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Emergency Preparedness

for Home Healthcare Providers

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Unfortunately, disasters occur. We cannot always know the effects ahead of time, but we do know that lives can be lost, property damaged, and public health and home care agencies may not be able to provide the normal standard of care. Studies have shown that disaster preparedness content is limited in U.S. nursing programs (Weiner et al., 2005). Given the magnitude of recent natural disasters, such as the Japanese earthquake and tsunami in 2011, these findings are alarming. The increasing demands on healthcare providers in response to emergencies force home healthcare clinicians to identify their roles and responsibilities in emergency preparedness. This article discusses 1 model of disaster response and the role of the home healthcare provider at each stage. It further guides home healthcare nurses in creating a personal and professional plan, enabling them to understand how to minimize the impact of disasters and address the needs of their patients and those close to them.

Defining Terms

Disaster management has its own unique terms, basic competencies, and skills that healthcare providers need to know to be able to serve effectively during all phases of the disaster cycle.

Disasters can greatly impact a community's health and cause immediate and long-term suffering and devastation. Often disasters cannot be prevented, so healthcare providers need to be prepared for a variety of events that could impact them and their patients.

According to the World Health Organization (WHO, 2007) a disaster is the result of an event in which "normal conditions of existence are disrupted and the level of suffering exceeds the capacity of the community to respond to it." This differs from an emergency, which is defined as "a state in which normal procedures are suspended and extra-ordinary measures are taken in order to avert the impact of a hazard on the community" (WHO, 2007). An emergency may become a disaster if not managed. A hazard is "any phenomenon that has the potential to cause disruption or damage to the community such as an earthquake, flood, typhoon, and cyclone." Some hazards may cause emergencies but not all become disasters (WHO, 2007). The term emergency preparedness covers both emergency and disaster preparedness (Gebbie & Qureshi, 2002). Disasters are divided into two categories: natural and man-made. The WHO defines natural disaster as the "result of an ecological disruption or threat that exceeds the adjustment capacity of the affected community" (Lechat, 1979). Natural disasters are caused by forces of nature, such as the earthquake and tsunami that devastated Japan in 2011 and tornadoes, floods, communicable disease epidemics, or seasonal influenza. A man-made disaster may be caused by a bomb (Oklahoma 1995) or other man-made events such as a transportation accident, an airplane crash, a fire, or a biological event. A disaster does not need to cause injury or death to be considered a disaster. For example, a flood may cause millions of dollars in damage without causing a single injury. Disasters disrupt essential services such as electricity, transportation, housing, water, healthcare, and carry serious and immediate threats to public health. The number of disasters, both natural and man-made, continues to rise. The World Conference on Disaster Reduction reports that more than 200 million people have been affected by disasters each year in the last 2 decades (United Nations World Conference on Disaster Reduction, 2005).

Regardless of the cause, healthcare providers play a significant role in emergency preparedness and response. Personal and professional awareness is vital to being prepared for a disaster. Preparedness includes personal preparedness, healthcare agency/institution preparedness, and community preparedness. It is imperative that healthcare providers develop a disaster plan for themselves and their families, and also learn their roles in the disaster response. In a disaster, many patients cannot be evacuated or be admitted to healthcare facilities, and healthcare providers need to understand their role in addressing these patients' needs. Emergency preparedness and response provided by healthcare providers should be consistent with the scope of practice for the area in which the healthcare provider is currently practicing.

Disaster response has become formalized and requires that all levels of government, nongovernmental agencies, and citizens work together to prevent, prepare for, respond to, and recover from disasters. Healthcare providers play a vital role in each phase of disaster response. Depending on the scope of the disaster, disaster response may be local, state, federal, or multinational.

Phases of Disaster Response

The literature has described several disaster stages or phases. This article describes one model that has four phases: (a) mitigation, (b) response, (c) recovery, and (d) return to mitigation (Beach, 2010).

Mitigation

Mitigation includes preparing and planning to prevent or decrease the effects of a disaster. This may include prevention activities such as improved surveillance or mass vaccination campaigns to prevent or contain a disease. It also includes preplanning and preparedness to minimize the effects of a disaster. An important part of this includes the assessment of resources, vulnerable populations, and capacity to respond effectively. Planning can include making physical preparations (e.g., preparing shelters), organizational planning (e.g., defining roles and responsibilities, communication protocols, and chain of command during a disaster), and personal preparations

(e.g., developing a personal preparedness plan for you and your family). A vital part of mitigation is risk assessment—identification of the risks for which the individual, community, state, or nation must be prepared (Beach, 2010). Healthcare providers should be aware of high-risk populations and identify what can be done to eliminate or at least decrease their vulnerability. An example would be to assess populations at risk for special needs during a disaster and developing plans to care for them during a disaster. Healthcare providers need to identify those patients who could best be cared for in a shelter or those who may require hospitalization. Proper planning requires resource management in sheltering. This includes identifying what supplies are needed, staging of medical transport units, and resources needed for the responders within the shelter. Patients needing a special-needs shelter are normally preregistered through a local government agency, such as the local health department. Patients need to understand that when going to a special-needs shelter, they need to bring their own medications, supplies, and medical equipment along with a family member or caregiver to assist them in the activities. Pets are not usually allowed in a special-needs shelter so patients need to have a plan to provide care for pets during a disaster. Remember that during a disaster, home care providers may not be able to address their patient's needs. Good planning is essential for ensuring that care is provided for patients, caregivers, and pets. Healthcare providers should review their agency's disaster plan and procedures for readiness and providing care should a disaster occur. Conducting training drills and education activities to both staff and patients, along with evaluating their effectiveness, is vital to preparation. Knowing what is expected before a disaster both at your workplace and in the community allows healthcare providers to be prepared and to have the required knowledge and skills needed to manage during the disaster.

Personal Preparedness

Putting together a disaster preparedness plan for you and your family is a vital part of preparedness. Healthcare providers without plans in place to address their own family will not be able to fully participate in their agency obligations. Being prepared starts with discussing the types of hazards or emergencies that could affect your family. Healthcare providers should plan how to protect their property and family in advance. Families should select an evacuation route and destination and have an alternate plan as a backup. Homes and property should be secure. In case of an emergency, the gas tank should be filled and cash should be on hand. Remember supplies may be severely limited once a disaster occurs and banks and automated teller machines may not be accessible. All patients and families need to prepare a family disaster survival kit. This basic kit should include:

- One gallon of water per day per person for drinking and sanitation;
- A 3-day supply of nonperishable food;
- Medications, clothing, medical supplies, and necessities for at least 3 days and up to 2 weeks per person;
- A waterproof container for important documents such as insurance papers, family records, passports, and the like;
- A first aid kit; and
- A battery-operated radio, flashlight, or lantern and other tools and supplies to maintain or repair equipment.

Scenario: Hurricane Charley, a Category 4

Hurricane Charley ripped through Southwest Florida in Lee and Charlotte Counties on Friday, August 13, 2004. Charley, initially expected to hit further north, caught many Floridians off guard due to a sudden change in the storm's track and strength as it approached the state. In Florida, Charley caused $15.2 billion in property damage and $460 million in crop damage. There were 8 direct fatalities, 16 indirect fatalities, and 792 injuries (NOAA Satellite and Information Services, n.d.). Half of those killed in Hurricane Charley were older persons (Cherniack et al., 2008). Two of the deaths were patients who lost electricity and did not have a backup power source for their necessary oxygen equipment. Two more deaths were the result of extreme heat exposure. There was an increase in respiratory ailments after the storm brought about by the mold that formed in water-damaged homes.

It is important to confirm that your patients have a disaster survival kit. Even if they go to a shelter they should bring their kit to ensure proper provisions as usually only food and water are available. For more information on how to prepare a disaster survival kit go to http://www.ready.gov/build-a-kit. Additional information on preparedness resources can be found in Table 1 and at http://www.prepare.org/home/.

Response

The response phase is the action taken during or immediately after the disaster or event occurs. The first level of response is at the local level. Every healthcare provider needs to be familiar with his or her agency's emergency response plan and needs to know what his or her role is (U.S. Department of Homeland Security, 2008). It may mean that you are required to be on call at home or reporting for duty at a local special-needs shelter.

Table 1. Emergency Preparedness Resources

American Red Cross
http://www.redcross.org/services/prepare/0,1082,0_239_,00.html

Centers for Disease Control and Prevention (CDC)
http://www.cdc.gov

CDC: Emergency Preparedness and Response on Facebook
http://www.facebook.com/cdcemergency?source=govdelivery

CDC: Emergency Preparedness and Older Adults
http://www.cdc.gov/aging/emergency/index.htm

Community Emergency Response Team (CERT)
http://www.citizencorps.gov/cert/

Federal Emergency Management Agency (FEMA)
http://www.fema.gov

Florida Department of Elder Affairs: Disaster Preparedness Guide
http://elderaffairs.state.fl.us/english/disaster.php

National Association for Home Care and Hospice: Emergency Preparedness Packet for Home Health Agencies
http://www.nahc.org/regulatory/EP_Binder.pdf

U.S. Department of Health and Human Services, Office of Emergency Preparedness (OEP)
http://ndms.dhhs.gov

In addition, have the contact information for the Emergency Management Office in your county as well as the local Animal Services number.

The greater the destruction and risk, the greater is the attention and resources. State and federal personnel will respond at the requests to the state's governor or the federal government (U.S. Department of Homeland Security, 2008). Responses to an event should be organized so that each member knows the chain of command and communication. The Incident Command System (ICS) is an organized system used for defining the chain of command structure along with areas of responsibilities (Federal Emergency Management Agency [FEMA], n.d.). This system originated in California in the 1970s but has been further developed by FEMA and the Department of Homeland Security (2008). This system can be applied to other agencies' response plan. The role of the healthcare provider during the response phase depends on the agency or community disaster plan, experience, and training. It may include working as a first responder and triaging victims. It may also include monitoring the health and healthcare needs of patients in their homes or working in special-needs shelters. It is important that your agency works with local emergency service providers to notify them of particular patients and their needs to ensure continuity of care during and after an emergency or disaster.

Recovery

The recovery phase is the return to normal after a disaster. This includes restoring services such as utilities, fire and law, and healthcare. Victims will begin moving back into their homes or into temporary housing. Businesses start to reopen. Life after the disaster may be forever changed or gone entirely. Healthcare providers play a vital role in risk assessment and in health promotion and disease prevention activities. This includes being aware of potential hazards and disease challenges that patients face. It is important to assess the patient's home environment for potential hazards. Healthcare providers should also assess patients for psychological stress that can develop as the result of the effects of the disaster. Posttraumatic stress may occur especially in vulnerable populations. Referrals to mental health professions may be warranted.

Return to Mitigation

In both the first and last phases of the disaster response, mitigation includes evaluating what

has worked or failed. It is important to analyze and evaluate if individuals and agencies could have been better prepared or responded differently. Healthcare providers can play a vital role in evaluating if emergency plans and procedures were effective and recommend improvements for future planning. Completing the disaster cycle is the transition from recovery and evaluation into preparing for the next event.

Core Competencies for Public Health Workers

The Centers for Disease Control and Prevention (CDC) has developed a set of core competencies for public health workers (see Table 2) to provide guidance during emergencies (CDC, 2002). These compentencies served as a model for the development of core compentencies for nurses and are subsequently listed (Gebbie & Qureshi, 2002).

- Describe the agency's role in responding to a range of emergencies that might arise.
- Describe the chain of command in emergency response.
- Identify and locate the agency's emergency response plan (or pertinent portion of it).
- Describe emergency response functions or roles and demonstrate them in regularly performed drills.
- Demonstrate the use of equipment (including personal protective equipment) and the skills required in emergency response during regular drills.
- Demonstrate the correct operation of all equipment used for emergency communications.
- Describe communication roles in emergency response: within your agency, with news media, with the general public, and personal contacts.
- Identify the limits of your own knowledge, skills, and authority, and identify key system resources for referring matters that exceed these limits.
- Apply creative problem-solving skills and flexible thinking to the situation, within the confines of your role, and evaluate the effectiveness of all actions taken.
- Recognize deviations for the norm that might indicate an emergency and describe appropriate actions.

Table 2. Emergency Preparedness: Core Competencies for All Public Health Workers

CORE COMPETENCY 1.	*Describe* the public heath role in emergency response in a range of emergencies that might arise.
CORE COMPETENCY 2.	*Describe* the chain of command in emergency response.
CORE COMPETENCY 3.	*Identify* and *locate* the agency emergency response plan (or the pertinent portion of the plan).
CORE COMPETENCY 4.	*Describe* his or her functional role(s) in emergency response and *demonstrate* his or her role(s) in regular drills.
CORE COMPETENCY 5.	*Demonstrate* correct use of all communication equipment used for emergency communication (phone, fax, radio, etc.).
CORE COMPETENCY 6.	*Describe* communication role(s) in emergency response: • within the agency using established communication systems • with the media • with the general public • personal (with family, neighbors).
CORE COMPETENCY 7.	*Identify* limits to own knowledge/skill/authority and *identify* key system resources for referring matters that exceed these limits.
CORE COMPETENCY 8.	*Recognize* unusual events that might indicate an emergency and *describe* appropriate action (e.g., communicate clearly within the chain of command).
CORE COMPETENCY 9.	*Apply* creative problem solving and flexible thinking to unusual challenges within his or her functional responsibilities and *evaluate* effectiveness of all actions taken.

Note. Originally adapted from Columbia University School of Nursing. (2001, April). *Core public health worker's competencies for emergency preparedness and response.* Retrieved from http://cpmcnet.columbia.edu/dept/nursing/research/ResCenters/chphsr/pdf/btcomps.pdf.
Source: Adapted from Center for Disease Control and Prevention. (2002). *Bioterrorism and emergency readiness: Competencies for all public health workers.* Retrieved from https://www.train.org/Competencies/btcomps.pdf

- Participate in continuing education to maintain up-to-date knowledge in relevant areas.
- Participate in evaluating every drill or response and identify necessary changes to the plan. (From Gebbie and Qureshi, 2002.)

Major Challenges From Hurricane Charley

Some major challenges faced from Hurricane Charley included:

- *Communication outages made it difficult to locate missing personnel.*
- *Access to and reliable transportation into restricted areas was not always available.*
- *Lack of electrical power or fuel for generators rendered computer systems inoperable.*
- *Multiple facilities were destroyed outright or sustained significant damage (Federal Financial Institutions Examination Council, 2011).*
- *Many of those affected by the hurricane were older adults.*
- *An estimated 200,000 people with chronic conditions who were isolated or evacuated lacked access to medications or usual sources of care (Cherniack et al., 2008).*

At the request of the CDC, the Association of Schools of Public Health engaged the appropriate experts to develop a model of core competencies for the public health preparedness and response workforce (Association of Schools of Public Health: Public Health Preparedness and Response Core Competency Model, 2010). These competencies were developed using the CDC Core Competencies, professional competencies (e.g., those for nurses), and competencies identified in various national initiatives. This model provides individual competencies that midlevel workers, regardless of their employment setting, are expected to demonstrate to assure readiness. This model identifies four domains that are vital to fulfill responsibilities. These domains are model leadership, communicate and manage information, plan and improve practice, and protect worker health and safety (Association of Schools of Public Health: Public Health Preparedness and Response Core Competency Model, 2010).

Implications for Practice

As you prepare for a major disaster, both personally and at your agency, keep in mind some of the lessons learned from these past storms and how you can apply some of these lessons both personally and professionally. As healthcare clinicians implications for practice should include:

- Assessing the types of disasters or emergencies that could affect you and/or your family and having a personal and professional plan ready.
- Know your organization's plan for emergencies and your role. Make sure you have the necessary skills, knowledge, and supplies to survive and carry out your role.
- Have a backup communication system and copies of essential information.
- Provide appropriate emergency preparedness information to your patients and especially to those older adults and those with disabilities. Know what their needs might be before the disaster.
- Work with local agencies and emergency planners to see that vulnerable populations continue to have basic needs such as food and water as well as receive routine healthcare, such as mediations or oxygen therapy after a disaster.
- Emergency Medical Services or other local emergency service providers should be aware of special need or vulnerable patients. This should include information such as the patient name, address, next of kin, and medical special needs such as oxygen and medications (CDC, n.d.).

As managers, a critical responsibility during a disaster or crisis will be to lead and manage successfully. A manager must be able to supervise multiples tasks, encourage quality patient care, influence policy, provide education to staff, and execute change. If an emergency situation arises, a manager must be able to manage in times of crisis and make quick critical decisions as well as constantly evaluate and determine what is effective and what is not. Some other responsibilities should include:

- Make sure a good crisis, disaster plan is in place. In this plan, identify the method of communication, chain of command, and how it will be maintained if traditional methods fail. Anticipate disruptions in communication for an extended time. Consider investing in satellite phones for key personnel.

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- Have a backup roster of personnel to ensure support during and after a disaster.
- Ensure that all parts of the plan are practiced regularly (at least annually) and gaps in knowledge or skills are addressed.
- Remember critical staff may not be able to reach their assigned recovery location.
- Anticipate and be prepared for the extensive destruction and prolonged recovery period that can occur from a major disaster. Anticipate disruptions in basic services for an extended time.
- Encourage employees to have a family emergency plan. Employees may not come to work if their families and/or properties are not safe and secured.
- Damaged infrastructure and disrupted support services can make it difficult for employees to obtain basic necessities. Make sure you and your institution have a plan for meeting basic human necessities such as food and water.
- Have a plan to accommodate the older adult. Communicate with advocates for the older adult and the disabled to make sure services are provided.
- Backup and store your computer files and patient records in a safe location where they will not be damaged by the climate.

Conclusion

No one can predict when a disaster will occur. Healthcare clinicians and healthcare organizations must be prepared on both personal and professional levels to respond to disasters and provide quality patient care. Proper preparation and planning through assessment and identification of roles and responsibilities can help to prevent or minimize the effects of disasters. Further, it will assist in better meeting the needs of the patients and the community. ⌂

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Identifying Vulnerable Older Adults and Legal Options for Increasing Their Protection During All-Hazards Emergencies: A Cross-Sector Guide for States and Communities

The CDC Healthy Aging Program has published this guide; the guide's release coincides with the launch of a Web portal "designed to increase protection of older adults during all-hazards emergencies." The Guide covers a variety of topics, including developing plans, using data for action, partnering and collaboration, building registries, using law-based solutions, sheltering, and caregiver preparedness. For more information regarding the guide and its creation, please read this month's *Profile in Public Health Law* interview with Rebecca Polinsky, who worked extensively with the CDC Healthy Aging Program and partners across the country to create the guide.