Hurricane Resources at Your Fingertips

This document provides numerous hurricane-related resources applicable to a variety of stakeholders and audiences. **Appendix A** contains U.S. Department of Health and Human Services (HHS) Administration for Strategic Preparedness and Response (ASPR)-specific resources and contact information. **Appendix B** includes all the citations with annotations. ASPR TRACIE (Technical Resources, Assistance Center, and Information Exchange) created a Hurricanes Resource Page that includes links to a wide array of materials and resources.

The ASPR TRACIE Natural Disasters and Climate Change and Healthcare Consideration Topic Collections provide a wealth of resources for preparedness, response, recovery, and mitigation for hurricanes. ASPR TRACIE's Major Hurricanes: Potential Public Health and Medical Implications document provides an overview of the potential significant public health and medical response and recovery needs facing hurricane- and severe storm-affected areas, based on past experience and lessons learned from Hurricanes Katrina, Sandy, Harvey, and others. Healthcare System Preparedness for Secondary Disasters during COVID-19 provides information and resources on health and medical considerations and need for facilities and communities to shelter-in-place or evacuate during disasters (e.g., hurricanes, tornadoes, and wildfires) while maintaining social distancing practices.

Links to Categories in this Document

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Key Lessons Learned from Hurricane Response

- **Prepare dialysis patients**: provide early dialysis in advance of a storm or other potentially disruptive event to reduce morbidity and mortality in end-stage renal disease (ESRD) patients, promote widespread use of the 3-day emergency diet, and prepare for utility disruptions by rationing critical supplies. The Kidney Community Emergency Response (KCER) maintains hotlines and resources for patients, caregivers, providers, and health and emergency management officials and should be monitored for updated info.

- **Communicate often**: coordinate messages with the Joint Information Center (JIC) of your local Emergency Operations Center (EOC), prepare messages in advance of the event for external and internal audiences, and share messages with staff and the public through traditional venues (website, news, call-downs) and social media.
  o Use healthcare coalitions to support multi-agency response needs.

- **Plan for utility disruptions**: maintain open communications using ham radios and satellite phones. Use the HHS emPOWER map to find who may be at risk of/impacted by power outages and to anticipate potential surge in hospitals and shelters and assistance requests for EMS. Ensure generators are in working order and have adequate fuel, consider alternative power sources for critical medical equipment, back up IT data and have paper forms/records ready, consider relocating critical systems and services to higher ground (above flood plain), and have back up water supply available or a plan to purify polluted water.

- **Provide assistance to vulnerable/ at-risk populations (uninsured populations)**: know who and where these populations are in your jurisdiction, plan for uninsured people with special medical needs at shelters, and use the Emergency Prescription Assistance Program (EPAP) to help plan for the needs of patients with access issues to their drugs, vaccines, medical supplies and durable medical equipment. Ensure continued delivery of mental health services and access to disaster behavioral health services. Please visit the website to learn more about EPAP and when EPAP is activated at www.phe.gov/EPAP.

- **Ensure key supplies are available**: purchase key medications and supplies from more than one supplier to avoid disruption in services, and consider higher inventories of medications and supplies known or projected to be in short supply.

- **Update evacuation and shelter-in-place plans**: ensure your evacuation plan includes: a formalized local Incident Command (IC) structure, guidance to place transport isolates on the ground floor during an emergency, guidance to use social workers as family liaisons, Neonatal Intensive Care Unit (NICU)-specific power failure and evacuation checklists, and identified locations of infant-specific evacuation equipment. Ensure all staff have an understanding and plan to address the risks versus benefits of evacuation and shelter-in-place decisions. The Healthcare System Preparedness for Secondary Disasters during COVID-19 document includes considerations specific to COVID-19.

- **Take care of staff**: to ensure that staff are able to address their personal needs so they are able to come to work (and stay), review these [tips for retaining and caring for staff after a disaster.](#)
- **Plan early for recovery**: conduct the necessary actions to return to normal or "new normal" and respond with recovery in mind as soon as the event occurs.

Key Lessons Learned from Resources by Profession/ Facilities

Behavioral/ Mental Health Professionals

- Download the [SAMHSA Behavioral Health Disaster Response App](#) prior to deployment.
- Promote and disseminate information about the [SAMHSA National Disaster Distress Helpline](#) to communities as well as responders.
- Review the ASPR TRACIE [Disaster Behavioral Health](#) resource page, which includes links to:
    - [Self-Care for Healthcare Worker Modules](#)
    - [Mental/Behavioral Health Topic Collection](#)
    - [Responder Safety and Health Topic Collection](#)
- Emergency planners, responders, and others preparing for hurricanes or needing resources for response and recovery efforts, visit the [ASPR Disaster Behavioral Health](#) website for resources and fact sheets on at-risk individuals, behavioral health, and community resilience such as [First Responder Communication Strategies,](#) [Planning for Psychiatric Patient Movement During Emergencies and Disasters](#); [Disaster Behavioral Health Capacity Assessment Tool](#); [Disaster Behavioral Health Coalition Guidance;](#) [Individual Resilience: Factsheet for Responders](#); [Community Resilience](#); and [Individual Resilience](#) fact sheets.
- Encourage leaders and supervisors to take the online course [Building Workforce Resilience through the Practice of Psychological First Aid – A Course for Supervisors and Leaders.](#)
- Visit [SAMHSA](#) for a number of [resources](#) on coping with hurricanes, including tip sheets from the SAMHSA Disaster Technical Assistance Center ([DTAC](#)).
- For extensive resources on children and hurricanes, visit the [National Child Traumatic Stress Network](#).
- For tips on supporting healthcare facility staff in the wake of disasters access the [ASPR TRACIE Tips for Retaining and Caring for Staff after a Disaster](#) Fact Sheet.

Communications Specialists/ Public Information Officers

- Coordinate messages with the JIC of your local EOC.
- Promote and disseminate information about the [SAMHSA National Disaster Distress Helpline](#).
- Prepare messages in advance of the event for external and internal audiences.

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- Ensure 24/7 contact information is current (staff, media, and partners).
- Share messages on a regular basis: providing updated information will help to keep the public and staff posted on hurricane developments.
- Share messages via social media: Identify and use the same handles and hashtags being used by residents.
- Share messages through traditional sources also (television, radio, telephone hotlines).
- Text messaging is more reliable than phone calls.
- Satellite phones should be considered with awareness of potential limited use in overcast conditions and most require outdoor use.
- Ham radio support can provide emergency communication capability when other resources fail.
- Key resources for communications:
  - Email and SMS Weather Alert Services
  - Risk Communication Toolkit for Flooding
  - Crisis & Emergency Risk Communication (CERC)
  - GeoHEALTH Platform
  - First Responder Communication Strategies
  - Related ASPR TRACIE Topic Collections:
    - Communication Systems
    - Information Sharing
    - Risk Communications/Emergency Public Information and Warning
    - Social Media in Emergency Response

Dialysis Centers

- Early dialysis, in advance of a storm or other potentially disruptive event can reduce morbidity and mortality in ESRD patients.
- The Kidney Community Emergency Response Coalition maintains hotlines and resources for patients, caregivers, providers, and health and emergency management officials and should be monitored for updated info.
- Guidance for the rationing of critical supplies was developed by Institute of Medicine (IOM) (now called the National Academy of Medicine) and now adapted by the Association of State and Territorial Health Officials (ASTHO).
- Guidance for the use of water from tanker trucks and other non-public water sources has been promulgated for use in the event of a utility disruption.
- Widespread use of the 3-day emergency diet.
- Prepare now to address challenges identified in past hurricanes, such as: lack of dialysis documentation from transient dialysis patients, staff shortage, staff transportation, and communication with other agencies.

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- Key resources for dialysis providers and their clients:
    - [Dialysis Care after a Disaster](#)
    - [Getting Dialysis Treatments in a Disaster or Emergency](#)
    - [Dialysis Centers Topic Collection](#)
    - [Evacuating, Treating, and Tracking People on Dialysis](#)
    - [How the Private Sector Helps Dialysis Patients and Clinics Prepare for and Respond to Disasters](#)
    - [Post-Disaster Lessons Learned: Dialysis Patient Management](#)

Emergency Management/ Public Health Preparedness Professionals

- Plan for people with special medical needs when standing up shelters.
- Plan for maintaining continuity of prescription medications and durable medical equipment for patients with chronic diseases who cannot access pharmacies or sustain their medication supply. Use these [Emergency Prescription Assistance Program Fact Sheets](#) (the first group of resources under "Tip Sheets and Fact Sheets") to assist in planning for the pharmacy and prescription needs, durable medical equipment, medical supplies, and vaccines provided at retail pharmacies. Create or update your plan for receiving, cataloging, using or storing medical donations.
- Share messages on a regular basis: holding regular briefings is beneficial to keep the public and staff posted on hurricane developments.
- Prepare for vulnerable populations: know who and where these populations are in your jurisdiction. Low-income populations may be particularly vulnerable to storms and their effects.
- Prepare for possible health consequences and issues from evacuations: as residents prepare to evacuate, they may suffer from a variety of non-fatal injuries, including blunt trauma, puncture wounds, lacerations, sprains/strains, motor vehicle crashes, animal bites, and electrocution.
- Have a plan for providing or supporting mental/behavioral health needs of responders and community: traumatic stress reactions, anxiety, and symptoms of depression are all common responses to disaster; prepare to share coping strategies with survivors and responders through the provision of education and support services and Psychological First Aid and/or Skills for Psychological Recovery by trained staff.
- Use the [Sea, Lake, and Overland Surges from Hurricanes (SLOSH) Model and Display Program](#) as a tool to aid emergency managers in visualizing storm surge vulnerability. This data is also available in [GeoHEALTH](#).
- Use the [HHS emPOWER map](#) to find the monthly total of Medicare beneficiaries with electricity-dependent equipment claims at the U.S. state, territory, county, and zip code

level and enable "real-time" NOAA severe weather tracking services to identify areas and populations that may be at risk of/impacted by power outages.

- Download and review the SAMHSA Behavioral Health Disaster Response App prior to deployment.
- Encourage leaders and supervisors to take Psychological First Aid.
- Ensure a program is in place for the surveillance and control of mosquitos after rain and flooding events. The following resources can be helpful:
    - Surveillance and Control of *Aedes aegypti* and *Aedes albopictus* in the US
    - Information on Aerial Spraying
    - Resources for Mosquito Control Professionals
    - West Nile Virus Prevention
- Key resources for emergency managers/ public health professionals:
    - Major Hurricanes: Potential Health and Medical Implications
    - Zika: Resources at Your Fingertips
    - Self-Care for Healthcare Worker Modules
    - Responder Safety and Health Topic Collection
    - Zika Topic Collection
    - Hurricane Worker Podcasts
    - Individual Resilience: Factsheet for Responders
    - Planning for Psychiatric Patient Movement During Emergencies and Disasters

Hospital/ Healthcare Facility Emergency Manager or Administrator

Preparedness
- Having robust plans is key in your preparedness, response, and recovery efforts. For a list of applicable plans, tools, and templates, click here.

Medications and Resources
- Purchase key medications and supplies from more than one supplier.
- Substituted medications or supplies should ideally be similar to those already used by an institution's providers.
- Inventories should be tracked electronically to monitor medication/supply levels.
- Consider higher inventories of medications and supplies known or projected to be in short supply.
- Institute alternate use protocols when a (potential) shortage is identified.
- Support government and nongovernmental organizations in efforts to address supply chain vulnerability.

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Patients

- Patients exposed to floodwaters may become infected with bacterial pathogens (e.g., staphylococcus, Streptococcus, and vibrio vulnificus).
- Prepare your facility to evacuate and/or receive evacuated patients.
- You will likely see patients who have fallen, been in traffic crashes, sustained puncture wounds and lacerations, or suffer acute exacerbations of chronic illnesses.

Water

- Ensure you have enough drinking water available for patients and staff. This is a key issue for many hospitals in the aftermath of heavy flooding.
- Test water supply frequently, prepare to activate alternate plans for dialysis, laundry, food preparation, toileting, and other water-dependent functions.

Information Technology

- Ensure information technology (IT) personnel are part of the incident command structure.
- Validate third-party data recovery services.
- Backup data in a safe place offsite, if possible.
- Prepare and practice with paper-based options for documentation.
- Validate your backup power.

Critical Systems

- Consider relocating critical systems and services to higher ground (above flood plain) before the storm hits.

General Hospital/Healthcare Quick Links

- ASPR TRACIE Hurricane Select Resources Page
- Major Hurricanes: Potential Health and Medical Implications
- COVID-19 Resources
  - Healthcare System Preparedness for Secondary Disasters during COVID-19

Personal Preparedness
- Hurricane Safety Checklist
- Essential Guide to Hurricane Preparedness
- Hurricanes
- Flooding Preparation and Recovery

Hospital/ Healthcare Facility Preparedness
- Pre-Storm Checklist
- Pre-Event Evacuation Decision Guide
- Weathering the Storm: A Hurricane Planning, Response, and Recovery Toolkit

Hospital/Healthcare Utility Interruption
- Planning for Water Supply Interruptions: A Guide for Hospitals and Healthcare Facilities
- Planning for Power Outages: A Guide for Hospitals and Healthcare Facilities
- Working Without Technology: How Hospitals and Healthcare Organizations Can Manage Communication Failure
- Guidelines for Surviving Water Disruption
- Emergency Water Supply Planning Guide for Hospitals and Healthcare Facilities
- Utility Failures Topic Collection
- Considerations for Oxygen Therapy in Disasters
- Durable Medical Equipment in Disasters
- Partnering with the Healthcare Supply Chain During Disasters
- Blood and Disasters: Frequently Asked Questions

Volunteers
- Volunteer Management Topic Collection

Evacuation
- Evacuating a Region: How a Healthcare Coalition Helped Evacuate 1504 Patients from 45 Facilities after Hurricane Harvey
- Evacuating, Treating, and Tracking People on Dialysis
- When Hospitals Become Islands: One Facility's Evacuation Story
- Healthcare Facility Evacuation / Sheltering Topic Collection
- Exchange: Issue 6: Evacuating Healthcare Facilities

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- Ensure pump systems and other protective mechanisms are working well.
- Ensure adequate levels of fuel for generators: Healthcare facilities should test their back-up power plans before a storm strikes.
- Areas that have been noted in hospitals to cause the most damage/impact: wind related issues, water intrusion, HVAC, generators, fuel tanks, routine maintenance, medical gas cylinders and liquid oxygen tanks, bulk storage, and emergency evacuation stairways.

Evacuations/ Sheltering-in-place

- Meet with local emergency management services to review evacuation plans by ambulance, buses or other mechanisms.
- Evacuation transport for children often bypass adult-oriented facilities in favor of specialized children's hospitals.
- Ensure your evacuation plan includes a formalized local IC structure, guidance to place transport isolettes on the ground floor during an emergency, guidance to use social workers as family liaisons, the inclusion of NICU-specific power failure and evacuation checklists, and identified locations of infant-specific evacuation equipment.
- Key resources related to evacuation:
    o Hospital Evacuation Plan Checklist
    o Hospital Emergency Evacuation Toolkit
    o Healthcare Facility Evacuation/Sheltering Topic Collection
    o Healthcare System Preparedness for Secondary Disasters during COVID-19
    o Exchange Issue 6: Evacuating Healthcare Facilities
- Key resources related to sheltering-in-place:
    o Hospital Shelter-In-Place Planning Checklist
    o California Hospital Emergency Food Supply Planning Guidance and Toolkit
    o How to Cope with Sheltering in Place
    o Nutrition and Meal Plans: An Often Neglected Pillar of Healthcare Emergency Planning
    o Healthcare System Preparedness for Secondary Disasters during COVID-19

Staff/ Employee Resources and Safety

- Reopening a healthcare facility after a flood requires a review of facility infrastructure, air quality, the ability to sterilize and disinfect properly, and the functional capacity of supportive departments such as the laboratory and pharmacy.
- Staff should bring enough food, clothing, and supplies for several days – having one's personal needs taken care of allows healthcare workers to devote more effort to patient care.
    o Encourage staff to pack "go bags" to bring to work with them that contain snacks, clean clothes, personal hygiene materials, medications, and other items.
    o ASPR TRACIE developed these tips for retaining and caring for staff after a disaster.

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- Share information with staff about the facility evacuation plan (when it will be evacuated and how they will be notified).
- Staff behavioral health needs should be addressed, especially if they are hearing of major destruction in their or their loved ones' neighborhoods.
- Ensure safety of hospital staff: Once patients evacuated hospitals from New Orleans hospitals, staff left in caravans for safety (from unruly crowds and poorly lit and flooded roads).
- Designated staff in each hospital should be trained in psychological first aid and know where to identify appropriate information on effective coping strategies, and when and where to refer individuals who may need additional behavioral health support (i.e., an Employee Assistance Program or the SAMHSA Disaster Distress Helpline).
- Key resources related to worker safety:
    - Responding to Natural Disasters and Extreme Weather
    - Safety Guidelines: After a Hurricane or Other Tropical Storm
    - Hurricane Season Public Health Preparedness, Response, and Recovery Guidance for Health Care Providers, Response and Recovery Workers, and Affected Communities — CDC, 2017
    - Hospital Disaster Preparedness: Best Practices Learned From Hurricane Irma
    - Responder Safety and Health Topic Collection
    - Major Hurricanes: Potential Health and Medical Implications

Recovery
- Planning for recovery is as important as planning for response.
- Recovery plans should address actions necessary to return to normal or new normal and can begin as soon as the event occurs.
- Key resources related to recovery:
    - Hospital Repopulation After Evacuation Guidelines and Checklist
    - Post-Event Evacuation Decision Guide
    - Healthcare COOP and Recovery Planning: Concepts, Principles, Templates and Resources
    - Essential Functions and Considerations for Hospital Recovery
    - Rebuilding Emergency Care After Hurricane Sandy
    - Hospital Emergency Preparedness and Response During Superstorm Sandy (OEI-06-13-00260)
    - Secondary Surge Capacity: A Framework for Understanding Long-Term Access to Primary Care for Medically Vulnerable Populations in Disaster Recovery
    - Hospital Assessment and Recovery Guide
    - Recovery Planning Topic Collection
    - Continuity of Operations (COOP)/Business Continuity Planning Topic Collection
    - After the Flood: Mold-Specific Resources

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Long-term Care Facilities

- Prepare for facility evacuation by maintaining communication and collaboration with state and local agencies.
- Prepare for morbidity and logistical factors (e.g., moving frail individuals) when planning for facility evacuations.
- Evacuation of nursing homes may have deleterious effects on residents with severe dementia.
- During evacuations, receiving facilities are more likely than evacuating facilities to provide mental health services and treatment to evacuated residents.
- Physical harm, psychological distress, cognitive decline, and increased social isolation are areas that deserve special attention and planning for individuals in long-term care facilities.
- Nursing homes must be incorporated into disaster response systems at all levels - national, state, and local.
- Disaster response systems including Emergency Operations Centers (EOC) must designate nursing homes as "healthcare" facilities. These facilities must receive the same priority status for restoration of utilities (e.g., power, phone service) as hospitals, and may need enhanced police protection during community recovery.
- Shelter in place, when possible, and harden the physical plant to withstand hurricane winds and provide emergency power.
- Long-term care providers must know their storm surge/flood zone, the capacity of the facility's infrastructure to withstand hurricane winds and must develop viable plans for evacuation or sheltering in place in accordance with their facility's risk.
- Transportation for the evacuation of long-term care facilities must be incorporated into patient movement disaster planning efforts at the national, state and local levels.
- Maintaining communications between long-term care providers and EO Cs is vital in a disaster. Satellite phones or ham radios are recommended for use in all facilities.
- The ability to share information and resources and coordinate evacuation and response efforts hinges on the establishment of compatible databases for shared use during disasters.
- Long-term care facility disaster plans must be tested with drills that include the identification and management of cognitively impaired residents and those with special needs such as dialysis, ventilators, and oxygen.
- Long-term care facility disaster plans must include a plan for communicating with nursing home residents, families, and staff before, during, and after a disaster.

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- Flexibility is a key determinant in successfully responding to disasters. Nursing home and assisted living facility disaster plans need to allow for adaptation to the circumstances they are facing.
- Key resources for Long-Term Care Facilities:
  - [Long Term Care Facilities Topic Collection](#)

Pharmacies

- Prepare to conserve medications, substitute, and adapt if resources become scarce.
- Maintain situational awareness of drugs approaching scarcity and plan accordingly.
- Broaden options and consider different suppliers or medications.
- Retail pharmacies and providers should encourage patients to do the following:
  - Subscribe to your retail pharmacies on social media (e.g., X, Instagram, and Facebook) to get disaster alerts, such as [CVS](#) or [Walgreens](#).
- Key resources for pharmacies:
  - [Rx On the Run](#)
  - [Rx Open](#)
  - [Emergency and Disaster Preparedness and Response Planning: A Guide for Boards of Pharmacy](#)
  - [The Pharmacy Response to Patient Surge](#)
  - [ASPR TRACIE's Drug Shortages and Scarce Resource Page](#)
  - [Pharmacy Topic Collection](#)

Veterinarians/ Animal Care Professionals

- Veterinary medical practices should have an emergency plan.
- Work with county/state officials to plan for pet evacuations and pets in shelters. Remember that many residents will not evacuate if it means leaving their pets behind, and some residents have service animals and may bring them to healthcare facilities/shelters.
- Veterinarians should be prepared to treat flood-related illnesses in clients and share information with pet owners.
- Those who work with livestock should monitor situations and animal health more closely during and after a storm.
- Key resources for veterinarians:
  - [Interim Guidelines for Animal Health and Control of Disease Transmission in Pet Shelters](#)
  - [AVMA Emergency Planning Resources for Veterinary Practices – Disaster Preparedness](#)
  - [Emergency Animal Sheltering Best Practices](#)

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- A Method for Decontamination of Animals Involved in Floodwater Disasters
- Disaster Veterinary Issues Topic Collection

Appendix A: ASPR Resources

ASPR serves as the key one-stop website for all federal public health and medical information sources and assets. The site is searchable for multiple resources.
https://aspr.hhs.gov/Pages/Home.aspx

ASPR's **Technical Resources, Assistance Center**, **and Information Exchange** (**TRACIE**) is a healthcare emergency information gateway that supports timely access to resources and promising practices, identifies and remedies knowledge gaps, and provides users with responses to a range of requests for technical assistance. https://asprtracie.hhs.gov/

The **HHS emPOWER Program Platform** is a mission-critical partnership between ASPR and the Centers for Medicare and Medicaid Services (CMS). The HHS emPOWER Program provides federal data, mapping, and artificial intelligence tools, as well as training and resources, to help communities nationwide protect the health of at-risk Medicare beneficiaries, including 4.5 million individuals who live independently and rely on electricity-dependent durable medical and assistive equipment and devices, and/or certain essential health care services. Access the emPOWER Program Platform Fact Sheet for more information.

The **GeoHEALTH Platform** is ASPR's secure Geographic Information System (GIS) based, electronic, interactive mapping application. This application incorporates information from numerous sources both internal and external to HHS. http://geohealth.hhs.gov

The **Disaster Behavioral Health** page provides subject matter expertise, education, and coordination to internal and external partners to ensure that the functional needs of at-risk individuals and behavioral health issues are integrated in the public health and medical emergency preparedness, response, and recovery activities of the nation to facilitate and promote community resilience and national health security. Many resources are available on ASPR's Disaster Behavioral Health site.

Appendix B: Full References with Citations

Access and Functional Needs

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2020). HHS emPOWER Map 3.0.

> Healthcare providers, electric company representatives, and community members can use this map to find the monthly total of Medicare beneficiaries with electricity-dependent equipment claims at the U.S. state, territory, county, and zip code level and enable "real-time" NOAA severe weather tracking services to identify areas and populations that may be at risk of/impacted by power outages.

Behavioral/Mental Health

Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC). (n.d.). Planning for Psychiatric Patient Movement during Emergencies and Disasters. (Accessed 7/16/2024.) U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response.

> This tip sheet can help healthcare providers plan to relocate patients receiving psychiatric care in the event of an emergency. It includes a list of questions for planners and healthcare providers that can help with planning efforts.

Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC). (2014). Disaster Behavioral Health Capacity Assessment Tool. U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response.

> This tool can help state and local agencies and healthcare provider organizations measure their disaster behavioral health capacity and its integration into all phases of emergency management efforts. As users complete the assessment, gaps will emerge, highlighting opportunities for further research and local collaboration.

Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC). (n.d.). Disaster Behavioral Health Coalition Guidance. (Accessed 7/16/2024.) U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response.

> This document provides guidance for establishing a disaster behavioral health coalition for disaster response and recovery to facilitate communication across provider groups, coordinate behavioral healthcare efforts, and help identify existing and emergent needs.

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Checklists of guidelines for successful coalitions, ways to recruit members, and Disaster Behavioral Health Coalition activities are included.

Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC). (2015). Community Resilience. U.S. Department of Health and Human Services. Administration for Strategic Preparedness and Response.

This factsheet provides an overview of community resilience and its role in disaster preparedness and response.

Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC). (2018). Individual Resilience. U.S. Department of Health and Human Services. Administration for Strategic Preparedness and Response.

This factsheet explains resilience and how it contributes to disaster preparedness and response and community resilience.

Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC). (2015). Individual Resilience: Factsheet for Responders. U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response.

Responders can learn more about resilience and the advantageous role it plays in disaster response and recovery from this factsheet.

National Association of County and City Health Officials. (2015). Building Workforce Resilience through the Practice of PFA- L: A Course for Supervisors and Leaders.

This self-paced 90-minute course was developed by the U.S. Department of Health and Human Services and the National Association of County and City Health Officials to introduce the concept of Psychological First Aid (PFA) as a leadership tool to build workforce resilience. The course uses scenario-based exercises to teach participants about the core components of Psychological First Aid for Leaders.

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2019). First Responder Communication Strategies.

This webpage provides communication strategies and steps for responders assisting and directing people in crisis to help gain trust and reduce anxiety in those being treated and achieve better physical and emotional outcomes for patients and safer conditions for all.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. (n.d.). Behavioral Health Disaster Response App. (Accessed 7/16/2024.)

This app provides first responders access to field resources for aiding disaster survivors, and the ability to search for and map behavioral health service providers in the impacted area, review emergency preparedness materials, and share resources.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. (2020). Disaster Distress Helpline.

This helpline allows anyone in the U.S. who wants support for any distress that they or someone they care about may be feeling related to any disaster. Users can call 1-800-985-5990 or text "TalkWithUs" to 66746 (standard rates may apply) to connect with trained crisis counselors for free support, available 24/7/365. Translation services are also available.

Communications

National Weather Service. (n.d.). Weather Enterprise Resources. (Accessed 7/16/2024.)

The National Weather Service provides links to federal and external alert and warning sources

Demuth, J., Morss, R., Hearn Morrow, B., and Lazo, J. (2012). Creation and Communication of Hurricane Risk Information. Bulletin of the American Meteorological Society. 93(8):1133-1145.

The authors conducted in-depth interviews and observational sessions with meteorologists and emergency managers from the Greater Miami area to understand lessons learned in crafting communication and messages to the public during hurricane watch and warning periods.

Oregon Health Authority, Public Health Division Health Security, Preparedness, and Response Program. (2014). Risk Communication Toolkit for Flooding.

This toolkit can help local health authorities develop public messaging during a flood event. It includes information relevant to the actual event and the recovery period such as key messages, talking points, sample press releases, factsheets, links to key resources, and sample social media messages for X and Facebook.

U.S. Department of Health and Human Services. (n.d.). GeoHEALTH Platform. (Accessed 7/16/2024.)

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This tool provides central access to federal disaster and public health related natural disaster alerts, warnings, and other resources.

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2020). HHS emPOWER Map 3.0.

Healthcare providers, electric company representatives, and community members can use this map to find the monthly total of Medicare beneficiaries with electricity-dependent equipment claims at the U.S. state, territory, county, and zip code level and enable "real-time" NOAA severe weather tracking services to identify areas and populations that may be at risk of/impacted by power outages.

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Continuity of Care

Arrieta, M.I., Foreman, R.D., Crook, E.D., and Icenogle, M.L. (2008). Insuring Continuity of Care for Chronic Disease Patients After a Disaster: Key Preparedness Elements. American Journal of Medical Sciences. 336(2):128-33.

The authors interviewed 30 key informants (KI), including health and social service providers that provide healthcare to the under- and uninsured along the Mississippi and Alabama Gulf Coast. Pre-disaster issues of importance were patient education and preparedness; evacuation guidance and support; planning for special medical needs shelters; and healthcare provider preparedness. Post-disaster issues were communication; volunteer coordination/credentialing; and donation management, particularly for medications.

Arrieta, M.I., Foreman, R.D., Crook, E.D., and Icenogle, M.L. (2009). Providing Continuity of Care for Chronic Diseases in the Aftermath of Katrina: From Field Experience to Policy Recommendations. Disaster Medicine and Public Health Preparedness. 3(3):174-82.

The authors interviewed 30 key informants (KI), including health and social service providers that provide healthcare to the under- and uninsured along the Mississippi and Alabama Gulf Coast. Respondents indicated that mental health, diabetes mellitus, hypertension, respiratory illness, end-stage renal disease, cardiovascular disease, and cancer were medical management priorities after a disaster. The most frequently mentioned barrier to providing care was maintaining continuity of medications. Inaccessible medical records, poor patient knowledge, and financial constraints also impacted care. Implemented or suggested solutions included better pre-disaster patient education; support for electronic medical records at community health centers; and better management of donated medications/medical supplies.

Horahan, K., Morchel, H., Raheem, M., and Stevens, L. (2014). Electronic Health Records Access During a Disaster. Online Journal of Public Health Informatics. 5(3):232.

The authors describe a novel approach to reestablishing connectivity with the electronic health records server for a hospital affected by Superstorm Sandy through resource-sharing of a disaster response asset from a hospital in a neighboring state.

Continuity of Operations

California Hospital Association. (2012.) Hospital Continuity Planning Toolkit.

This toolkit provides examples for hospitals to follow when developing their continuity plans. It is a companion document to the California Hospital Association's Hospital Continuity Program Checklist.

California Association of Health Facilities Disaster Preparedness Program. (n.d.) Continuity of Operations Plan Template for Long Term Care Facilities. (Accessed 7/16/2024.)

This continuity of operations plan template for long-term care facilities may be customized as needed.

Kansas Department of Health and Environment. (n.d.) Continuity of Operations Plan Guidance Document. (Accessed 7/16/2024.)

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This document contains guidance for hospitals to develop continuity of operations plans and includes a checklist of required elements and a template for an annex to be completed and attached to a hospital's Emergency Operations Plan.

U.S. Department of Health and Human Services, Office of the Assistant Secretary of Preparedness and Response. (2015). Healthcare COOP and Recovery Planning: Concepts, Principles, Templates and Resources.

This guide includes an overview of healthcare continuity of operations planning, customizable templates, and other related resources.

Dialysis Centers

Kelman, J., Finne, K., et al. (2015). Dialysis Care and Death Following Hurricane Sandy. (Abstract only.) American Journal of Kidney Disease. 65(1): 109-15.

The authors of this study address the variation in dialysis care patterns and mortality for patients with end stage renal disease in New York City and the State of New Jersey after Hurricane Sandy. They discuss their findings and conclude that members of the study group (those living in areas affected by Sandy) had higher rates of post-storm visits to the emergency department, hospitalizations, and 30-day mortality than members of the comparison groups.

Kidney Community Emergency Response Coalition. (n.d.). Kidney Care in Emergencies: Community Considerations. (Accessed 7/16/2024.)

This brochure includes information on what the community needs to know about emergency preparedness for individuals on dialysis or with a kidney transplant. This information is also provided as a one-page flyer.

Lempert, K. and Kopp, J. (2013). Hurricane Sandy as a Kidney Failure Disaster. American Journal of Kidney Disease. 61(6):865-8.

The authors review lessons learned after recent disasters and provide "the cardinal features of kidney failure disaster preparedness."

Lin, C. , Pierce, L., Roblin, P., and Arquilla, B. (2014). Impact of Hurricane Sandy on Hospital Emergency and Dialysis Services: A Retrospective Survey. (Abstract only.) Prehospital and Disaster Medicine. 29(4): 374-9.

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The authors conducted a retrospective study on hospital dialysis services provided after Hurricane Sandy. They found challenges with: lack of dialysis documentation from transient dialysis patients (92.3%), staff shortage (50%), staff transportation (71.4%), and communication with other agencies (53.3%).

Education and Training

National Institute of Environmental Health Sciences. (n.d.) Hurricane Worker Podcasts. (Accessed 7/16/2024.) National Clearinghouse for Worker Safety and Health Training.

These short podcasts were developed to help emergency responders and recovery workers prepare for hurricane-related hazards (e.g., mold, debris, and electrical hazards).

Fatality Management

Page, D. (2006). Life in a Disaster Morgue. Forensic Magazine.

The author of this article describes the experiences and response tasks of a forensic dental team, the Disaster Mortuary Operational Response Team (DMORT), and other mortuary affairs professionals, following Hurricane Katrina.

Redman, S., Fromknecht, C., Hodge, S., et al. (2017). Death Scene Investigation After Natural Disaster or Other Weather-Related Events: A Toolkit. Centers for Disease Control and Prevention.

The authors conducted a literature review and discovered variance in the tools used in disaster death scene data collection. They formed a work group comprised of medical examiners and coroners, forensic pathologists, death scene investigators, forensic anthropologists, and epidemiologists that developed and pilot tested this toolkit. The toolkit includes templates and checklists by hazard.

Santa Clara County Public Health Department Advanced Practice Center. (2011). Managing Mass Fatalities: A Toolkit for Planning. National Association of County and City Health Officials.

Based on lessons learned from actual events (e.g., the Oklahoma City bombing, 9/11, and Hurricane Katrina) this toolkit provides customizable operational strategies and tools that can help jurisdictions create a plan for managing mass fatalities. Tips for communicating with the public are included in the toolkit.

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Floods

Bandino, J.P., Hang, A., and Norton, S.A. (2015). The Infectious and Noninfectious Dermatological Consequences of Flooding: A Field Manual for the Responding Provider. American Journal of Clinical Dermatology. 16(5): 399-424.

The authors provide information for clinicians caring for flood victims. They describe the conditions seen in patients following floods, and characterize the causative agents of these conditions. Treatment is also discussed.

Centers for Disease Control and Prevention. Preventing Mold. (Accessed 7/16/2024.)

This webpage includes resources for handling mold after a disaster.

Centers for Disease Control and Prevention. (2017). Mold Clean Up Guidelines and Recommendations.

This webpage includes resources that explain how individuals can remove mold.

New Jersey Work Environment Council. (n.d.). Safer after Sandy Public Service Announcement – 60 seconds: The Hazards of Mold after Hurricane Sandy. (Accessed 7/16/2024.)

This PSA script provides information on what individuals should know about the hazards of mold when rebuilding after Hurricane Sandy.

Shroades, R. (2007). Flood Preparedness: Once Bitten, Twice Ready. FacilitiesNet.

This article documents how facility staff from Memorial Hermann Hospital incorporated lessons learned after Tropical Storm Allison flooded the facility with almost 40 feet of water in 2001.

General Lessons Learned

Berggren, R. (2005). Hurricane Katrina. Unexpected Necessities--Inside Charity Hospital. The New England Journal of Medicine. 353(15):1550-3.

The author describes her experience in Charity Hospital following Hurricane Katrina, with a focus on the unexpected necessities (e.g., shoes, extra underwear, shift work/sleep, morale-boosting activities, a team of professionals who care about patients and each other, etc.) that arose, and how they were addressed.

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Kostas Research Institute for Homeland Security, Northeastern University & Columbia University's National Center for Disaster Preparedness. (2013). After Superstorm Sandy: Lessons Learned for Bolstering the Resilience of Health Systems and Services.

This document contains a series of reports developed following Hurricane Sandy and presented as read ahead material during a conference. The reports individually outline lessons learned following the Hurricane Sandy response.

Okie, S. (2008). Dr. Pou and the Hurricane — Implications for Patient Care during Disasters. The New England Journal of Medicine. 358(1):1-5.

The author discusses the circumstances surrounding the arrest of a physician and two nurses for allegedly euthanizing four elderly patients at Memorial Hospital in Louisiana after Hurricane Katrina. Issues such as altered standards of care, scarce resource allocation, triage, and indemnification and/or immunity for health professionals are included.

Healthcare Facility Evacuation/Sheltering-in-Place

Baldwin, S., Robinson, A., Barlow, P., and Fargason, C.A. (2006). Moving Hospitalized Children All Over the Southeast: Interstate Transfer of Pediatric Patients during Hurricane Katrina. Pediatrics 117(Supplement 4): s416-420.

This article highlights the unique issues associated with the flooding and the subsequent need to evacuate neonates from New Orleans hospitals after Hurricane Katrina.

Barkemeyer, B. (2006). The University Hospital NICU in the Midst of Hurricane Katrina: Caring for Children without Power or Water. Pediatrics 117(Supplement 4): s369-374.

The author of this report, a neonatologist, discusses steps taken by the hospital's level 3 neonatal intensive care unit (NICU) before, during, and after Hurricane Katrina. He highlights lessons learned about evacuation from a hospital, patient, and staff perspective.

Espiritu, M., Patil, U., Cruz, H., et al. (2014). Evacuation of a Neonatal Intensive Care Unit in a Disaster: Lessons From Hurricane Sandy. Pediatrics. 134(6):e1662-e1669.

This article highlights lessons learned and overall experiences related to the vertical evacuation of the neonatal intensive care unit (NICU) from NYU Langone Medical Center during Hurricane Sandy.

Haggerty, E. (2013). When Bellevue Had to Evacuate Its Criminally Insane. Bedford and Bowery.

This article addresses having to evacuate patients with serious behavioral health issues. It specifically provides experiences and challenges faced by Bellevue Hospital in the aftermath of Hurricane Sandy.

Perrin, K. (2006). Closing and Reopening of a Children's Hospital during a Disaster. Pediatrics 117(5): s381-385.

The author of this article discusses steps taken by a children's hospital before, during, and after Hurricane Katrina, to include the evacuation of patients. He also provides lessons learned.

Ramme, A.J., Vira, S., and McLaurin, T.M. (2015). Superstorm Sandy's Forgotten Patient: A Lesson in Emergency Preparedness in Severe Obesity. Obesity. 23(2):253-4.

The authors describe the challenges associated with evacuation of a morbidly obese patient during Superstorm Sandy, and how those challenges influenced the decision not to evacuate the patient, even in the absence of power and running water.

Redlener, I. and Reilly, M. (2012). Lessons from Sandy — Preparing Health Systems for Future Disasters. The New England Journal of Medicine. 367(24):2269-2271.

This article discusses lessons learned from the evacuation of two NYC area hospitals in response to Hurricane Sandy in 2012.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2014). How to Cope with Sheltering in Place.

This resource offers tips people can use to cope with sheltering-in-place. It explains reactions people often feel when sheltering-in-place; suggests ways to care for oneself and the family, such as making a plan and staying connected; and provides additional helpful resources.

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Health Effects Related to Hurricanes and Flooding

Bandino, J.P., Hang, A., and Norton, S.A. (2015). The Infectious and Noninfectious Dermatological Consequences of Flooding: A Field Manual for the Responding Provider. American Journal of Clinical Dermatology. 16(5): 399-424.

The authors provide information for clinicians caring for flood victims. They describe the conditions seen in patients following floods and characterize the causative agents of these conditions. Treatment is also discussed.

Lane, K., Charles-Guzman, K., Wheeler K., Abid, Z., Graber, N., and Matte, T. (2013). Health Effects of Coastal Storms and Flooding in Urban Areas: A Review and Vulnerability Assessment. Journal of Environmental and Public Health. 2013.

The authors provide a review of the health impacts of U.S. coastal storms, with a focus on outcomes relevant to New York City (NYC) and urban coastal areas, and incorporate lessons learned from recent experience with Superstorm Sandy. Based on the literature reviewed, indicators of health vulnerability were selected and mapped within NYC neighborhoods.

McMichael, A.J. (2015). Extreme Weather Events and Infectious Disease Outbreaks. (Abstract only.) Virulence. 6(6):543-547.

The author discusses infectious disease risks associated with extreme weather events, drawing on recent experiences, including Hurricane Katrina in 2005 and the 2010 Pakistan mega-floods. Historical examples from previous centuries of epidemics and 'pestilence' associated with extreme weather disasters and climatic changes are also discussed.

Sugerman, D. and Armstrong, J. (2013). Prevention and Treatment of Injuries Following Hurricanes and Tornadoes. Centers for Disease Control and Prevention.

This one-hour webinar covers the provision of pre-hospital care; the patterns of injury seen after hurricanes and tornadoes, including appropriate initial management; appropriate emergency risk communication messages; and the importance of data collection to improve messaging and response efforts.

Long-term Care Facilities

Blanchard, G., and Dosa, D. (2009). A Comparison of the Nursing Home Evacuation Experience between Hurricanes Katrina (2005) and Gustav (2008). Journal of American Medical Directors Association. 10(9): 639-43.

The authors of this report discuss their findings from a study in which they conducted telephone surveys with multiple nursing home administrative directors in Louisiana after Hurricanes Katrina and Gustav. The objective was to ascertain whether nursing home facilities were more prepared to evacuate their nursing home facilities for Hurricane Gustav then they were for Hurricane Katrina.

Brown, L.M., Dosa, D.M., et al. (2012). The Effects of Evacuation on Nursing Home Residents with Dementia. American Journal of Alzheimer's Disease and Other Dementias. 27(6): 406-12.

The authors of this report discuss their findings from research conducted on the effects of evacuation from Hurricane Gustav on residents with severe dementia.

Brown, L.M., Hyer, K., et al. (2010). Use of Mental Health Services by Nursing Home Residents After Hurricanes. Psychiatric Services. 61(1): 74-7.

The authors of this report discuss the findings of their study on the evaluation of pre- and post-hurricane mental health service use in Florida nursing homes. Results indicated that although most nursing homes provided some type of mental health service during normal operations, disaster-related mental health services were not routinely provided to residents. The authors also found that receiving facilities were more likely than evacuating facilities to provide treatment to evacuated residents.

Christensen, J.J., Brown, L.M., et al. (2012). A Haven of Last Resort: The Consequences of Evacuating Florida Nursing Home Residents to Nonclinical Buildings. Geriatric Nursing. 33(5): 375-83.

The authors of this study conducted a series of six focus groups with nursing home administrators and directors of nursing who worked in nursing homes during the 2004-2005 Florida hurricane season. The purpose of the focus groups was to explore issues faced by nursing home administrators, nurses, and residents during hurricane evacuations to nonclinical buildings.

Claver, M., Dobalian, A., et al. (2013). Comprehensive Care for Vulnerable Elderly Veterans during Disasters. Archives of Gerontology and Geriatrics. 56(1): 205-13.

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This study examines the experiences of evacuations and sheltering of Veterans Health Administration (VHA) nursing homes (VANHs) during Hurricanes Katrina and Rita. Interviews were conducted with nursing home staff and representatives, which revealed that physical harm, psychological distress, cognitive decline, and increased social isolation were areas that deserved special attention for this vulnerable population.

Deal, B.J., Fountain, R.A., et al. (2006). Challenges and Opportunities of Nursing Care in Special-Needs Shelters. (Abstract only.) Disaster Management and Response. 4(4): 100-5.

This article discusses lessons learned and challenges that were encountered by nurses volunteering in special-needs shelters during Hurricanes Katrina and Rita. It also addresses issues related to human and physical resources, patient care, and confidentiality. Evacuee patients included residents with special needs, and residents of nursing homes and group homes caring for mentally and physically disabled persons.

Dosa, D., Hyer, K., et al. (2012). To Evacuate or Shelter In Place: Implications of Universal Hurricane Evacuation Policies on Nursing Home Residents. Journal of the American Medical Directors Association. 13(2): 190 e1-7.

The objective of this study was to examine the differential morbidity/mortality associated with evacuation versus sheltering in place for nursing home residents exposed to four hurricanes in the Gulf region. The authors discuss their methodology and results of the study.

Hyer, K., Brown, L.M., et al. (2006). Establishing and Refining Hurricane Response Systems for Long-Term Care Facilities. Health Affairs. 25(Supplement 1).

In February 2006, the John A. Hartford Foundation funded a long-term care "Hurricane Summit," sponsored by the Florida Health Care Association. Summit participants included representatives from five Gulf Coast states that sustained hurricane damage during 2005, along with representatives from Georgia, which was a receiving state for hurricane evacuees. Participants evaluated disaster preparedness, response, and recovery for long-term care provider networks and identified gaps that impeded safe resident evacuation and disaster response. Specific areas warranting further attention are presented as lessons learned.

Laditka, S.B., Laditka, J.N., et al. (2008). Providing Shelter to Nursing Home Evacuees in Disasters: Lessons from Hurricane Katrina. American Journal of Public Health. 98(7): 1288-93.

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The authors examined nursing home preparedness needs by studying the experiences of nursing homes that sheltered evacuees from Hurricane Katrina. Interviews were conducted with nursing home administrators that sheltered evacuees in four states.

Levinson, D.R. (2012). Gaps Continue to Exist in Nursing Home Emergency Preparedness and Response During Disasters: 2007-2010. U.S. Department of Health and Human Services Office of Inspector General.

In a 2006 report, results indicated that nursing homes that experienced hurricanes lacked many provisions recommended by experts in their emergency plans. In response, the Centers for Medicare & Medicaid Services (CMS) issued guidance checklists for emergency planning of healthcare facilities, long-term care ombudsman programs, and state survey agencies. This study was conducted to assess emergency preparedness and response of nursing homes that experienced disasters from 2007-2010.

Pharmacy

ASPR TRACIE. (2022). Disaster Available Supplies in Hospitals (DASH) Tool.

Disaster Available Supplies in Hospitals (DASH) is an interactive tool that can help hospital emergency planners and supply chain staff estimate supplies that may need to be immediately available during various mass casualty incidents and infectious disease emergencies based on hospital characteristics. Comprised of four modules (pharmacy, burn, trauma, and personal protective equipment), DASH recommends average par levels for specific supplies that acute care hospitals may need to have on hand to respond to a disaster in their community until resupplied. Recommendations are based on user inputs about the size of the hospital, risks in the community, regional role/designation of the hospital, and other factors.

Hayes, H. (2008). CMS Activates Emergency System to Fill Evacuees' Prescriptions. Healthcare IT News.

The author of this article discusses how the Centers for Medicare & Medicaid Services (CMS) activated the Emergency Prescription Assistance Program (EPAP) after Hurricanes Gustav and Ike. EPAP provides financial assistance to uninsured disaster victims to cover one refill of existing prescriptions. It may also be used to replace equipment (e.g., walkers and wheelchairs) left behind or lost as people evacuated.

Healthcare Ready. (2019). Rx On the Run.

This online tool can be used by the general public and enables users to print a personalized medication wallet card that documents prescriptions, dosages, and other important medical information. These cards can help people access their medical records or refill prescriptions after a disaster or public health emergency.

Healthcare Ready. (2021). Rx Open.

This website helps emergency management teams and the general public locate operating pharmacies in areas affected by natural disasters or public health emergencies. The tool provides maps to identify the location of open and closed pharmacies using Google Maps. The website is free to the public when activated at the request of state or federal officials.

Jhung, M.A., Shehab, N., Rohr-Allegrini, C., et al. (2007). Chronic Disease and Disasters: Medication Demands of Hurricane Katrina Evacuees. American Journal of Preventive Medicine. 33(3):207-210.

The authors of this study assess the relationship between actual medication demands and medical relief pharmaceutical supplies in a population of 18,000 evacuees relocated to San Antonio, TX after Hurricane Katrina struck the Gulf Coast in August 2005.

Khrais, R. (2012). For Some Sandy Survivors, Medicine's the Big Worry. NPR.

The author of this article (and webcast) discusses the medical issues that some Superstorm Sandy survivors experienced after the storm. The storm caused many pharmacies to close, kept home healthcare aides from getting to their patients, and flooded many of the clinics people rely on. The article also describes one doctor's mission to get medicine to people who did not have access to their doctors or could not get out of their homes.

National Association of Boards of Pharmacy. (2006). Emergency and Disaster Preparedness and Response Planning: A Guide for Boards of Pharmacy.

This guidance document was developed for the Boards of Pharmacy. It provides an overview of federal, state, and local governments in preparedness and response management to enable Boards to develop robust emergency and disaster plans that complement local efforts. It also includes several appendices, which contain guidance information and templates for issues such as emergency planning, maintaining operations, and communications.

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Rutkow, L., Vernick, J.S., Wissow, L.S., et al. (2012). Prescribing Authority during Emergencies Challenges for Mental Health Care Providers. The Journal of Legal Medicine. 32(3): 249–260.

This article addresses the issues associated with the prescribing abilities of mental health providers after a disaster and the implications for acute and chronic management of behavioral health issues.

Plans, Tools, and Templates

Banatin, C. and Go, M. (2010). Safe Hospitals in Emergencies and Disasters: Structural, Non-Structural and Functional Indicators. World Health Organization, Regional Office for the Western Pacific.

This vulnerability assessment highlights structural, non-structural, and functional elements that must be considered to ensure that a health facility can withstand and remain operational in emergencies.

New Jersey Hospital Association. (2010). Weathering the Storm: A Hurricane Planning, Response, and Recovery Toolkit.

This plan was written to help state hospitals prepare for, respond to, and recover from hurricanes. The plan focuses on sheltering in place and related needs. The plan also includes templates that can be tailored by healthcare facilities.

Novation. (n.d.) Emergency Disaster Plan Template. (Accessed 7/16/2024.)

Healthcare facility emergency planners can use this template when developing their emergency operations plan. It features 12 disaster scenarios, including: hurricane, tornadoes, structure fires, earthquakes, and extreme cold.

Oregon Health Authority, Public Health Division Health Security, Preparedness, and Response Program. (2014). Risk Communication Toolkit for Flooding.

This toolkit can help local health authorities develop public messaging before, during, and after a flood event. It includes information relevant to the actual event and the recovery period: key messages, talking points, sample press releases, factsheets, links to key resources, and sample social media messages for X and Facebook.

Toner, E., McGinty, M., Schoch–Spana, M., et al. (2017). A Community Checklist for Health Sector Resilience Informed by Hurricane Sandy.

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The authors incorporated lessons learned from Hurricane Sandy and developed this checklist of actions for healthcare, public health, nongovernmental organizations, and private entities to strengthen the resilience of their community's health sector. Information is provided by type of healthcare facility (e.g., long-term health, behavioral health, correctional health).

U.S. Department of Health and Human Services (HHS). (2014). Primary Protection: Enhancing Health Care Resilience for a Changing Climate.

This 86-page document is a guide and toolkit designed to assist healthcare providers, design professionals, policymakers, and others with roles and responsibilities in assuring the continuity of quality health and human care before, during, and after extreme weather events. It is focused on healthcare infrastructure resilience to climate change impacts as manifested primarily by extreme weather events.

World Health Organization, Regional Office for Europe. (2014). Floods.

This webpage includes links to fact sheets that are geared towards health professionals and describe steps to take during a flood, in the absence of a flood health preparedness and response plan. The sheets cover a variety of strategies including vaccination during flood events, food safety, water and hygiene in healthcare facilities during and after flood events, and post-flood disinfection strategies.

Yale New Haven Health. (n.d.) Pre-Storm Checklist. (Accessed 7/16/2024.)

The Center for Emergency Preparedness and Disaster Response shares pre-storm checklists for the following departments: administrative, clinical laboratory, clinical services, facilities, food and nutrition, IT/MIS, materials management, pharmacy, respiratory care, and safety and security.

Recovery

Harvard School of Public Health Emergency Preparedness and Response Exercise Program and Massachusetts Department of Public Health. (2014). Essential Functions and Considerations for Hospital Recovery.

Based on an extensive literature review (including federal guidelines), review of hospital plans, interviews with staff from hospitals affected by critical incidents, and lessons learned from a 2013 workshop on recovery-based lessons learned, the authors developed this document to help hospitals prepare to manage recovery from all types of events

Institute of Medicine. (2012). Post-Incident Recovery Considerations of the Health Care Service Delivery Infrastructure - Workshop Summary.

This document is a summary of a workshop session during the 2012 Public Health Preparedness Summit that focused on sustaining healthcare delivery past the response phase of a disaster and the full recovery of local healthcare delivery systems. The session focused on identifying services to support the affected healthcare service delivery infrastructure and ways to facilitate long-term recovery. It also includes lessons learned from prior disasters to inform pre-incident planning for recovery and mass casualty care.

Institute of Medicine. (2015). Healthy, Resilient, and Sustainable Communities After Disasters: Strategies, Opportunities, and Planning for Recovery. (Book available for purchase; PDF is free for guests to download.)

This report is the product of an Institute of Medicine meeting that convened experts on disaster recovery. It emphasizes the need to understand that the disaster recovery process offers communities the unique opportunity to not only "return to normal," but to improve upon the status quo. Doing so can improve a community's resilience, health, preparedness for future events, and sustainability. Recommended: Review "Summary of Findings" sections to more easily navigate this extensive resource.

Lee, D., Smith, S., McStay, C., et al. (2014). Rebuilding Emergency Care After Hurricane Sandy. (Abstract only.) Disaster Medicine and Public Health Preparedness. 8(2):119-122.

The authors describe their experience managing a freestanding emergency department at the Bellevue Hospital Center in New York City following Hurricane Sandy. They provide a model that could possibly be replicated to rebuild emergency care capacity following future natural disasters.

Office of the Inspector General. (2014). Hospital Emergency Preparedness and Response During Superstorm Sandy. U.S. Department of Health and Human Services.

The authors surveyed 174 Medicare-certified hospitals located in declared disaster areas in Connecticut, New Jersey, and New York during Superstorm Sandy and conducted 10 site visits and collected other types of data. They found that a small percent of hospitals (7%) evacuated during the storm (the rest sheltered in place). The report describes several cases of flooded hospitals and recommends continued community disaster collaboration.

Runkle, J., Brock-Martin, A., Karmaus, W., and Svendsen, E. (2012). Secondary Surge Capacity: A Framework for Understanding Long-Term Access to Primary Care for Medically Vulnerable Populations in Disaster Recovery. American Journal of Public Health. 102(12):e24-32.

> The authors advocate for the expansion of surge capacity plans to meet the chronic healthcare needs of vulnerable populations that increase following the acute phase of disaster response. They use a health services model to identify factors that perpetuate health disparities following disasters. To address these disparities, the authors recommend a baseline assessment of needs, with the expectation that such healthcare needs will expand post-disaster.

U.S. Department of Health and Human Services, Office of the Assistant Secretary of Preparedness and Response. (2015). Healthcare COOP and Recovery Planning: Concepts, Principles, Templates and Resources.

> This guide includes an overview of healthcare continuity of operations planning, customizable templates, and other related resources. It includes links to information on continuity planning, online courses, and other COOP resources.

Zane, R., Biddinger, P., Gerteis, J., and Hassol, A. (2010). Hospital Assessment and Recovery Guide. U.S. Department of Health and Human Services.

> This guide is designed to help hospital staff conduct an initial assessment of a hospital after a closure or evacuation due to an emergency event.

State and Federal Emergency Management/Support

Association for State and Territorial Health Officials. (2013). Emergency Authority and Immunity Toolkit.

> This toolkit contains a review of key emergency authority and immunity concepts; a summary of federal laws and policies pertaining to emergency planning and response; and a series of fact sheets addressing fundamental issues or legal authorities, issue briefs, and state analysis guides.

Hodge, J.G., Anderson, E., Teret, S.P., et al. (2009). Model Memorandum of Understanding Between Hospitals During Declared Emergencies. Centers for Disease Control and Prevention.

This document provides the background and text for a model Memorandum of Understanding (MOU) between hospitals during declared emergencies. The model MOU was developed by the National Center for the Study of Preparedness and Catastrophic Event Response (PACER) at Johns Hopkins University.

National Emergency Management Association. (2021.). Emergency Management Assistance Compact (EMAC).

This webpage provides information on the Emergency Management Assistance Compact (EMAC), a congressionally-mandated interstate mutual aid agreement that has been adopted by all 50 states, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, and the Northern Mariana Islands. Under EMAC, state assets (supplies, equipment, and/or volunteers) may be deployed to a requesting state. Reimbursement, liability, compensation, and licensure issues are also addressed. The website has links to training and education resources, as well as a document library, and information on deployable resources. The "Learn about EMAC" menu provides helpful documents for those not familiar with the agreement and process.

Stier, D. and Goodman, R. (2007). Mutual Aid Agreements: Essential Legal Tools for Public Health Preparedness and Response. American Journal of Public Health. 97(Suppl 1): S62–S68.

The authors provide an overview of the "basic legal framework for states to accomplish interstate and international mutual aid, identify gaps in that framework, and suggest steps that could be taken to address those gaps." The need for mutual aid for smaller-scale incidents that fall outside the scope of the Emergency Management Assistance Compact (EMAC) is highlighted. Summaries of relevant authorities are included.

U.S. Centers for Disease Control and Prevention, Public Health Law Program. (2017). Selected Federal Legal Authorities Pertinent to Public Health Emergencies.

This document summarizes a selection of key federal legal authorities pertaining to public health emergencies.

U.S. Congress. (2019). Stafford Act: Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, May 2019. Federal Emergency Management Agency.

The Stafford Act establishes the statutory authority for most federal disaster response activities and assistance to state and local governments. In particular, the Stafford Act creates the system for federal financial and physical assistance during a presidential disaster declaration.

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U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services. (2009). Requesting an 1135 Waiver.

> When the HHS Secretary declares a public health emergency under Section 319 of the Public Health Service Act, s/he may temporarily waive or modify certain requirements to ensure that there are enough healthcare resources and services available to meet the needs of the public's health. A presidential declaration of emergency under the National Emergencies Act or Stafford Act is also required for Section 1135 waivers. This document highlights examples of waivers and other related information.

U.S. Department of Health and Human Services. Health Information Portability and Accountability Act of 1996: Privacy Rule. (Accessed 7/16/2024.) U.S. Government Publishing Office.

> The HIPAA Privacy Rule, comprised of 45 CFR Part 160 and Subparts A and E of Part 164, was adopted under section 264 of HIPAA, P.L. 104-191. The Rule was modified by HHS pursuant to the HITECH provisions of the American Recovery and Reinvestment Act of 2009, P.L. 111-5, and the Genetic Information Nondiscrimination Act of 2008, P.L. 110-233. The Rule establishes minimum Federal standards for safeguarding the privacy of certain individually identifiable health information (known as "protected health information" or PHI). When the HHS Secretary has declared a public health emergency and the President has declared an emergency under the Stafford Act or National Emergencies Act, under section 1135 of the Social Security Act, the Secretary may temporarily waive the sanctions or penalties for noncompliance with certain provisions of the Privacy Rule.

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (n.d.). The Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP). (Accessed 7/16/2024.)

> This factsheet provides an overview of ESAR-VHP and links to opportunities, frequently-asked questions, partner organizations, and other related pages.

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2020). National Disaster Medical System.

> This webpage describes the National Disaster Medical System (NDMS) and its role within the National Response Framework. NDMS is a federally coordinated asset that can support disaster medical response at the state and local level, such as through Disaster Medical Assistance Teams (DMATs).

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Utility Failures

California Emergency Medical Services Authority. (2017) Incident Planning Guide: Utility Failure.

> This document includes a series of questions to guide hospitals in planning for utility failures associated with systems such as power, water, heating, ventilation, air conditioning, medical air, vacuum, or medical gases.

Centers for Disease Control and Prevention and American Water Works Association. (2020). Emergency Water Supply Planning Guide for Hospitals and Health Care Facilities. American Academy of Ambulatory Care Nursing.

> This document provides a four-step process for the development of a hospital emergency water supply plan and includes tips for assembling the right planning team, performing a water use audit, analyzing alternatives, and developing and exercising the plan.

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2013). Planning for Power Outages: A Guide for Hospitals and Healthcare Facilities.

> This document highlights issues for healthcare facilities to consider regarding power outages. It also provides a checklist of key planning considerations, and recommendations for fostering a relationship with a facility's utility company.

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2013). Planning for Water Supply Interruptions: A Guide for Hospitals & Healthcare Facilities.

> This document provides information on the impact of water loss on healthcare facilities, and a series of questions for planners to use to prepare their facilities for water service interruptions.

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2014). Working Without Technology: How Hospitals and Healthcare Organizations Can Manage Communication Failure.

> This fact sheet summarizes steps a healthcare facility can take to ensure communication during incident response when normal technologies fail.

Veterinary

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American Veterinary Medical Foundation. (n.d.). Disaster Preparedness. (Accessed 7/16/2024.)

> This webpage includes links to various resources and is provided as a starting point to aid veterinarians in creating an emergency plan tailored to the individual needs of their practices.

Centers for Disease Control and Prevention. (2014). Interim Guidelines for Animal Health and Control of Disease Transmission in Pet Shelters.

> This guidance can help disaster responders plan for health management of pets who arrive at disaster shelters, including obtaining a health and vaccination history, creating a health record, verifying identification, maintaining behavioral health, taking protective measures for caretakers, and using safe handling methods.

Federal Emergency Management Agency. (2007). Pet Sheltering Best Practices.

> This document outlines successful practices in operating pet-friendly human shelters during major disasters. It includes discussion and links to many community-developed plans, resource lists, and other helpful documents.

NASAAEP Disaster Veterinary Care Best Practices Working Group. (2012). Disaster Veterinary Care: Best Practices.

> The first half of this report explains federal regulations specific to incorporating animals into emergency management plans and highlights the challenges associated with developing animal response teams. The second half illustrates best practices and related information from various agencies on disaster planning and response for household pets, animal first responders, animal shelter managers, and veterinarians.

National Alliance of State Animal and Agricultural Emergency Programs. (2014). Emergency Animal Sheltering Best Practices.

> This document can help animal emergency management planners develop comprehensive animal evacuation and practical sheltering plans.

National Alliance of State Animal and Agricultural Emergency Programs. (2014). Species Evacuation and Transport Guide.

> This document includes evacuation and transport guidelines for: pet birds, snakes, reptiles, amphibians, pocket pets and rabbits, and poultry. It also includes a section on "oiled wildlife spills."

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Soric, S., Belanger, M., and Wittnich, C. (2008). A Method for Decontamination of Animals Involved in Floodwater Disasters. Journal of the American Veterinary Medical Association. 232(3):364-370.

> After a disaster, abandoned or stray animals and search and rescue dogs may be exposed to toxins in floodwaters. This article: outlines safety requirements for healthcare professionals who manage decontamination teams; provides strategies for laying out a decontamination site; and includes a decontamination protocol.

Thompson, K. (2013). Save Me, Save My Dog: Increasing Natural Disaster Preparedness and Survival by Addressing Human-Animal Relationships. Australian Journal of Communication. 40(1).

> In this article, the author emphasizes the positive effects that pet ownership can have on disaster resilience and protective factors and emphasizes the risks that humans are willing to take to save animals–even those with whom they have no prior bond.

Volunteers

U.S. Department of Health and Human Services, Administration for Strategic Preparedness and Response. (2021). Medical Reserve Corps.

> This webpage describes the Medical Reserve Corps (MRC) program and provides links to the local units across the U.S. and its territories. The MRC is a national network of local volunteer units created to strengthen their community's health, improve its emergency response capabilities, and build its resiliency.

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