Disaster pre

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The possibility of a disastrous event has always been a reality, but increasingly, the ever-present media bring the aftermath of disaster into our living rooms 24 hours a day. The media's ubiquitous presence denies us the comfort of detachment through distance, and the misery and suffering of others is brought to our awareness as we experience the disaster vicariously. Additionally, the events of September 11, 2001, and the devastating aftermath of Hurricane Katrina have brought the issue of disaster preparedness to the forefront of most people's minds.

When a community experiences large-scale trauma, it's affected at many different sociocultural levels. Community members question their assumptions about safety, perceived vulnerability, powerfulness, and political effectiveness. Often, people feel powerless to influence how their communities will respond to threat and need to depend on others to assure their safety. (See "A theoretical perspective.")

Nurses are often involved in the institutions that can influence change, and because of their unique skills, in many cases they'll be the first responders and key

paredness: Are you ready?

Nurses play an integral role in planning the response to events that cause large-scale devastation.

providers of care during a disastrous event. Whether man-made or natural, any event that causes large-scale devastation calls for an organized community response, and nurses should play an integral role in planning that response.

Primary prevention

A comprehensive disaster plan should have input from a broad range of community representatives. Experts describe disaster planning as a process of assessing risk and capacities for responding during an actual disaster.[10]

It's essential to assess the potential impact that different types of disaster will have on available resources. For example, an act of bioterrorism will require a different response than a natural disaster event, such as a flood. Disasters that give little advance warning, such as tornados, will have more casualties than disasters that were predicted.

Hospitals need to be integrated into community preparedness planning. In a study conducted for The Joint Commission, experts found that although many hospitals reported substantial integration into emergency

A theoretical perspective

For individuals, experiencing a traumatic event can cause complex biologic, psychosocial, and cognitive reactions.[1-3] There's an increased risk for diagnoses such as posttraumatic stress disorder, depression, generalized anxiety disorder, panic disorder, acute stress disorder, and substance abuse.[4-6] Other symptoms, such as anger, sadness, fear, irritability, and family conflict, aren't uncommon.[4,7] How well individuals cope with a traumatic event depends on an array of factors, such as the extent to which they directly experienced the event; their perception of threat; their level of preexistent biologic, interpersonal, and social vulnerabilities; and the availability of services when sought.

A common feature of all disastrous events is that they overwhelm the resources of the community, therefore threatening the ability of the community to provide for the needs of its citizens.[8] Disaster planning that addresses all stages of a potential disaster is the most effective. The overriding goal of disaster planning is to save lives and decrease the risk of serious mental illness and disruption of functioning.[9] Returning the community to an effective level of functioning in as short of time as possible is essential, so services are available to those who most need them.

A useful framework for planning a disaster response is the primary, secondary, and tertiary prevention model. Primary prevention addresses those issues that serve to decrease the impact of the disaster. This would include things such as predisaster planning, disaster practice drills, and citizen preparedness education. Secondary prevention would occur during the acute stage of the disaster. Implementing triage plans, identifying the most vulnerable groups that need early intervention, providing first responder support, and returning to basic services would be emphasized. Tertiary prevention would focus on the long-term services needed by the community and would be germane to the type and duration of the disaster.

planning, the relationships between all critical response entities in the community weren't as robust as they should be.[11] In fact, The Joint Commission has made its requirements more stringent, instructing hospital administrators to integrate their disaster plans into community disaster plans, and to plan for the eventuality of evacuating the entire hospital, staff, and patients.

Hospital disaster plans should include policies for personnel notification, staffing, and recall. A determination of who'll be responsible for continually assessing hospital resources and capabilities should be made. A plan for how information will be communicated to staff and the public should also be included. A central command or operating center should be identified. It's essential that staff review all plans and participate in drills periodically.

Experts caution that under some circumstances, even previously successful disaster plans can become overwhelmed.[12] For example, a community hospital in the Mississippi Gulf Coast during Hurricane Katrina experienced severe staff shortages because relief personnel weren't able to reenter the affected area. The hospital was also marred by insufficient power from its generators, limited morgue space, insufficient fuel, and a stretching of emergency department resources. Their experience highlights the importance of contingency planning.

The hospital will most likely be the base from which most nurses will respond to an emergency. Therefore, it's important for each nurse to be aware of his hospital's emergency plan. Nurses with administrative responsibility should ensure that all nursing staff members are educated about their role in the plan and are aware of how they fit into the larger picture. In some instances, the tendency is to educate only those nurses in the institution who are perceived as emergency or critical care experts. All staff should be educated, because in the case of large-scale devastation, there will be an increased need for services that transcends the usual personnel resources.

At the local level, each institution involved in community disaster planning needs to determine its own response protocols and coordinate these with other planning entities. For example, the first response will occur when a community mobilizes its local Emergency Medical System. This system engages police, fire, and other preidentified responders. Hospitals, public health agencies, and other preidentified entities such as the American Red Cross would then mobilize their disaster plans. In most places, an emergency operation center

will play a major role in coordination of services.

It's important to note that these activities will more than likely be mirrored at the state level. Under some conditions, the federal government will implement a National Response Plan. Each individual planning entity must understand how it fits into the larger emergency plan and under what conditions different levels of response would be implemented. Disaster planning needs to be a regional effort.

The goal of secondary prevention intervention is to decrease the deleterious effects of the disaster.

Public education

Nurses are often in a position to educate the public. The American Red Cross suggests the public should consider the following four steps to safety:

1. Teach people to find out what can happen to them. Instruct them to find information on:

- the type of disasters that are likely to occur and how to prepare for each
- the community's warning systems, what they sound like, and what should be done when they're heard
- disaster plans of places that family members work and attend school
- help for the elderly and disabled
- animal care after a disaster.[13]

2. Create a disaster plan. Teach people to:

- discuss with their families the need to prepare for disasters and the necessity to work as a team if one occurs
- discuss the types of disasters that are most likely to occur
- have an out-of-state phone contact because it's sometimes easier to make a long distance call than a local one after a disaster
- have two predetermined places to meet—one outside of the home in case of sudden emergencies, such as a fire, and one outside of the neighborhood in the case of not being able to return home
- plan ahead on how to take care of pets
- prepare an emergency supply kit
- discuss actions to take during an evacuation.[13]

3. Complete the safety checklist. Encourage families to:

- post emergency telephone numbers by phones
- teach children how and when to call 911
- teach each family member how and when to turn off utilities at the main switchbox
- make sure there's adequate insurance coverage
- receive training on how to use a fire extinguisher
- take a cardiopulmonary resuscitation and first aid course
- identify safe places in the home for different types of disasters
- determine the best escape routes from the home.[13]

4. Encourage individuals to practice and maintain their plan. Instruct them to:

- have family members quiz each other every 6 months on their disaster plan
- conduct fire and emergency evacuation drills
- replace stored water every 3 months and stored food every 6 months
- test and recharge fire extinguishers according to manufacturer's instructions
- test smoke detectors monthly and change batteries annually.[13]

The American Red Cross and the Federal Emergency Management Association also recommend that families have an evacuation plan in effect. This would include teaching people to:

- listen to battery-powered radio and follow the instructions of local emergency officials
- wear protective clothing and sturdy shoes
- take disaster supplies when leaving the house
- lock all doors and windows in their homes
- use travel routes specified by local authorities, and don't use shortcuts
- leave a note telling others when they left and where they're going.[13]

Secondary prevention

Secondary prevention interventions would occur during the acute stage of a disaster. These interventions of course would differ depending on the type and scope of the disaster. Generally, the goal of secondary prevention intervention is to decrease the deleterious effects of the disaster on individuals and the community.

In the type of disaster where there's the possibility of many casualties, several types of activities will take place simultaneously. Police, fire, and other first responders will be conducting search-and-rescue operations as well as security operations. To provide help for as many people as possible, triage activities will be taking place

Available Web resources

The following Internet resources can be helpful when considering disaster preparedness.

American Red Cross
http://www.redcross.org

Centers for Disease Control and Prevention: Emergency Preparedness and Response
http://www.bt.cdc.gov

Department of Health and Human Services: Disasters and Emergencies Index
http://www.hhs.gov/disasters/index.html

Federal Emergency Management Agency
http://www.fema.org

The Joint Commission
http://www.jcaho.org/accredited+organizations/health+care+network/standards/ems+facts

National Library of Medicine
http://www.nlm.nih.gov/medlineplus/disastersandemergencypreparedness.html

US Department of Homeland Security
http://www.ready.gov/family/plan.html

in the field as well as in emergency departments. If proper planning occurred prior to the disaster, casualties would be transported to many different institutions in an effort to avoid any one institution being overwhelmed. Unfortunately, the amount of casualties drives such a scenario.

During times of disaster, many people gravitate toward hospitals even if they don't have a physical injury. Hospitals are often perceived as a safe haven. A sound hospital disaster plan will include plans for how to manage noninjured survivors of disasters. Finding a place away from the chaos to provide supportive care is desirable.

Aside from providing care to the physically injured, secondary prevention strategies would also address decreasing the long-term emotional affects of trauma. As stated previously, how individuals cope with trauma depends on a myriad of factors. In a national study on coping behavior after trauma, experts found that of those individuals experiencing mild-to-severe stress reactions, 98% coped by talking with others, 90% turned toward religion, 60% got involved in group activities, and 30% gave contributions.[14]

Other experts identified normal coping responses, which included being immersed in media coverage of the disaster (sometimes to the extent of avoiding responsibilities), being in denial, and refusing to discuss the event.[15] Behaviors that weren't considered healthy were identified as not caring, relinquishing a personal belief system, severe emotional lability, inability to concentrate, and severe mood swings.

According to one study, following the September 11 attacks, 44% of those surveyed reported one or more symptoms of significant stress and 90% reported at least low levels of stress symptoms.[14] Researchers suggest that expected emotions include anger, sadness, anxiety, fear, and irritability, which may cause family conflict. People exposed to trauma from natural disaster and terrorism are at increased risk, not only for posttraumatic stress disorder, but also depression, generalized anxiety disorder, panic disorder, and substance abuse.[4]

In providing psychological support, it's important to identify groups that are in need of immediate intervention. High-risk people include those with relationships to the primary victims, first responders, and support providers. First responders and support personnel need a place to get warm, debrief with one another, and receive food. This helps them avoid feelings of social isolation.

Lastly, secondary prevention strategies would also address the immediate community education needs. People need to be educated about the signs and symptoms of stress reactions and the available community resources where they can receive help. It's important to teach people to develop healthy coping strategies, such as seeking support from family and friends, joining a support group, practicing relaxation techniques, and taking care of their physical health. (See "Available Web resources.")

Tertiary prevention

Tertiary prevention strategies are interventions that are designed to meet the long-term needs of individuals and the community after the disaster has been resolved. The required types and scope of tertiary services will largely be determined by the type and scope of the disaster.

There will be a certain amount of people who'll need long-term services. Experts suggest a need for long-term treatment strategies that include individual, group, and family therapy; effective pharmacotherapy; as well as short and long term hospitalization and rehabilitation.[8]

Implementing programs that foster healing is another important tertiary intervention. Providing places for people to speak with others about their feelings is beneficial to healing. It's important to provide programs that teach people about stress responses, normal and abnor-

mal coping strategies, and when and how to seek help. Parenting programs can help mothers and fathers learn how to provide support to their children and also to recognize symptoms of severe stress response.

Lastly, evaluation of the disaster plan's effectiveness should take place. All entities involved in the design of the community's disaster plan should come together in evaluating how well the plan met the needs of citizens. Evaluation data is important for improving disaster planning and preparedness. M

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