animals can also be excluded.

People with disabilities—who make up about 15 percent of the global population—aren't adequately provided for in public shelters. Throughout the world, emergency preparedness, response, and recovery are often planned and implemented without due consideration of people with disability.

#### BEST PRACTICES FOR DISABILITY Considerations in Shelters

These problems result mainly from institutional failings and resource shortfalls. A lack of planning and response communication, limited coordination between emergency managers and disability-serving organizations, and an acute shortage of shelter personnel trained to support those with disabilities can all be contributors to such issues.

Yet good disability practice in communal shelter management isn't inherently difficult. It includes basic activities such as advance planning, ensuring equal physical access, training professional and volunteer shelter staff, making special diets available, communicating appropriately, and providing necessary technical requirements, such as electrical access for medical and mobility devices or refrigeration for medication. Even stronger practices would involve people with disabilities in planning, managing, monitoring, and evaluating shelter activity and planning.

# THE SOCIAL MODEL OF DISABILITY IN SHELTER MANAGEMENT

Disability advocates have pressed for the adoption of a social model of disability, which is based on human rights.

This model sees disability as the social consequence of having an impairment, which means that inequalities faced by such people can only be overcome if society becomes more inclusive. The United Nations Convention on the Rights of Persons with Disabilities, which requires states to take "all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk" was founded on the social model of disability. Since its adoption in 2008, disability has become much more prominent in the international disaster policy agenda.

Concern for disability inclusion, rights, and standards in disasters has since been expressed in a number of other international policy instruments, notably the Sphere Humanitarian Charter and Minimum Standards in Humanitarian Response (which included commitment to disability inclusion in 2011), the Sendai Framework for Disaster Risk Reduction, and the 2016 World Humanitarian Summit (which endorsed the Charter on Inclusion of Persons with Disabilities in Humanitarian Action). The Inter-Agency Standing Committee-the primary mechanism for the coordination of global humanitarian assistance involving key UN and non-UN partners-launched guidelines on the inclusion of people with disabilities in humanitarian action in 2019. National, regional, and international organizations have also produced a range of tools and guidelines for supporting and engaging people with disabilities and disability-serving organizations in disaster planning, response, and recovery.

#### **INSTITUTING CHANGE**

The practical challenge is getting new approaches to work on the ground and applying them effectively in public shelters. There is still a need to sensitize emergency management organizations and their staff through training, guidelines, and other technical support. Implementing organizations often have little in-house capacity or expertise in disability. In practice, responders have to balance the urgent need to provide assistance to large numbers of people with the special needs of specific groups. A primary driver of change may be equality legislation or the requirement for public service providers to ensure equal access for people with disabilities. This happened in the United States, where the Americans with Disabilities Act (ADA) spurred several federal agencies to produce guidance relating to disability and emergency management. However, we shouldn't assume that legislative innovation will translate easily and quickly into practice, especially since there have been so many instances of state emergency shelters in noncompliance with ADA. More specific legal provisions, standards, or localized considerations may be required to bring about measurable changes on the ground.

While the research reveals the many obstacles people with disability encounter in accessing emergency shelters, the findings also show that these can be overcome if appropriate changes are made in policy, practice, and approach.

## **ABOUT THE AUTHORS**

JOHN TWIGG is an independent research consultant and an honorary professor at University College London. Originally a historian, he has spent the past 25 years researching social and organizational issues in disasters and advising non-profits, government agencies, and international organizations.

## දේකි SUGGESTED TOOLS

ADA Compliance Tip Sheet | Disability and Health Program at Alabama Department of Public Health | The ADA Compliance Tip Sheet is a resource that helps shelter managers assess common accessibility barriers and find solutions.

#### *Guidance on Planning for Integration of Functional Needs Support Services in General*

**Population Shelters** | **Federal Emergency Management Agency** | This document provides planning guidance that can be incorporated into existing shelter plans to state emergency managers and shelter planners to meet access and functional needs in general population shelters.

#### State of Texas Functional Needs Support

Services Tool Kit | Texas Disability Task Force on Emergency Management | A comprehensive toolkit containing guidance, checklists, decision aids, and templates to assist individuals with disabilities and/or other access and functional needs.



Kaila Yeager, regional emergency response advisor for the Florida Department of Health, trains shelter staff on operations during the COVID-19 pandemic. ©Elizabeth Dunn, 2020.

## WHAT CAME AFTER HURRICANE HARVEY FOR PEOPLE WITH DISABILITIES? Restoring, Recovering, and Rebuilding by Laura M. Stough

This article originally appeared in the Research Counts series on September 21, 2017. It has been updated to reflect changes since its publication and includes an author afterword with insights on the current situation.

As Houston and the 58 disaster-declared counties which surround the city continue with the long process of post-Harvey recovery, important pre-existing inequities have been revealed. The widespread flooding produced by Hurricane Harvey affected approximately 6 million people, including people living with mobility, sensory, cognitive, and mental health disabilities. Given the disability rate in Texas of 25.6 percent, it can be estimated that approximately 1.25 million people with disabilities were directly affected by this disaster.

People with disabilities are more likely to lose their homes, to have property damage, and to die in disasters. They are more likely to be separated from their family members, overlooked by relief volunteers in shelters, and to suffer injuries or health-related complications. Compounding these difficulties, people with disabilities already were more likely to live in poverty, be unemployed, and have limited access to health care before the storm. These factors suggest disaster recovery for these families will take longer and be more complicated on many fronts.

**PUBLIC HEALTH** 

IMPLICATIONS

People with disabilities face

sheltering and disaster

recovery. Including these

individuals and their families

ensure such efforts address

access and inclusivity needs.

in planning and rebuilding can

more challenges in emergency

#### RESTORING DISABILITY-RELATED RESOURCES AND SERVICES

Since Harvey made landfall, the Center on Disability and Development at Texas A&M University has tracked numerous reports about the critical resources needed by people with disabilities. While most people experiencing disaster have the same immediate necessities—food, shelter, and medical attention—those with disabilities can have additional requirements, such as ramps in shelters, special formulas for babies, food for assistance dogs, and access to sign language interpreters. Perhaps most commonly needed postdisaster is durable medical equipment such as wheelchairs, walkers, oxygen equipment, and hearing aids.

Conditions in shelters can be particularly challenging for individuals who need accessible toilets and showers or electricity for motorized wheelchairs, ventilators, and cardiac devices. More than 20 percent of individuals with a disability require assistance with self-care or independent living activities such as bathing, dressing, or preparing meals. The widespread impact of Hurricane Harvey means that the home health care aides and family members who normally provide this support may also have been affected, disrupting continuity of care. In addition, services such as physical therapy, speech therapy, dialysis, or medical support were interrupted in the post-Harvey environment.

#### RECOVERING THROUGH ACCESS TO DISASTER-Related resources

More than 93 percent of individuals with disabilities in Texas live in the community rather than in institutional, nursing home, or residential care settings. Equal access to disaster-related information enables people with disabilities who live independently to participate in their own recovery. However, populations with hearing disabilities will need information in print or sign language, while people with reading or cognitive disabilities will need materials that are easy to read. People with disabilities already encounter barriers in housing, transportation, and employment. Case managers with disability-related expertise can navigate the complex recovery process and connect them to disasterrelated resources. Such resources are essential to ensuring a complete and equitable recovery process.

#### **REBUILDING FOR ACCESSIBILITY AND INCLUSION**

Many of the homes lost during Hurricane Harvey by people with disabilities would have had modifications such as ramps, alerting systems, and adapted bathrooms. Similarly, cities and towns lost crosswalks with alert features, buses with wheelchair lifts, dialysis centers, and home health services that enabled people to live in their communities. An estimated 300 schools, most of which provided special education services, sustained damage. To serve these students, special instructional materials and communication devices will need to be replaced and access to special educational records restored.

Past disasters show that people with disabilities will continue to face barriers unless public infrastructure is built back in a way that supports accessibility. Accessibility applies not only to buildings, but also to transportation, communication, education, and healthcare systems. Universal building design principles should be used to build back better so that people with diverse physical, sensory, and cognitive abilities are not differentially threatened by future disasters. Such design often serves other populations, too—for instance, ramped entryways facilitate quicker evacuations than stairs.

Although people with disabilities continue to face different difficulties during Hurricane Harvey recovery, they will share the same goals as other survivors—most want to return to their homes, neighborhoods, and towns. However, we need to consider how to redesign and reconstruct those homes, neighborhoods, and towns so that new infrastructure is accessible and inclusive for all of the survivors of Hurricane Harvey, as well as resilient to disasters yet to come.



#### AFTERWORD

Since the original publication of this article, research has confirmed that people with disabilities were disproportionately affected by Hurricane Harvey. Neighborhoods with higher proportions of residents with disabilities—particularly those with higher proportion of cognitive and ambulatory disabilities—were more likely to experience Harvey-induced flooding.

For these residents, there were a number of pitfalls they faced when seeking shelter. Some informal shelters did not provide adequate accommodations for those with disabilities, such as ADA-compliant restrooms and showers. An after-action report submitted to the Texas Division of Emergency Management revealed that emergency communications, evacuation, and sheltering issues also resulted in inadequate accommodation. Another report found that some assisted living facilities abandoned or neglected their residents during the hurricane, while another report suggests that people with disabilities were inappropriately institutionalized afterwards because of a shortage of accessible housing.

Subsequent reports have confirmed our earlier forecasts of the difficulties that people with disabilities would face, and continue to face, following Hurricane Harvey. They also underscore the barriers that people with disabilities encounter that prevent access to a just and equitable recovery.



#### 58 | RESEARCH COUNTS 2021: MASS SHELTERING

#### **ABOUT THE AUTHOR**

LAURA M. STOUGH is a professor of educational psychology at Texas A&M University and leads Project REDD: Research and Education on Disability and Disaster at the Center for Disability and Development. She has produced more than 50 academic publications on the social, educational, and psychological experiences of individuals with disabilities, including the book Disaster and Disability: Explorations and Exchanges, co-edited with Ilan Kelman.



CONVERGE Social Vulnerability and Disasters Training Module | CONVERGE Facility, University of Colorado Boulder | An online training module that focuses on social vulnerability to hazards and disasters, with an emphasis on population groups that have been identified in the literature as especially at risk to the adverse effects of extreme events.

Durable Medical Equipment in Disasters | Office of the Assistant Secretary for Preparedness and Response (ASPR) Technical Resources, Assistance Center, and Information Exchange (TRACIE) | This tip sheet provides information on general durable medical equipment (DME) categories and focuses on electricity-dependent DME that may be affected by disasters and emergencies. It also includes information to assist healthcare system preparedness stakeholders plan for medically vulnerable populations who rely on DME.

FEMA Accessible: Assisting Applicants with Disabilities and Others with Access and Functional Needs | Federal Emergency Management Agency (FEMA) | This FEMA video focuses on assisting applicants with disabilities and others with access and functional needs. The video includes an English language speaker and American Sign Language.

Long-Term Disaster Recovery Toolkit for Individuals with Disabilities | Texas A&M University Center on Disability and Development | This toolkit addresses long-term post-disaster recovery needs for individuals with disabilities or with access and functional needs. It is designed for disaster case managers, voluntary organization, emergency managers, and others involved in addressing the recovery needs of people with disabilities.

## **KEEPING THE FAITH** SHELTER PREPAREDNESS, MASS CARE, AND MUSLIM AMERICANS BY I ORI PEFK

The United States is one of the most ethnically and religiously diverse countries in the world. While Christianity remains the most widely practiced faith in the United States, the nation's religious landscape is changing rapidly due to new waves of immigration and generational shifts in religious adherence.

As the nation's diversity increases, shelter planners will find it increasingly important to consider religious accommodations in shelter and mass care planning. Available research on Muslim Americans in disasters provides an example of how these considerations play into an individual's decision to stay in a shelter or not.

#### **MUSLIMS IN THE UNITED STATES**

There are about 3.45 million Muslims in the United States. While this represents only a little more than one percent of the total U.S. population, Islam is the nation's fastest growing religion.

Although Muslims share a common faith, they are extraordinarily diverse in terms of their beliefs and backgrounds. Most Muslims in the U.S. today are immigrants (58 percent), although a large share of the community (42 percent) was born in the United States. Foreign-born Muslims trace their heritage to approximately 75 different countries. These individuals and their family members speak a wide array of languages and they adhere to many different cultural traditions and practices. Most Muslim Americans, although not all, are also ethnic or racial minorities.

Muslims live in all 50 states, but the largest number of Muslim Americans are concentrated in major metropolitan areas in New York, California, Texas, Florida, Illinois, New Jersey, Michigan, and Virginia. Muslims, like other Americans living in especially hazard-prone states, have been affected by a mounting number of hurricanes, wildfires, floods, and other disasters in recent years. In addition, the enduring effects of the events of September 11, 2001, have continued to influence patterns of anti-Islamic hate crimes, bias, and discrimination against the Muslim community. This, in turn, has shaped their sense of security and belonging.

# MUSLIMS, DISASTER PREPAREDNESS, AND SHELTERING PREFERENCES

Although attention to the experiences of Muslim Americans has increased in the post-September 11 period, there is a dearth of research on how Muslims and other at-risk religious minority groups prepare for disaster. To address that knowledge gap, I worked with a team of researchers to survey 139 Muslims living in Florida about their hurricane preparedness activities, sheltering preferences, and specific cultural and religious needs and concerns in using public disaster shelters in the event of an emergency.



Most respondents in our study—83.4 percent—reported that they had experienced one or more hurricanes. Yet only 29.7 percent of the Muslims in our sample had a disaster plan, while 47.5 percent indicated that they had stored extra supplies for a disaster. Of those who experienced one or more hurricanes, about one-third said that they left their home and evacuated to another area. Most of those who evacuated said they went to a family member's house (34.4 percent), a friend's house (37.5 percent), a hotel (28.1 percent), or elsewhere (12.5 percent). We discovered that only a very small percentage of respondents—3.1 percent had accessed a public shelter during a hurricane.

When we asked respondents why they didn't use public shelters, they indicated that safety was their primary concern. The Muslims in our study also expressed apprehension about cleanliness, privacy, and their ability to adhere to Muslim religious requirements related to modest dress, halal diet, and daily prayer rituals while in a mass care setting. Moreover, more than half of respondents said that the long-term and ongoing fallout from the events of 9/11 would deter them from staying in a public shelter. For example, one of our respondents wrote that they felt that "minorities will not receive the same level of care, supplies, etc." in a shelter, while another worried about making others "uncomfortable" and was concerned that "everyone would be watching me." Our participants recognized, too, that some religious practices are difficult to maintain in mass care settings and that shelters have clear limitations in terms of available space. Moreover, shelter workers may have few resources and little time to get ready for a surge of people seeking refuge. "We need to be better prepared for things," one of our respondents shared. "A lot could happen."

#### **RELIGIOUS DIVERSITY AND DISASTER PLANNING**

Our study and other recent research on Muslims in disaster highlight the importance of understanding religious needs in the context of disaster planning and sheltering activities. When shelter planners, aid workers, and volunteers are sensitive to the nuances of diverse faith communities, they can help ensure a culturally welcoming space for all who seek shelter.

As the number of religious minorities has grown in the United States, so too have the number of materials that are readily available to help inform cultural competency and reasonable religious accommodation in sheltering and mass care settings. When interfaith and interagency groups cooperate, they have the potential to prepare and educate people about disasters, enhance communication and timely dissemination of information, assist in training diverse new cadres of volunteers, and coordinate disaster responsibilities and resources. Moreover, when these groups come together, they are often able to offer creative solutions that solve co-occurring challenges, such as pre-identifying multi-purpose spaces in shelters that can act as prayer rooms as well as private areas for grieving families.

Just as getting individuals ready for disaster is important, so too is engaging diverse faith communities. This means that religious leaders and other community stakeholders should meet with state and local officials to share information, increase access to critical resources such as transportation and safe shelters, and enhance involvement with the larger disaster preparedness and response network in our nation.



LORI PEEK is director of the Natural Hazards Center and professor in the Department of Sociology at the University of Colorado Boulder. She is principal investigator of the National Science Foundation-funded CONVERGE initiative and author of *Behind* the Backlash: Muslim Americans after 9/11, co-editor of Displaced: Life in the Katrina Diaspora, and co-author of Children of Katrina. She also is a contributing author to FEMA P-1000 Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard Safety. She earned her PhD in sociology from the University of Colorado Boulder.



#### Religious Literacy Primer for Crises, Disasters, and Public Health Emergencies | National Disaster Interfaiths Network and the University of Southern California Center for Religion and Civic Culture | A field guide companion for emergency managers and public and behavioral health partners to understand

how faith communities and emergency management intersect to develop religious literacy and competency.

#### Tip Sheets: Sheltering and Mass Care of Religious Minorities in Disaster | National Disaster Interfaiths Network and the University of Southern California Center for Religion and Civic Culture | Guidelines to inform cultural competency and reasonable religious accommodation mandates for U.S. mass care providers, and to assist shelter staff and volunteers in competently meeting the needs of religious minorities during disaster response or recovery operations.









Collaboration between emergency management officials and homeless service providers can ensure that individuals experiencing homelessness are included in planning for disasters, sheltering, response, and recovery.

A church provides cots for the homeless during especially cold weather. © Taylor Pecko-Reid/KOMU8, 2017.

## PREPARING THE WHOLE COMMUNITY INCLUDING INDIVIDUALS EXPERIENCING HOMELESSNESS IN DISASTER PLANNING BY JUNE L GIN

Individuals and families experiencing homelessness are among the most at-risk members of our society because of limited resources, social isolation, and the prevalence of health conditions within the population. Disasters amplify these conditions, as the social safety nets that the homeless rely on during non-disaster times can be disrupted and even shut down at a time of surging demand.

Recent hurricanes, floods, and wildfires in the United States vividly illustrated the amplified risks that people who are homeless face during catastrophes and the barriers they encounter during community recovery. During the San Diego Hepatitis A outbreak, Hurricane Irma, and the 2018 California wildfires, journalists and researchers documented that individuals experiencing homelessness were perceived as threats due to social stigma and negative perceptions. They also experienced challenges in communities that didn't fully incorporate the realities of homelessness into plans for emergency response or disaster mitigation. For instance, homeless individuals might not evacuate or take other life-protective measures because of lack of information and distrust of messengers. The ongoing COVID-19 pandemic has further exacerbated these issues.

Challenges from disasters also continue from one year to the next. During the January 2018 Homeless Point-in-Time

Count, nearly 3,900 people were living in disaster shelters. The 2018 Camp Fire in California destroyed 14,000 homes in an area that had already declared a homelessness crisis the previous year. As a result, homeless shelters filled to capacity after the fire and displaced residents joined the unsheltered homeless ranks when they could not find anywhere else to go.

During the Point-in-Time Count, 554,000 people were experiencing homelessness in the United States and the U.S. homeless population has increased every year since 2016. This rise is driven largely by an affordable housing crisis in West Coast states such as California, where homelessness increased by 16 percent from 2018 to 2019.

Integrating people experiencing homelessness into disaster planning is a challenge for many communities. Homeless service providers are often disconnected from emergency management and disaster relief organizations; local community-based organizations (CBOs) can lack plans that ensure the ability to provide post-disaster services and housing; and healthcare services for people experiencing homelessness may not be readily available. Many of the CBOs that provide essential daily services and help individuals overcome homelessness have not taken preparedness actions, particularly continuity of operations planning, to ensure they can continue delivering vital services.

#### PREPARING PROVIDERS AND OTHER PROFESSIONALS TO SUPPORT Homeless populations

To address these challenges, an evidence-based toolkit—Disaster Preparedness to Promote Community Resilience: Information and Tools for Homeless Service Providers and Disaster Professionals—offers communities research-driven resources and guidance to ensure that the needs of individuals experiencing homelessness are included in disaster planning, response, and recovery. A federal interagency team of researchers and practitioners developed the toolkit by consulting with more than 50 subject matter experts in emergency management, public health, and homeless services to distill best practices and lessons learned.

The toolkit provides an overview of the challenges that occur during and after disasters and the impact of those challenges on people experiencing homelessness. It provides guidance that will help homeless service providers and emergency managers develop partnerships that address the disaster needs of homeless individuals. It also outlines strategies to avoid disruption of services for homeless-serving CBOs and healthcare providers,



Author June Gin, center, participates in a Point-in-Time survey of those experiencing homelessness in Los Angeles. ©June L. Gin, 2013.

and includes tips for healthcare settings to ensure that they are adequately staffed with providers experienced in serving people who are homeless.

The toolkit is divided into three sections:

- Creating an Inclusive Emergency Management System.
- COMMUNITY RESILIENCE Martine of the former former and the former former former Community of the former former Community of the former former former former Community of the former former former former Community of the former former

DISASTER

PREPAREDNESS

TO PROMOTE

- Guidance for Homeless Service Providers: Planning for Service Continuity.
- Guidance for Healthcare Providers.

Communities that are engaged in best practices reap the benefits of increased collaboration. The State of North Carolina launched a collaboration—Back@Home—to help local homeless rehousing organizations transition people after Hurricane Florence in 2018. San Diego's 2017 Hepatitis A outbreak prompted public health officials to build stronger ties with homeless outreach organizations to set up handwashing stations that curb disease spread. During Hurricane Sandy in 2012, Philadelphia's public health department collaborated with CBOs serving at-risk populations to encourage people living on the street to take shelter. Similar measures were taken in Florida during cold weather episodes, when formerly homeless veterans residing in transitional housing participated in outreach to those living in homeless encampments. After Hurricane Irma in 2017, Florida American Red Cross chapters built on their strong relationships with homeless organizations to help individuals in shelters find permanent housing. Not only did this relationship prevent hurricane-affected individuals from becoming homeless, it also enabled the Red Cross chapters to close the disaster shelters more quickly.

As a living document, the toolkit uses lessons like these to exemplify partnerships that make communities more resilient. By supporting individuals who are experiencing homelessness, this effort can help strengthen the whole community through ensuring that all residents remain safe in disaster. This toolkit is a joint product of the U.S. Department of Veterans Affairs' Veterans Emergency Management Evaluation Center (VEMEC), U.S. Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, and U.S. Department of Housing and Urban Development's Special Needs Assistance Programs Office. Efforts are currently underway to develop a disaster planning instructional manual for homeless transitional housing provider organizations.

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#### **ABOUT THE AUTHOR**

JUNE L. GIN is a research health scientist at the Veterans Emergency Management Evaluation Center. She works to create evidencebased tools and resources to improve disaster preparedness in community-based organizations serving homeless veterans and leads projects to strengthen the preparedness of safety net organizations serving individuals experiencing homelessness.

## 문학 SUGGESTED TOOLS

Send Red, Not Blue: The Homeless Resident I U.S. Department of Housing and Urban Development I This U.S. Department of Housing and Urban Development report provides recommendations on how to improve communication between local homeless services providers, disaster preparedness planners, and homeless residents themselves. It draws on the experience of two communities that have experienced frequent hurricanes and served homeless families and individuals during a disaster.

NP 112

**Disaster Recovery Homelessness Toolkit** I U.S. **Department of Housing and Urban Development** I A guide to meet the needs of people experiencing homelessness during disaster recovery. It provides recommendations for immediate actions and longterm recovery.

Disaster Preparedness to Promote Community Resilience: Information and Tools for Homeless Service Providers and Disaster Professionals I U.S. Department of Veterans Affairs' Veterans Emergency Management Evaluation Center I A toolkit offering communities research-driven resources and guidance to ensure that the needs of individuals experiencing homelessness are included in disaster planning, response, and recovery.



Awareness of the "three Ds"—dementia, depression, and delirium in older adults can help those staffing shelters recognize distress and respond appropriately before symptoms worsen.

## **SOMETHING ISN'T RIGHT** IDENTIFYING OLDER ADULT MENTAL HEALTH ISSUES IN MASS CARE By CINDY L. HOLLE

For older adults, time spent in a disaster shelter can be just as distressing as the disaster itself. Age-related conditions—such as dementia, depression, or delirium—can make unfamiliar surroundings and disruption in routines especially disconcerting and cause individuals to become excessively irritable, forgetful, or agitated. To complicate this, these behaviors might be seen as normal and associated with old age instead of worrisome, leaving these individuals at risk of not receiving the care and treatment they need.

Disaster responders and shelter staff are not expected to be experts in detecting or differentiating between dementia, depression, and delirium in older adults. But by knowing the signals to watch for in older adults, mass care workers can more easily recognize when something isn't right and respond quickly—improving safety, reducing the burden on shelter resources, and decreasing the chance of more severe consequences for these vulnerable adults. This piece offers mass care workers a starting point for understanding how to respond to troubling behaviors.

#### THE THREE DS: DEMENTIA, DEPRESSION, DELIRIUM

It is important to recognize and respond to signs of dementia, depression, or delirium—the three Ds—in older adults in mass care situations. The three conditions may look the same but are very different and require distinct approaches to care. It is often difficult even for experienced clinicians to differentiate between the three Ds. Most disaster shelter workers are not healthcare professionals, which can make it difficult to triage older adults based on observed behaviors and provide them with the most appropriate level of care and safety.

Mass care workers are, however, often trained to identify and treat issues based on clear policies of care. For instance, head lice and scabies are not uncommon in mass care settings, and when these easily identified conditions are present, there are routine steps to address them. Since dementia, depression, and delirium in older adults are more difficult to recognize, this is not often the case. But understanding the basic symptoms can be a first step to creating consistent guidelines.

**Dementia,** such as Alzheimer's disease, is a slow and chronic decline in memory, thinking, reasoning, and language skills. People with dementia might remember things from long ago, but lack short-term memory, forget how items are used, or ask the same questions repeatedly. They can be at risk for falling, become lost, or be unable to care for themselves.

**Delirium,** on the other hand, is an acute brain emergency marked by impairments in attention, arousal, and awareness. People with delirium can appear hyperactive or hallucinatory, or they may appear extremely drowsy. They can cycle back and forth between the two states. Hyperactive delirium can be mistaken for intoxication, mental illness, or over-medication. If untreated, delirium can lead to deterioration that results in institutionalization or death.

**Depression** is a mood disorder that affects how people behave and think and can include sadness, apathy, changes in sleep or appetite, and lack of concentration. People with depression may be stable and need minimal support or they could be at risk for self-harm and require intervention.

It's important to note that older adults may have more than one of these conditions and that the presence of one condition can increase the likelihood of another. Having even one of the three Ds, however, can increase an individual's vulnerability to and risk of long-lasting consequences that potentially include the inability to return to their previous living arrangements.



Members of the U.S. Coast Guard carry an elderly survivor of Hurricane Katrina to safety. ©U.S Coast Guard, 2005.

#### AWARENESS FOR EFFICIENT SHELTER OPERATIONS

Unaddressed dementia, depression, or delirium not only puts the safety of older adults at risk, it can also increase demands on mass care staff, making it even more important to identify needs early. Those in decline will require extra supervision and assistance with basic activities such as toileting, eating, bathing, and dressing, as well as protection from exploitation. These added care tasks can deeply impact a system that might already be laboring under constraints.

You don't have to be a clinician to ensure clients do well and shelter workers aren't overwhelmed—it's enough to realize that something isn't right. Asking clients open-ended questions such as, "How are you doing today?" and watching for other signals of distress as listed in the "Something Is Wrong" checklist (see suggested tools to the left) can help determine when assistance is needed. Rather than trying to "diagnose" the cause of the behavior, awareness and observations of client behaviors can guide the shelter worker's actions and keep older adults safe.

#### **ABOUT THE AUTHOR**

CINDY L. HOLLE is passionate about healthcare policy, advocacy, leadership development promoting nursing board service, disaster nursing, population health, and delirium. She completed a post-doctoral advanced health services research fellowship at the Providence Veteran's Administration Medical Center's Center of Innovation in Long Term Services and Supports, where she focused on delirium and disaster nursing. Holle earned an associate degree in nursing, a bachelor's in health care administration, a Master of Business Administration and a Doctor of Nursing Practice degree from MGH Institute of Health Professions. She also holds certification as a National Healthcare Disaster Professional and is a Red Cross volunteer Disaster Health Services nurse

## SUGGESTED TOOLS

Identifying Vulnerable Older Adults and Legal Options for Increasing Their Protection During All-Hazards Emergencies | Centers for Disease Control and Prevention | This guide is intended to help close many of the gaps in emergency planning and preparedness for vulnerable older adults. It aims to give essential partners from a range of sectors and at all jurisdictional levels critical information, strategies, and resources they need to improve the planning for and protection of vulnerable community-dwelling older adults.

Something Is Wrong! Safety for Older Adults in Mass Care Settings: Responding to the Signals of Dementia, Depression, and Delirium | Cindy L. Holle | A guide for mass care workers to identify signals of dementia, depression, and delirium so that they can respond to keep shelter clients safe.



Designating a safe, quiet, and private space can help ensure that women are able to continue breastfeeding while in shelters. Shelters should also provide supplies and space for sanitary formula preparation for mothers who require additional options.

## **SAFE SPACES** CREATING A CULTURE TO SUPPORT INFANT FEEDING IN SHELTERS BY SARAH DEYOUNG

Disaster evacuations can pose feeding difficulties for the mothers of infants and young children in shelters, but these challenges can be mitigated—often with increased awareness and knowledge, some logistical thinking, and a little space.

Although many women choose to breastfeed their children, our research has found that caregivers often report significant challenges when attempting to continue to breastfeed after disaster evacuations. The issue appears to occur within and outside of the United States. For instance, mothers who fled the Fort McMurray Wildfire in Canada and mothers forced to relocate after the 2015 Gorkha earthquake in Nepal reported that issues such as stress and uncontrolled distribution of formula did not support breastfeeding.

These challenges can be rooted in more than one cause and overlap with social and behavioral complexities. Some mothers and volunteers mistakenly believe that breastmilk will dry up after a disaster or other high-stress events, or—in some cultural belief systems—that it might be cursed because of the hazard. Others think that if their own nutrition is compromised while sheltering, it can adversely affect the nutrition of the breastmilk. Some have been separated from their support systems. And some simply need access to space and supplies, such as clean bottles or privacy for breastfeeding, for safe infant feeding. Caregivers who feed children formula also reported challenges in shelters after evacuation. For instance, in the Fort McMurray Wildfire study, respondents cited limited availability of nutritious and appropriate food for toddlers, private space, and specific types of formula among the problems they faced when feeding.

A few simple steps in shelter preparation can make it possible to avoid adding to the public health burden after disasters—and to help the parents and caregivers of infants and young children in the process. Some helpful measures include:

- Provide medical assessments of pregnant women, new mothers, infants, and toddlers as they arrive at shelters.
- Provide a safe, quiet, and private space specifically for breastfeeding.
- Keep families together.
- Reassure mothers that they can continue to breastfeed.
- Provide instructions, clean water, and space for sanitary preparation for families that use infant formula. Be prepared to supply those families with specific (e.g., milk-free or soy-free) formulas during protracted events.
- Ensure that pregnant women and lactating mothers have extra hydration. If possible, provide additional nutritious food as well.

- Provide space and supplies to bathe and diaper infants and small children.
- Plan for differences between cultures. Cultural practices may influence daily routines such as cooking, sleeping, and other activities.
- Provide culturally appropriate food for young children who are transitioning to solid food.
- Ensure mothers have mental health support by screening for postpartum depression, anxiety, and posttraumatic stress disorder among evacuees and families seeking shelter.
   Provide on-site services and concrete actions for follow-up care.

When public health practitioners and emergency managers work together to implement straightforward guidelines, they can meet infant feeding needs in shelters. Access to maternal and reproductive health care should be fundamental in planning for mass care during and after disasters.



This article originally appeared in the Research Counts Children and Disasters Special Collection series on June 11, 2019. This is an updated version.

#### **ABOUT THE AUTHOR**

SARAH DEYOUNG specializes in decision-making in disasters and social aspects of disaster vulnerability. Her research areas include infant feeding in disasters, companion animals in disasters, refugee well-being, weather warnings, and disaster preparedness. DeYoung has a PhD from North Carolina State University in applied social and community psychology. She is a core faculty member at the Disaster Research Center at the University of Delaware.

## SUGGESTED TOOLS

#### Pregnant Women in Disasters and

Emergencies: Health Information Guide | Disaster Information Management Resource Center | Collection of articles related to pregnant women's health in disasters.

#### Infant and Young Child Feeding in

*Emergencies* | United Nations High Commissioner for Refugees | Comprehensive manual on infant feeding in disasters and emergencies.

Food Safety for Infants After a Disaster | Centers for Disease Control and Prevention | Guidelines for safe infant feeding practices after a disaster.



Planning for children with special healthcare needs and their families can help mitigate the negative impact of disasters. Emergency kits and emergency plans are necessary for all families, and especially important for families of children with these needs. Once evacuated, CSHCN families face another set of obstacles. Often, after reaching a public shelter, hotel, or other temporary housing, accommodations and structural needs for their children are not present. In addition, as families transition to different temporary living spaces—as they often forced to do multiple times during disasters—their needs are often overlooked by voluntary agencies when they lose track of these families. As a result, CSHCN families experience stress in addressing their children's critical health and functional needs on their own, while simultaneously dealing with the many challenges of a temporary living situation. More collaboration among voluntary agencies, disability organizations, healthcare providers, and hospitals is essential to help these families get needed supplies, equipment, and support during emergencies.

Even when not required to evacuate, sheltering in place during hazards during a tornado or an ice storm, for instance—brings its own challenges. While most preparedness guidance suggests storing three to five days' worth of food, water, and medicine, a severely impacted area can take longer to provide the specialized care and supplies that CSHCN require, suggesting that it might be particularly important for these families to prepare for even longer.

Steps are being taken to help CSHCN families become better prepared for environmental hazards—but there is still much more to be done. For instance, one intervention that proved highly successful involved healthcare providers distributing a disaster starter kit that included emergency health form to CSHCN families, which in turn promoted additional preparedness actions. Checklists for emergency kits can also be useful. There have also been public health interventions successful in increasing family preparedness by educating parents or incorporating preparedness into patient treatment plans. These types of interventions, however, are not yet widespread or regularly included into systems of care. Future interventions should translate and evaluate evidence-based practices to promote preparedness among CSHCN families.

Another promising technique is for teachers of students with disabilities to provide support to and communicate with families during disasters—but teachers are not typically trained to fulfill this role during emergencies. In addition, schools and childcare facilities do not consistently address the evacuation needs of CSHCN in disaster.

Another issue in play is that children with disabilities are often not included in emergency planning or training, which could increase their level of vulnerability when away from their parents. A case study of children with disabilities who experienced the 2010 Canterbury earthquakes found they had overall good understanding of potential hazards as well as actively participated in emergency preparedness. Although increased attention is being directed toward the disaster experiences of people with disabilities, evidenced-based interventions that include children with disabilities remain extremely limited.

Children are heavily reliant on family members and care providers to plan for evacuation and children with disabilities or special health care needs are doubly so. Additional resources and response efforts that recognize the needs of CSHCN and their families, such as of Paul and his mother, can help mitigate the stress experienced by these families during evacuation and sheltering.

*This article originally appeared in the Research Counts Children and Disasters Special Collection series on June 14, 2019. This is an updated version.* 

**ABOUT THE AUTHORS** 

LAURA M. STOUGH is a professor of educational psychology at Texas A&M University and leads Project REDD: Research and Education on Disability and Disaster at the Center for Disability and Development. She has produced more than 50 academic publications on the social, educational, and psychological experiences of individuals with disabilities, including the book Disaster and Disability: Explorations and Exchanges, co-edited with Ilan Kelman.

ELIZABETH MCADAMS DUCY is an assistant professor of special education at Sonoma State University. She completed her doctorate in educational psychology and was a trainee with the Center on Disability and Development at Texas A&M University. Her research has addressed loss and trauma in people with developmental disabilities. Most recently, Ducy explored the experiences of families of children with disabilities impacted by the 2017 Northern California Wildfires.

## 문학 SUGGESTED TOOLS

Emergency Information Form for Children with Special Healthcare Needs | American College of Emergency Physicians | Patient-specific emergency information form for children with special healthcare needs.

Emergency Kit Checklist for Families with Children and Youth with Special Healthcare Needs | Centers for Disease Control and Prevention | Checklist of items to include in an emergency kit for families with children and youth with special healthcare needs.

Getting To Outcomes Guide for Community Emergency Preparedness | RAND and University of California Los Angeles Center for Public Health and Disasters | Comprehensive guide to implementing evidence-based public health interventions in emergency preparedness.

## **EVACUATING UNDER FIRE** CHILDREN WITH SPECIAL HEALTHCARE NEEDS IN DISASTER By Laura M. Stough and Elizabeth McAdams Ducy

As wildfires raged through California, Paul—a preschooler with asthma and developmental disabilities—was home from school recuperating from a recent illness. Later that night, however, the fires advanced and his mother had to make the decision to evacuate.

In the rush, she grabbed some needed items, such as his inhaler, but left other health-related equipment and supplies behind. Although Paul's mother had prepared to shelter-in-place in the event of an earthquake, she did not have a plan for evacuating quickly, nor for being away from home for an extended period of time. As it turned out, the family was displaced for almost two weeks and were forced to move to multiple temporary housing situations, including hotel rooms and friends' homes.

While displaced, Paul's mother faced challenges such as pureeing his food without a blender and improvising a makeshift air purifier. Unfortunately, though, Paul's health rapidly deteriorated and he required multiple doctor visits. Physicians determined that smoke from the fires was exacerbating his preexisting health issues and they admitted him to the hospital. Paul missed more than a month of school because of his prolonged hospital stay, which then led to a decline in his behavioral, academic, and communication skills.

Paul is part of a study we conducted on the experiences of children with special health care needs (CSHCN) during the California wildfires. His plight highlights the many difficulties that families with children with disabilities face during evacuation and sheltering. The U.S. Department of Health and Human Services defines CSHCN as "those who have or are at increased risk for a chronic physical, developmental, behavior, or emotional condition and who require health and related services of a type or amount beyond that required by children generally." It is estimated that nearly 20 percent of U.S. children under 18 have special health care needs such as asthma, cerebral palsy, anxiety, allergies, or epilepsy. Many CSHCN have difficulties with functions such as mobility, communication, or breathing that affect their daily activities.

Studies report that most CSHCN families are under prepared for disasters. These findings are concerning since these children often require special equipment, supplies, or medical care—access to which can be disrupted by environmental hazards or other emergencies. Research on CSHCN impacted by Hurricane Katrina found children not only experienced greater disruptions in medical care, but also sought care for new health problems more often and were more likely to develop secondary health problems than other children.

When rapid evacuation is required, as in Paul's case, preparedness for CSHCN is particularly critical. These children can require specialized medical care, as well as durable medical equipment that must be evacuated along with them. When items such as wheelchairs, communication boards, special foods and supplements, oxygen machines, and assistance animals are not arranged for, the health and daily functioning of CSHCN can be negatively affected. Packing and accounting for these supports can be daunting, both during rapid evacuations or even when families have a longer timeframe to evacuate, such as in advance of hurricanes.

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# **TOOL INDEX**

#### **ROLES AND RESPONSIBILITIES FOR SHELTER OPERATIONS**



#### **SHELTER FIELD GUIDE**

A guide that provides a basic overview of shelter operations to organizations without previous disaster experience that describes how to open and manage an emergency shelter during a disaster.



#### MULTI-AGENCY SHELTERING/ SHELTERING SUPPORT PLAN TEMPLATE

A supplement for jurisdictional emergency operations plans or mass care annexes that provides guidance and suggested procedures to be considered when developing a sheltering plan. This template places an emphasis on jurisdictional roles in managing and supporting sheltering activities.

All Animals - All Disasters

ntroduction and Acknowledgements

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#### **DEVELOPING A LOCAL ALL-DISASTER ANIMAL EVACUATION & SHELTERING PLAN**

This document was created to assist local personnel in developing an evacuation and sheltering plan for animals. It contains tools for planning; forms for field rescue and transportation; and guidelines for public communications, among other essential considerations for mass shelters.



#### FACILITY/SHELTER OPENING & CLOSING INSPECTION

#### WHAT IS IT?

A checklist for shelter operators to ensure safety, cleanliness, and accessibility.

#### WHAT IS ITS PURPOSE?

This tool provides an in-depth checklist of tasks to accomplish while opening and closing a shelter. The tool ensures that all necessities are met and items to be tracked are in their appropriate areas.

WHO SHOULD USE IT? The team that puts the shelter together, shelter staff, and emergency responders.

#### WHAT ARE THE EXPECTED BENEFITS?

This easy-to-use generalized checklist can apply to a variety of shelters and ensure that the basic best shelter practices are established.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index





Evacuation Shelter -Pet Section Standard Operating Procedure

#### WHAT IS IT?

A collection of guidance documents, checklists, forms, and other templates to assist in offering cohabitated shelter for pets and owners.

COHABITATED HUMAN/HOUSEHOLD

#### WHAT IS ITS PURPOSE?

PET SHELTERING TOOLKIT

This toolkit provides guidelines for establishing, operating, and maintaining cohabitated human/household pet shelters, or those that jointly house people and their companion animals.

#### WHO SHOULD USE IT?

Government agencies, non-governmental organizations, and other organizations tasked with creating and maintaining shelters for housing people and their companion animals.

#### WHAT ARE THE EXPECTED BENEFITS?

Localities can use these resources to ensure human/companion animal shelters are fully equipped, health and safety needs are met, and individuals can care for their pets during disaster.

December 12, 2016



#### A TOOLKIT FOR INTEGRATING MENSTRUAL HYGIENE MANAGEMENT INTO HUMANITARIAN RESPONSE

The Menstrual Hygiene Management (MHM) in Emergencies toolkit provides streamlined quidance to support organizations and agencies seeking to rapidly integrate MHM into existing humanitarian response. This is designed to address the needs of women and girls living in emergency contexts who are directly affected by this issue.

## WAKE COUNTY EVACUATION SHELTER-PET SECTION STANDARD OPERATING **PROCEDURES**

This manual describes standard operating procedures for the companion animal section of a shelter allowing people to bring their pets. Information regarding setup and teardown of the shelter; care requirements for cats and dogs; and administrative procedures complement descriptions of Wake County's Pet PODs system, including necessary supplies and photos of the PODs in action.

## SHELTER REGISTRATION AND AGREEMENT

This form details expectations of companion animal owners in shelter settings, including daily care, veterinary treatment, pet abandonment, and bite policies. The form additionally releases the shelter operator from liability and collects owner contact information.

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## **ANIMAL INFORMATION** SHEET TEMPLATE

The Animal Information Sheet collects information about companion animals at shelter intake and discharge to ensure pets are identifiable and matched with their owners.



#### **SEXUAL VIOLENCE IN DISASTERS: A PLANNING GUIDE FOR PREVENTION** AND RESPONSE

This guide provides resources and practices for prevention of, and response to, sexual victimization in times of disaster. Its worksheets highlight considerations and best practices for practitioners before, during, and after disaster.

#### LEVERAGING COMMUNITY GROUPS FOR COORDINATION **OF MASS CARE**

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#### SHELTER OPENING PLAN

A form that can be used by shelter managers and staff to plan the opening of an emergency shelter.

#### 76 RESEARCH COUNTS 2021: MASS SHELTERING

#### Show Me ation Tool for Emerge

Massachusetts Department of Public Health

## SHOW ME BOOKLET – A COMMUNICATION TOOL FOR Emergency shelters

#### WHAT IS IT?

A booklet to assist individuals with access and functional needs in an emergency shelter setting.

#### WHAT IS ITS PURPOSE?

This tool provides guidance for proper communication to help people feel safe and calm during emergencies and ensure vulnerable populations receive proper support in shelters.

WHO SHOULD USE IT? Organizations, mental healthcare workers, and public safety personnel who assist in shelter settings.

#### WHAT ARE THE EXPECTED BENEFITS?

This tool can facilitate communication, determine allocation of jobs and resources, and assist in meeting the needs of individuals with access and functional needs.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index

## **ASSESSMENT FOR DISASTER** ENGAGEMENT WITH PARTNERS TOOL

UCLA Fielding

School of **Public Health** 

WHAT IS IT? An assessment tool that helps local health departments evaluate their partnership activities with community and faith-based organizations and provides recommendations to enhance local collaboration efforts.

#### WHAT IS ITS PURPOSE? This toolkit increases the community's disaster resilience through building

community partnerships. This toolkit will guide local health departments towards building effective and mutually beneficial partnerships with faith-based and community-based organizations during mass sheltering in disasters.

WHO SHOULD USE IT? Local health departments, individuals who operate the shelter, leaders of organizations within shelters, and different faith-based community leaders.

WHAT ARE THE EXPECTED BENEFITS? This tool is effective in building strong relationships between many organizational partners and their shelter operators and volunteers to ensure that they provide the best care and resources for habitants.

## American Red Cross



Arabic • Bosnian • Chinese febrew • Japanese • Korean • Penšan Portaguese • Russian • Somali panish • Tagalog • Vietnamese • Braille





#### **CERT BASIC TRAINING PARTICIPANT MANUAL**

**MULTILINGUAL SHELTER** 

**COMMUNICATION TOOL** 

language.

A manual that helps bridge the gap when

communicate adequately via a common

shelter residents and workers cannot

The Community Emergency Response Team (CERT) Basic Training manual helps train and organize teams of volunteers to assist their communities during emergencies. The manual focuses on, among other important topics, the provision of mass care and distribution of information is emergency shelters.



A toolkit designed to improve the engagement of nongovernmental organizations (NGOs)—specifically, voluntary associations, philanthropic organizations, advocacy groups, community groups, and businesses—in disaster response and recovery. The toolkit provides suggestions on the different goods and services that NGOs can provide to community members who are sheltering during a disaster.



## **CONVERGE CULTURAL COMPETENCE** IN HAZARDS AND DISASTER **RESEARCH TRAINING MODULE**

An online training module that focuses on culturally competent research and offers guidance on how hazards and disaster researchers can build cultural competence.



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#### THE LIBRARIAN'S DISASTER PLANNING AND COMMUNITY **RESILIENCY GUIDEBOOK**

This guidebook helps librarians to develop a resilience plan for personal and library readiness.

#### MASS CARE DELIVERY AND CAPABILITY ASSESSMENTS



## SHELTER RAPID NEEDS **RECOGNITION CARDS**

These cards include questions to assist shelter workers in making assessments of clients' immediate needs at reception and as needed throughout the shelter setting.



#### **PSYCHOLOGICAL FIRST AID FIELD OPERATIONS GUIDE**

SYCHOLOGICAL

WHAT IS IT? A handbook detailing the tenets of delivering psychological first aid, along with resources for provider care, worksheets, and handouts for disaster survivors. This guide can be used in mass care settings such as emergency shelters.

#### WHAT IS ITS PURPOSE? This guide describes an evidence-based

approach for providers to manage psychological symptoms directly related to disasters and terrorism.

WHO SHOULD USE IT? Medical and other professionals working with individuals needing mental health care.

#### WHAT ARE THE EXPECTED BENEFITS? Implementing the techniques associated with Psychological First Aid can help to alleviate immediate distress among evacuees in a shelter setting, as well as provide survivors with strategies for long-term functioning and coping.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index

# American Red Cross

#### **INITIAL INTAKE AND ASSESSMENT TOOL**

#### WHAT IS IT? A shelter intake form for quickly

assessing an individual's functional, health, and psychosocial needs.

#### WHAT IS ITS PURPOSE?

This tool can help shelter staff determine the most appropriate shelter setting for an individual, quickly identify any needs, and refer the person to other services as necessary. If assistance is indicated, the form provides follow-up questions to ensure delivery of needed services.

> WHO SHOULD USE IT? Shelter staff tasked with intake of survivors.

#### WHAT ARE THE EXPECTED BENEFITS? This form streamlines shelter intake interviews and ensures that staff are aware of all relevant needs so that services can be provided as appropriate.

#### Disaster Epidemiology

#### **Public Health Surveillance**

Public health surveillance is the orgoing, systematic collection, analysis, and interpretation of health data, essential to the planning, implementation, and evaluation of public health practice closely integrated with melly disternination



#### DISASTER-RELATED MORBIDITY AND MORTALITY SURVEILLANCE ELEARNING

This eLearning module discusses why disaster-related public health surveillance is important, reviews the purpose of morbidity and mortality surveillance, and offers tools to assist in conducting both. The goal is to provide an overview of disaster surveillance, so the reader has a baseline understanding of surveillance activities conducted throughout a disaster response.

## **EMERGENCY EVACUATION AND SHELTERING DURING THE COVID-19** PANDFMIC

This rapid expert consultation aims to help emergency planners and other decision makers identify strategies for updating evacuation plans, sheltering operations, and risk communication practices to prepare for hazards and disasters that may occur during the COVID-19 pandemic and during future large-scale public health threats.

## **DISASTER-RELATED MORBIDITY SURVEILLANCE FORMS**

This website provides various forms to capture ad-hoc active surveillance within acute care facilities such as shelters with medical/nursing staff. The Natural Disaster Morbidity Surveillance Tally Sheet is modeled after the American Red Cross Aggregate Morbidity Report Form.



## **A PRIMER FOR UNDERSTANDING** THE PRINCIPLES AND PRACTICES **OF DISASTER SURVEILLANCE IN THE UNITED STATES**

This document outlines a public health surveillance approach that may be used during a disaster response and reviews principles and practices of disaster surveillance. It provides key concepts and challenges to consider when conducting disaster surveillance.



## **ADDRESSING THE NEEDS OF** THE SERIOUSLY MENTALLY ILL IN DISASTER

This fact sheet reports on the needs of people with serious mental illness (SMI) after disasters and how their needs differ from those of people without SMI. It also discusses the ways disasters disrupt mental health services and how to help those with SMI.



80 RESEARCH COUNTS 2021: MASS SHELTERING

## TIPS FOR DISASTER RESPONDERS: **UNDERSTANDING COMPASSION** FATIGUE

Tip sheet for disaster responders that describes the causes and signs of burnout and secondary traumatic stress and provides tips for how to reduce these occurrences.

Preparedness Committee

#### INFECTION PREVENTION AND CONTROL FOR SHELTERS DURING DISASTERS

APIC

Emergency

#### WHAT IS IT?

It is designed to be used as a planning and reference document for disaster planners setting up and/or running a shelter.

Control for

WHAT IS ITS PURPOSE? This document consists of planning recommendations/guidance that can be used for preparedness and response to potential emergencies involving infection control issues in shelters.

#### WHO SHOULD USE IT?

Organizations and staffers, healthcare professionals, and various public safety personnel in shelters.

#### WHAT ARE THE EXPECTED BENEFITS?

This document has many recommendations for reducing the transmission of communicable diseases and has infographics that all ages can use to maintain good health while in the emergency shelter.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index

Centers for Disease Control and Prevention

#### **ENVIRONMENTAL HEALTH ASSESSMENT FORM FOR SHELTERS**

#### WHAT IS IT?

A rapid assessment form of shelter conditions to identify immediate public health threats and their sources during a disaster.

WHAT IS ITS PURPOSE? This form allows the user to track a variety of shelter conditions to ensure that habitants' basic needs are met and to rapidly identify emergent public health issues.

WHO SHOULD USE IT? Shelter management officials and environmental health practitioners.

WHAT ARE THE EXPECTED BENEFITS? This form allows rapid assessment and quick response to potentially harmful public health problems.

#### PLANNING FOR MENTAL HEALTH CARE IN DISASTER SHELTERS

A formalized set of policies and guidelines to use in planning for a mass shelter response.



## **CONVERGE DISASTER MENTAL HEALTH TRAINING MODULE**

An online training module that focuses on mental health outcomes associated with disasters, with a particular emphasis on risk factors over time that make certain populations vulnerable to poor disaster mental health outcomes.

#### LISTEN, PROTECT, AND CONNECT: FAMILY TO FAMILY, NEIGHBOR TO NEIGHBOR

A psychological first aid system designed for families and communities to help each other during disasters.



## HURRICANE KEY MESSAGES: **COVID-19 ANNEX**

A resource providing examples of public messaging to help people safely prepare, evacuate, and shelter for severe storms while protecting themselves and others from COVID-19.



#### JOB HAZARD ANALYSIS OF SHELTER **OPERATIONS TOOL**

A job hazard analysis of shelter operations worksheet to inventory job processes, identify their associated hazards, implement controls, and evaluate level of risk associated with each job.

National Children's Disaster Mental Health Concept of Operations

#### NATIONAL CHILDREN'S DISASTER MENTAL HEALTH CONCEPT OF **OPERATIONS**

This tool outlines a triage-enhanced children's disaster mental health incident response strategy for preparedness, response, and recovery operations. It outlines PsySTART, a rapid mental health triage technology used to identify and refer children at general risk for psychopathology.

# The National Child Traumatic Stress Network

#### SCREENING AND ASSESSMENT **CONSIDERATIONS FOR** IMPLEMENTATION

WHAT IS IT? A set of guidelines to consider when selecting trauma screening or assessment tools to implement in a child serving system.

WHAT IS ITS PURPOSE? It helps providers choose appropriate trauma screening or assessment tools to identify the needs of children who have experienced a traumatic event.

WHO SHOULD USE IT? Clinicians and other health care providers involved in assessing the mental health care of children.

WHAT ARE THE EXPECTED BENEFITS? The trauma screening or assessment tools enable providers to determine whether an

individual has experienced one or more traumatic events, has reactions to such events, has specific mental or behavioral health needs, and/or needs a referral for a comprehensive trauma-informed mental health assessment.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index

#### **Centers** for Disease **Control and** Prevention

CDC INTERIM GUIDANCE FOR **GENERAL POPULATION DISASTER SHELTERS DURING THE COVID-19** PANDEMIC

#### WHAT IS IT?

This document provides interim guidance to reduce the risk of introducing and transmitting COVID-19 in general population disaster shelters before, during, or after a disaster.

#### WHAT IS ITS PURPOSE?

It aims to assist shelter staff in taking appropriate actions for reducing the possibility of transmission of COVID-19 among shelter staff, volunteers, residents, and visitors.

WHO SHOULD USE IT? Emergency managers, shelter coordinators/managers, and public health professionals working in

federal, state, local, and tribal jurisdictions in the United States.

WHAT ARE THE EXPECTED BENEFITS? This guide enables safe sheltering of communities during disaster events and the ongoing COVID-19 pandemic.



## **A OUICKGUIDE TO DISASTER** WORKFORCE PLANNING DURING THE 2020 HURRICANE-CORONAVIRUS PANDEMIC SEASON AND BEYOND

A guide to assist emergency planners in recruiting and developing a disaster response workforce during compounding disasters.



## **RECOMMENDED SCREENING TOOLS** FOR CHILDREN'S ADVOCACY CENTERS

A list of general mental health and child trauma screening tools.

A webinar providing guidance on how to

navigate the emotional demands of work

during a sheltering event.

#### NAVIGATING THE EMOTIONAL Recovering **DEMANDS OF WORK** nonwork time

- Psychological recovery process of replenishing resources that are lost
- Psychological detachment
- Relaxation

during

 Mastery Control

#### MASS SHELTERING FOR AT-RISK POPULATIONS



#### THE AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE TIP SHEET

The ADA Compliance Tip Sheet is a resource that helps shelter managers assess common accessibility barriers and find solutions.



## STATE OF GEORGIA FUNCTIONAL AND ACCESS NEEDS SUPPORT SERVICES TOOLKIT

This toolkit is for local officials and offers resources to plan and provide reasonable accommodations for all shelter residents, including those with access and functional needs, during disaster incidents.

Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters



#### **GUIDANCE ON PLANNING FOR** INTEGRATION OF FUNCTIONAL NEEDS SUPPORT SERVICES IN GENERAL **POPULATION SHELTERS**

This document provides planning quidance that can be incorporated into existing shelter plans to state emergency managers and shelter planners to meet access and functional needs in general population shelters.

#### **STATE OF TEXAS FUNCTIONAL NEEDS** SUPPORT SERVICES TOOL KIT

**State of Texas** 

#### WHAT IS IT?

A comprehensive toolkit containing quidance, checklists, decision aids, and templates to assist individuals with disabilities and/or other access and functional needs.

#### WHAT IS ITS PURPOSE?

This toolkit provides planning guidance for accessible and practical shelter services for children and adults who have disabilities and/or other access and functional needs.

WHO SHOULD USE IT? Emergency management and shelter planners

WHAT ARE THE EXPECTED BENEFITS? This toolkit can help to ensure that individuals with access and functional needs are able to equitably utilize and have their needs met at general population shelters.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index

ips to Pert Regenter Center for Disability and Development

#### **TIPS GUIDE FOR FIRST RESPONDERS**

WHAT IS IT? A PDF file containing quickly accessible tips for assisting older adults and individuals with a wide variety of disabilities.

#### WHAT IS ITS PURPOSE?

This quick reference guide is separated into sections containing practical, easily implemented tips for assisting people with sensory disorders, mental health conditions, and mobility limitations, among others.

WHO SHOULD USE IT? First responders and other professionals responding to the needs of people with disabilities.

WHAT ARE THE EXPECTED BENEFITS? These tips can help first responders and others feel confident in attending to the unique needs of individuals with disabilities in a disaster situation, and help these individuals maintain their autonomy and dignity.

## Emergency Shelter Assessmen Tool Specific to Vulnerable opulations David Coldberg urles Hodge Aloon Fraisie





## **EMERGENCY SHELTER ASSESSMENT** TOOL SPECIFIC TO VULNERABLE POPULATIONS

A user-friendly emergency shelter audit tool for assessing the ability of emergency shelters to meet the needs of different vulnerable groups, including children, older adults, lowincome populations, non-English speakers, pet owners, and people with access and functional needs.

## SOMETHING IS WRONG! SAFETY FOR OLDER ADULTS IN MASS CARE SETTINGS: RESPONDING TO THE SIGNALS OF DEMENTIA, DEPRESSION, **AND DELIRIUM**

A guide for mass care workers to identify signals of dementia, depression, and delirium so that they can respond to keep the shelter clients safe.

## **IDENTIFYING VULNERABLE OLDER ADULTS AND LEGAL OPTIONS FOR INCREASING THEIR PROTECTION DURING ALL-HAZARDS EMERGENCIES**

This guide is intended to help close many of the gaps in emergency planning and preparedness for vulnerable older adults. It aims to give essential partners from a range of sectors and at all jurisdictional levels critical information, strategies, and resources they need to improve the planning for and protection of vulnerable community-dwelling older adults.

**RESEARCH COUNTS 2021: MASS SHELTERING** 85



## **AMERICANS WITH DISABILITIES** ACT CHECKLIST FOR **EMERGENCY SHELTER**

This tool assists shelter workers in inspecting each shelter facility to identify barriers to people with disabilities, including people who use wheelchairs or scooters or who have difficulty walking, people who are deaf or hard-of-hearing, and people who are blind or who have low vision.



## FEMA ACCESSIBLE: ASSISTING **APPLICANTS WITH DISABILITIES** AND OTHERS WITH ACCESS AND FUNCTIONAL NEEDS

FEMA video about assisting aid applicants with disabilities and others with access and functional needs in American Sign Language.



#### **DISASTER RECOVERY** HOMELESSNESS TOOLKIT

A guide to meet the needs of people experiencing homelessness during disaster recovery. It provides recommendations for immediate actions and long-term recovery.

DISASTER PREPAREDNESS TO PROMOTE COMMUNITY **U.S. Department** RESILIENCE of Veterans Affairs 214

ANC

#### **DISASTER PREPAREDNESS TO PROMOTE COMMUNITY RESILIENCE: INFORMATION** & TOOLS FOR HOMELESS SERVICE PROVIDERS & **DISASTER PROFESSIONALS**

WHAT IS IT? A toolkit offering research-driven resources and guidance on the needs of individuals experiencing homelessness during disasters.

#### WHAT IS ITS PURPOSE? It can support disaster planning, response, and recovery activities that are inclusive of and address the needs of

homeless populations. WHO SHOULD USE IT? Agencies involved in emergency management, homeless service providers, and health care providers.

WHAT ARE THE EXPECTED BENEFITS? This toolkit helps to ensure that homeless populations and other at-risk individuals can access needed services during the disaster response and recovery phases.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index

CONVERGE Facility, University of Colorado Boulder

#### **CONVERGE SOCIAL VULNERABILITY AND DISASTERS TRAINING MODULE**

#### WHAT IS IT?

An online training module that focuses on social vulnerability to hazards and disasters, with an emphasis on population groups that have been identified in the literature as especially at risk to the adverse effects of extreme events.

WHAT IS ITS PURPOSE? It can help build knowledge and skills related to social vulnerability and conducting hazards and disaster research on vulnerable populations.

#### WHO SHOULD USE IT?

Hazards and disaster researchers and practitioners, with a special emphasis on students, individuals who are new to the field, and those interested in joining or leading interdisciplinary teams.

WHAT ARE THE EXPECTED BENEFITS? This module seeks to train the next generation of hazards and disaster researchers and practitioners to understand and address the complex needs of socially vulnerable populations.



ERVIEW OF DISABILITIES AND IG-TERM DISASTER RECOVERY

In the second

#### **SEND RED, NOT BLUE:** THE HOMELESS RESIDENT

This U.S. Department of Housing and Urban Development report provides recommendations on how to improve communication between local homeless services providers, disaster preparedness planners, and homeless residents themselves. It draws on the experience of two communities that have experienced frequent hurricanes and served homeless families and individuals during a disaster.

## LONG-TERM DISASTER RECOVERY **TOOLKIT FOR INDIVIDUALS** WITH DISABILITIES

This toolkit addresses long-term postdisaster recovery needs for individuals with disabilities or with access and functional needs. It is designed for disaster case managers, volunteers, emergency managers, and others involved in addressing the recovery needs of people with disabilities.



#### **DURABLE MEDICAL EQUIPMENT IN** DISASTERS

This tip sheet provides information on general durable medical equipment (DME) categories and focuses on electricity-dependent DME that may be affected by disasters and emergencies. It also includes information to assist healthcare system preparedness stakeholders plan for medically vulnerable populations who rely on DME.

**RESEARCH COUNTS 2021: MASS SHELTERING** 87



# FOOD SAFETY FOR INFANTS AFTER A NATURAL DISASTER

Comprehensive manual on infant feeding in disasters and emergencies.



#### RECOMMENDATIONS FOR EMERGENCY MANAGERS FOR IMPROVING THE DELIVERY OF DISASTER ASSISTANCE TO DISASTER SURVIVORS WITH DISABILITIES

The U.S. Department of Homeland Security's Civil Rights in Emergencies and Disasters website provides recommendations to state, local, territorial, and tribal emergency managers to improve the delivery of disaster assistance to disaster survivors with disabilities.

## PREGNANT WOMEN IN DISASTERS AND EMERGENCIES: HEALTH INFORMATION GUIDE

Collection of articles related to pregnant women's health in disasters.

The Infant and Young Child Feeding in Emergencies Core Group

## THE INFANT AND YOUNG CHILD FEEDING IN EMERGENCIES

WHAT IS IT? A comprehensive manual on infant feeding in disasters and emergencies.

WHAT IS ITS PURPOSE? It aims to provide concise, practical guidance on how to ensure appropriate infant and young child feeding during emergencies.

WHO SHOULD USE IT? Policy-makers, decision-makers, and individuals working in emergency preparedness and response, including governments, United Nations agencies, national and international nongovernmental organizations, donors, volunteer groups, and the private/ business sector.

WHAT ARE THE EXPECTED BENEFITS? This manual seeks to minimize infant and young child morbidity and/or mortality risks associated with feeding practices and to maximize child nutrition, health, and development during disasters.

Full list of hyperlinks at: hazards.colorado.edu/resources/ mass-sheltering/tool-index Disaster Interfaiths Network

National

#### TIP SHEETS: SHELTERING AND Mass care of religious Minorities in a disaster

WHAT IS IT? Guidelines to inform cultural competency and reasonable religious accommodation mandates for U.S. mass care providers.

WHAT IS ITS PURPOSE? It aims to assist shelter staff and volunteers in competently meeting the needs of religious minorities during disaster response or recovery operations.

WHO SHOULD USE IT? Disaster relief providers, including governmental, non-profit, and faithbased organizations involved in mass care and sheltering.

WHAT ARE THE EXPECTED BENEFITS? Religious minorities will receive accessible and culturally competent care at disaster shelters.



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#### EMERGENCY INFORMATION FORM For Children with Special Healthcare Needs

Patient-specific emergency information form for children with special healthcare needs, offered by the American Academy of Pediatrics and American College of Emergency Physicians.

#### EMERGENCY KIT CHECKLIST FOR Families with children and youth with special healthcare needs

Checklist of items to include in an emergency kit for families with children and youth with special healthcare needs.

#### RELIGIOUS LITERACY PRIMER FOR CRISES, DISASTERS, AND PUBLIC HEALTH EMERGENCIES

A field guide companion for emergency managers and their public and behavioral health partners to understand how faith communities and emergency management intersect and to develop religious literacy and competency.

## GETTING TO OUTCOMES GUIDE FOR COMMUNITY EMERGENCY PREPAREDNESS

Comprehensive guide to implementing evidence-based public health interventions in emergency preparedness.

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## THANK YOU FOR TAKING THIS RESEARCH AND MAKING IT COUNT.

If you have questions about *Research Counts*, please contact Jolie Breeden at jolie.breeden@colorado.edu or Lori Peek at lori.peek@colorado.edu.

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