EMERGENCY AND DISASTER PREPAREDNESS:

By Kristine M. Gebbie, DrPH, RN, FAAN, and Kristine Qureshi, MSN, RN, CEN

Emergencies and disasters, whether natural or man-made, are difficult to prepare for. The September 11 terrorist attacks in New York City, Pennsylvania, and Washington, DC, and the subsequent bioterrorist attacks with anthrax, made this abundantly clear. Although nurses may agree that there's a need for basic competencies in disaster preparedness and response in addition to the usual clinical skills, such training is not part of the required undergraduate curricula at most U.S. schools of nursing, and there is surprisingly little in the literature that addresses the role of nursing in this regard. It’s therefore imperative to identify what every nurse needs to know to serve effectively as a member of an emergency and disaster response team.

Emergency or disaster? The term emergency refers to any extraordinary event or situation that requires an intense, rapid response and that can be addressed with existing community resources. Disaster refers to an event or situation that is of greater magnitude than an emergency; disrupts essential services such as housing, transportation, communications, sanitation, water, and health care; and that requires the response of people outside the community affected. The term disaster particularly signifies an event that carries unforeseen, serious, and immediate threats to public health.

Natural or man-made? The World Health Organization defines natural disaster as the “result of an ecological disruption or threat that exceeds the adjustment capacity of the affected community.” Such disasters include large fires, extensive floods, hurricanes, and earthquakes. As defined by Guha-Sapir, man-made disasters are those resulting from events or situations that are clearly caused by humankind, such as war and armed conflict, overwhelming environmental contamination, and significant technologic catastrophe.

As Landesman notes, “No two emergencies or disasters are alike.” But in each situation, regardless of cause, the competencies nurses need to possess in order to respond effectively are essentially the same. We use the term emergency preparedness competencies to cover both emergency and disaster preparedness and response skills.

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It’s October 1983, after a night of intense pain and fever in one of the most beautiful Colorado autumns I can remember. With the aspens’ brightness knobs turned up to the highest levels, I call in sick, pull the sheets up over my shaking body. I am the evening supervisor at Boulder Community Hospital, where in late August I received the Heptavax-B vaccine. I don’t know if it yet, but yesterday’s was the last shift I will ever work as a nurse.

What had begun as innocently as a persistent flu has exploded into a full-blown mystery disease, the kaleidoscope through which the rest of my life must be viewed. Over the next two years I sit in doctors’ offices, nervously waiting for them to probe parts of me not usually open to the public. I dread contact with the freeze-dried doctors. Oncologist, rheumatologist, nephrologist—all of them confirm the validity of my symptoms but cannot attach a name to them.

I am treated with prednisone, antimalarial drugs, and cytotoxin. Prednisone’s notorious signs appear: moon-face, buffalo hump, exhausting and unpredictable swings from ecstasy to hell. I feel hollow, washed out, in a blur of biopsies, plasmapheresis, immunomodulatory treatments. It will be two more years before doctors suspect the hepatitis B vaccine caused my condition. It will be six more years before my doctor writes this on my chart: “Diagnosis: systemic lupus erythematosus, systemic vasculitis, glomerulonephritis induced by the Heptavax B vaccine.”

I spend the fall of 1983 and most of 1984 in the hospital. I can’t speak without struggling for words; I can’t climb stairs without pain. I am put on medical leave. They hold my position open for six months, at which time I have no choice but to resign.

One night I lie in bed, staring at a lacy filigree of snow on the window. I’ve read my chart. It says, “Neurological testing shows a performance totally out of keeping with the patient’s previous level of functioning as a nurse.” I have been to six specialists, trying along with them to make sense of what has happened to me, of why I’ve gone from being an efficient nurse to someone who can’t manage making dinner for her son.

Between doctor appointments and hospitalizations, I spend sleepless nights defining and redefining pain. Pain is trying to relax while my arteries bounce like rubber bands. Pain is the sheer mountain I climb to have lunch with a friend. Pain is the straitjacket God put on me while I was distracted by motherhood and work as a nurse.

Time slows. Nights are for tears. My days are for biopsies—of lymph nodes, then arteries, then a lump in my breast. I straddle two worlds: the external one, where I struggle to carry on roles as mother, friend, sister; and the internal one, where unpredictability reigns and mundane activities are merely slaves. I am in perpetual mourning for my life.

I used to barrel through my days, working 10-hour shifts, taking classes, hiking with my son. Now they’re more like the streaming of a waterfall. I get up at 7, take pills, and settle in for a couple of hours of writing. One cup of coffee. One lit white candle. My favorite black, fine-point pen. There must first be staring-out-the-window time, and then I begin. These are moments when I’m so fully absorbed that time ceases to exist.

Writing is like nursing in many ways. You never feel as though what you have to offer is good enough. You’re never done. You must pay close attention to details or something will die. You have to keep the faith, see it through. You must be willing to reassess at a moment’s notice and embark on another course. Sometimes radical surgery is needed for healing. And sometimes you have to accept the inevitability of death.

Writing is a physical act and it’s a place, a cave where I attempt to make sense of what I see and feel. It’s the body’s language, synapses in the brain that turn sound and vision to feeling, to voice, to words. Longing is my teacher. When I write, I keep feeding my desires. Writing can melt my pain into song.

Autumn is when the best Colorado weather sets in with snappy nights and sultry days. While winter waits, a pine cone falls. A squirrel skitters for cover. A nutcracker cries. It would be fitting if these were the last sounds I ever heard. The lake is so clear that, except for a leaf floating on the surface, I wouldn’t be able to tell where the surface lies. A little fish turns his clean, quick angles. Aspens hills are a riot of burnished gold as they rise beside Grand Lake. Real joy is just being here: the smell, the rustling of leaves, the coolness of wind on my face, falling asleep in a grove of aspen.
CORE COMPETENCIES FOR NURSES

What every nurse should but may not know.

An outline for action. The first step toward emergency preparedness is the identification of who needs to know how to do what. Thus, in any setting, one of the first questions a nurse may ask is, "What's my role in an emergency?" Although there is little in the nursing literature, specifically, that addresses this subject, there are two articles worth mentioning. O'Brien found that nurses in Australia play significant roles in all phases of emergency preparedness and response, including development of disaster plans, hands-on treatment of casualties, and evaluation of response activities. Sheaf and Rottman, reporting on the 1999 University of California–Los Angeles Conference on Public Health and Disasters, cited four areas of focus in emergency and disaster management: preparedness, mitigation, response, and recovery. Along with a fifth area, evaluation, these offer nurses an outline for a plan of action to be taken when responding to an emergency or disaster.

THE CORE COMPETENCIES

Until now, emergency preparedness competencies specific to nurses working in the United States hadn't been identified. At the request of the Centers for Disease Control and Prevention (CDC), one of the authors of this article (Kristine Gebbie) has developed a set of core emergency preparedness competencies for public health workers. This served as the model for the core competencies for nurses outlined below.

Describe the agency's role in responding to a range of emergencies that might arise. During an emergency or disaster, an organization, agency, or unit may continue functioning as usual, or it may perform special services. You'll need to know if and how the service line (the clinical unit or practice area) will change or expand during an emergency. For example, will scheduled surgeries be cancelled to create standby capacity (in terms of both unit space and surgery time) for trauma patients? Will a long-term care center become a shelter for displaced seniors? Knowing in advance exactly what's expected of the organization during an emergency or disaster gives the staff the opportunity to acquire the pertinent knowledge and to practice necessary skills beforehand. Emergency department nurses generally know their roles through citywide trauma plans for community disasters; nurses working in other settings such as long-term care facilities or home health care agencies may not have been instructed to prepare in the same way.

Describe the chain of command in emergency response. Effective emergency response requires
# Emergency Preparedness Information

<table>
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<tr>
<th>Organization</th>
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<td>U.S. Department of Health and Human Services, Office of Emergency Preparedness (OEP) &lt;br&gt; <a href="http://ndms.dhhs.gov">http://ndms.dhhs.gov</a></td>
<td>The lead agency for disaster health and medical services works in close partnership with federal agencies and directs the NDMS.</td>
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<tr>
<td>National Disaster Medical System (NDMS) &lt;br&gt; <a href="http://ndms.dhhs.gov/NDMS/ndms.html">http://ndms.dhhs.gov/NDMS/ndms.html</a></td>
<td>A cooperative program among government agencies and private and voluntary organizations, it works to ensure adequate distribution of resources.</td>
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<tr>
<td>Federal Emergency Management Agency (FEMA) &lt;br&gt; <a href="http://www.fema.gov">www.fema.gov</a></td>
<td>Works to build and support the national emergency management system.</td>
</tr>
<tr>
<td>Centers for Disease Control and Prevention (CDC) &lt;br&gt; <a href="http://www.cdc.gov">www.cdc.gov</a></td>
<td>The lead federal agency for disease prevention and control activities provides backup support to state and local health departments.</td>
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well-orchestrated teamwork in which each member knows what the lines of authority and communication are. The Incident Command System (ICS), commonly used for defining the chain of command during emergencies, originated in the 1970s, when local, state, and federal agencies in California needed a well-coordinated procedure for fighting wildfires; it has been developed further by the Federal Emergency Management Agency (FEMA).  
(See [www.fema.gov/cem/ics195.htm](http://www.fema.gov/cem/ics195.htm).

The ICS designates common titles and roles to be used in all responding organizations and agencies. For example, during an emergency, President Jones of Organization A and Director Smith of Agency B would become "incident commanders" with specific duties and responsibilities. The system also organizes emergency response according to five major components: command, planning, operations, logistics, and finance and administration. Depending on the scale of the emergency or disaster, incident commanders can appoint information and safety officers and interagency liaisons to manage those channels. In affording diverse groups a common approach, the system facilitates communication and coordination of response efforts.

In many organizations, the nursing staff would be deployed by the operations officer; they may also take part in planning, logistics, or finance and administration.

**Identify and locate the agency’s emergency response plan (or the pertinent portion of it).** Every nurse needs to know where the emergency response plan can be found and to be familiar with its contents before an emergency arises. If your agency frequently responds to local emergencies, it may be useful to outline the plan and your designated role.
in a card or small notebook; include necessary contact information and update it regularly.

**Describe emergency response functions or roles and demonstrate them in regularly performed drills.** Effective emergency response requires that each team member know what to do and how to do it. The nurse’s role may be essentially unchanged or it may entail different duties—for example, working as backup staff member in the intensive care unit, supporting families in the emergency department, being on call at home, or reporting for duty at the local health department. To ensure competence during an emergency or disaster, it is important that tasks be practiced. Know which types of emergencies are likely to occur in your area and which health conditions are likely to result from them. Some occurrences, such as terrorist attacks, are less predictable; still, by possessing and practicing competencies, you will be better prepared to handle all types of emergencies.

**Demonstrate the use of equipment (including personal protective equipment) and the skills required in emergency response during regular drills.** All nurses know how to safely operate equipment that they use daily. But during an emergency, they may be required to use unfamiliar equipment. Knowing the setting to which you’re likely to be dispatched affords the opportunity to learn how to use such equipment in advance. You also need to know how to protect yourself. This requires awareness of possible contaminants and knowledge of appropriate methods of protection. Some emergency response activities require simple universal precautions while others require more sophisticated protections.

**Demonstrate the correct operation of all equipment used for emergency communication.** Teamwork and communication are essential during emergency response. For example, a nurse may serve as a communication link between the hospital and health department. Professional staff members often don’t know how to use common communication equipment, and the simplest task becomes cumbersome and consumes too much time. Practicing with the equipment beforehand can eliminate this.

**Describe communication roles in emergency response**

- within your agency.
- with news media.
- with the general public (including patients and families).
- with personal contacts (one’s own family, friends, and neighbors).

Every organization or agency should delineate specific roles and responsibilities that apply to both internal and external communication. You’ll need to know the communication roles of others, in addition to your own, to refer information requests appropriately. During emergency response, commu-

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**In the Eye of the Storm**

*A Brooklyn hospital puts its emergency and disaster preparedness plan to the test.*

On September 11, 2001, core nursing competencies for emergency response were tested throughout my hospital. Eighty-eight patients [mostly self-referred] from the site of the attacks on the World Trade Center were seen that day. We found that our quarterly hospital-wide drills of the emergency plan prepared the staff to respond appropriately.

After several laboratory and administrative staff members saw the first plane strike the south tower, the emergency response plan went into immediate effect. Patient care rounds began at once. To ready space for new admissions, an effort was made to expedite patient discharges and transfers to long-term care and rehabilitation facilities [for example, by contacting private car and ambulance services for early patient pickup], and case managers contacted community-based skilled nursing facilities and adult homes to find additional beds. In each department, managers reassigned patient care activities and released staff members to the emergency labor pool.

Department heads and those assigned to the pool met in the executive boardroom, where, as defined by the emergency plan, a command post was established. Run by two senior administrators, the command post deployed staff to necessary outposts, and managed communication throughout the institution. Portable phones with walkie-talkie components helped staff to communicate, as did video conferencing technology, which the command post used to contact another hospital in the network.

Meanwhile, emergency department personnel accessed disaster supplies and equipment located in central supply. While clinicians were preparing for incoming patients, housekeeping, clerical, and other nonclinical staff did their best to ensure that adequate food, water, and other supplies were available if needed. Psychiatric and other mental health services and pastoral care were offered to staff members directly affected by the tragedy.

Afterward, evaluations of the emergency response plan by administrators and staff members were generally positive, yet they revealed a few weaknesses. For example, in a revised plan to be released within the next six months, an ambulatory presurgical testing site will replace labor and delivery as an alternate treat-and-release site. A location in the long-term care facility will become the designated command post, and a conference room in a nearby assisted living program will be assigned as media headquarters.

Emergency preparedness and disaster response planning have always been an important aspect of emergency nursing practice. Yet today’s JCAHO accreditation standards—which call for monitoring of the level of staff participation in preparation for emergencies or disasters—reflect the need for organization-wide involvement. The preparedness of our staff enabled them to perform well, despite the fact that many were personally affected by the loss of family and friends.—Cathy Norton Lind, MSN, RN, CEN, FN, Director of Emergency Services, The Brookdale University Hospital and Medical Center, Brooklyn, NY
nigation within an agency generally follows the usual chain of command. Communication with the news media is usually delegated to a single office or person.

Communication with the public occurs at various levels of formality. For example, discussion with patients and their families tends to be conversational and informal; a somewhat more formal, scripted exchange would take place over a telephone hotline. Each nurse must be prepared to perform a role in communication at this level. For example, staying current with CDC (see www.cdc.gov) or health department information regarding anthrax will help ensure that the information you dispense is accurate.

Personal communications also must be considered. Because the nurse won’t be able to focus on emergency response duties if worried about the safety of family members, significant others, friends, and pets, provisions for them should be planned in advance. An overall family emergency plan can be useful and is easily developed using the suggestions developed by the American Red Cross (ARC) and FEMA (www.fema.gov/library/y4dp.pdf).

**IDENTIFY the limits of your own knowledge, skills, and authority, and identify key system resources for referring matters that exceed these limits.** During an emergency, nurses often perform tasks outside their usual domain. But because nurses are generally seen as being exceptionally versatile, they’re likely to be asked to perform tasks or to assume roles that are far beyond that domain. For example, a nurse who ordinarily works with adults may be asked to work with children, although she may not be familiar with pediatric medication concerns. It’s important both to recognize when one is past the limit of one’s knowledge, skills, or authority and to know where to direct the request or need so that appropriate answers or services can be provided. In other words, be clear with yourself and others about what you know and what you do not know.

A nurse working in a disaster shelter should be able to recognize the presence of an acute illness or injury and know how to arrange the patient’s transfer to a facility that can provide the appropriate level of care. For example, in the case of a patient with crushing chest pain, you would arrange his immediate transfer by ambulance to the ED.

**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.** No matter how well prepared in the core competencies you are, there will be times when you’ll need to think on your feet. Situations won’t necessarily arise and develop exactly as the preparedness plan describes. Systems, equipment, or plans may fail. Creative problem solving entails addressing a situation with whatever resources are available at the moment; nurses tend to be good at this because it’s a skill also used under ordinary circumstances. Once you take action, you should evaluate its effectiveness on an ongoing basis. If you refer a problem elsewhere, follow up to see that it was appropriately addressed.

For example, suppose an emergency plan calls for the use of mobile telephones for internal communication, but when a disaster occurs, reception may be interrupted. The nurse manager decides to assign a runner to hand-carry messages to and from the facility’s command post until the reception problem is corrected. She also checks regularly on the status of the mobile communication system.

**RECOGNIZE deviations from the norm that might indicate an emergency and describe appropriate action.** Regardless of setting, most patients spend more time with nurses than with any other health professional. Because nurses are so familiar with normal patterns of health and illness in the communities and organizations they serve, they’re well positioned to recognize deviations in them. Early detection of such a change and prompt notification of the proper authorities can enable early warning of an impending emergency or disaster, or of a shift in community needs during the response.

For example, suppose a school nurse notes a large number of similar complaints not common in the community or season and reports the finding to her supervisor, who in turn notifies the epidemiology office at the local hospital. The finding
may indicate the beginning of an infectious disease outbreak, and an emergency response may be warranted.

**Additional Core Competencies**

These competencies are specific to nurses who have managerial or leadership responsibilities.

**Ensure that there is a written plan for major categories of emergencies.** Nurse administrators must be sure that the unit, department, or organization they're responsible for has a written emergency preparedness plan. Unit and departmental plans must be compatible with the organization's plan, and the organization's plan must be practicable for individual department and unit implementation. Nurses should be represented on the organization's emergency preparedness committee.

**Ensure that all parts of the emergency plan are practiced regularly.** Emergency preparedness and response plans that are never practiced or that are poorly understood will probably be useless. The Joint Commission on the Accreditation of Healthcare Organizations requires regular emergency management drills at least annually (specific requirements vary by type of facility), and some states mandate biannual drills. Practice can take the form of either actual drills or "tabletop" exercises using either spoken or written scenarios and responses. This allows nurses to practice performing their roles, to give critiques of each other's performances, and to assist with plan improvement.

**Ensure that identified gaps in knowledge or skills are filled.** Once a drill or an emergency response has been executed, both that which went well and that which wants modification must be identified and then addressed. What works in a drill may not work well during a real emergency.

**References**