



Mass casualty events

Are you prepared?

By Janice S. Smith, PhD, RN

THE CATASTROPHIC EARTHQUAKES in Haiti and Chile earlier this year remind us that disasters, whether natural or man-made, can strike anywhere at any time. By one estimate, at least one disaster or mass casualty event per week occurs somewhere in the world.¹ When a mass casualty event occurs, nurses are called to action, no matter what their area of expertise in clinical practice. Standing on the front lines of the healthcare system, nurses make up the largest portion of the healthcare work force and are often referred to as the "first receivers" in the event of a disaster.

Even though disaster preparedness is increasingly important to nursing practice, most nurses'

knowledge and training in this field is limited. According to the American Nurses Association (ANA), "the responsibility of every professional is to maintain a state of professional readiness for emergency response."² This article will discuss your nursing role in disaster management, beginning with how to prepare yourself before a disaster strikes. Let's start by clarifying some common terminology.

Defining a mass casualty event

Most disasters are mass casualty events. By definition, these are different from multiple casualty events, such as a multivehicle highway crash. In a *multiple casualty event*, the number of victims



doesn't exceed the ability of local resources to provide treatment. In contrast, a *mass casualty event* quickly and suddenly overwhelms local resources with seriously injured or ill victims needing immediate care. Besides natural disasters, such as earthquakes, tsunamis, hurricanes, tornadoes, and epidemics, these may include acts of terrorism, including bioterrorism. In a mass casualty event, triage and initial care typically begin (and, in some cases, continue) outside a hospital.^{1,3}

In today's world, disaster preparedness is no longer the exclusive province of nurses practicing in EDs or community agencies, such as the American Red Cross and state public health agencies. Any mass casualty event will almost certainly require clinical expertise in many areas, as well as in leadership and management. Nursing roles may include triage, treatment, counseling, and the distribution of resources.

As a nurse, you have a professional responsibility to yourself and to the public to educate yourself about disaster preparedness, understand

your role, and teach preparedness to others. (See *Disaster competencies for nurses*.)

No matter how knowledgeable you are, however, you can't effectively care for others in a disaster if you're worried about the safety of your own family members, pets, and other personal responsibilities. This requires developing a personal and family disaster plan well ahead of time.

Personal and family preparedness

To develop a personal or family disaster plan, you can draw on many resources. For example, you can find recommendations and guidelines developed by the American Red Cross and the Federal Emergency Management Agency (FEMA) at these websites:

- <http://www.redcross.org/images/pdfs/preparedness/A4600.pdf>
- <http://www.redecross.org/portal/site/en/menuitem.86f46a12f382290517a8f210b80f78a0?vgnextoid=92d51a53f1c37110VgnVCM1000003481a10aRCRD&vgnnextfmt=default#>

The key components of these guidelines are getting information

about what's happening, creating a disaster plan for your own family, assembling a disaster kit, and practicing and maintaining your plan. If you have children, other dependents in the household, or pets, you need to make plans in advance for their care while you're working. So you can be ready at a moment's notice, you should also prepare a "to go" bag containing extra items of clothing, toiletries, prescription medications, and a small amount of cash for occasions when you may be required to stay at work for extended periods. This bag should be stored in a convenient place that's easily accessible in an emergency; for example, in your car or locker at work. For more about what to include in your personal plan, see *Planning ahead to protect your family*.

Mass casualty and triage basics

In a mass casualty event, the governing principle is to "do the greatest good for the greatest number of casualties."¹ Hospitals usually get advanced communication from community first responders, such as emergency medical services (EMS), with an estimated number of victims. This helps administrators determine when to activate the institution's disaster plan. Once the plan is activated and the expected number of victims is determined, the institution can begin preparing for the arrival of victims.

Upon notification of a disaster, one of the most immediate unit-level priorities is the triaging of in-house patients to expedite the discharge or relocation of the lowest acuity level patients. This frees up beds for incoming disaster victims. Strong leadership skills and expert clinical knowledge are required to make decisions that won't compromise the care and safety of patients.

Triage of victims at the scene will be done by EMS. Victims will

Disaster competencies for nurses²

The ANA specifies various nursing competencies for disaster preparedness, including those listed below. Refer to the ANA's policy white paper, *Adapting Standards of Care under Extreme Conditions*, for a complete listing.

- Know your role in emergency response as a part of the institutional or community response.
- Recognize an illness or injury that might result from exposure to a biologic, chemical, or radiologic agent possibly associated with terrorism.
- Recognize uncommon presentations of common diseases.
- Recognize emerging patterns of illness or clusters of unusual presentations.
- Report identified cases or events to the public health system.
- Initiate patient care within your professional scope of practice.
- Institute appropriate steps, such as infection control measures or decontamination techniques, to prevent the spread of injury, using appropriate personal protective equipment.
- Assess and manage stress and anxiety associated with the event, and make referrals to mental health services if indicated.

Adapted by the ANA from *Clinician Competencies during Initial Assessment and Management of Emergency Events*. Columbia University School of Nursing, Center for Health Policy. <http://www.nursing.columbia.edu/chp/competencies.html>.

be triaged again upon arrival at the hospital.

Triage of victims in mass casualty events is different from traditional triage systems used in hospital EDs. The most common triage system used by EMS in disasters is the Simple Triage and Rapid Treatment (START) system. This system consists of assessing victims' ability to respond verbally and ambulate, as well as their respirations, perfusion, and mental status. Victims are tagged with the appropriate color triage tag indicating the priority for immediate patient care and subsequent transportation, as follows:

- **Red-tagged** victims are the most critical and unstable. They require immediate care and are to be transported first and as soon as possible.
- **Yellow-tagged** victims are categorized as stable but urgent and likely to deteriorate quickly without care. These victims need treatment and transport within 30 minutes to 2 hours.
- **Green-tagged** victims may be injured or ill but require minimal or no care, so transport can be delayed. These victims are usually relocated by EMS to a nearby area away from more seriously affected victims and may wait for more than 2 hours for transport.
- **Black-tagged** victims are deceased or have non-survivable injuries, and are the lowest priority for transport. Victims in this category are assessed quickly (30 to 60 seconds) for respirations, perfusion/circulation, and mental status. If the victim is apneic and pulseless, responders won't perform CPR because it would require too many resources and delay treatment for victims with survivable injuries.

Time frames for these categories may vary depending on the type of disaster and other conditions. The ultimate goal is to assess, triage, and transport victims quickly and efficiently, but the safety of responders and victims is the first priority. Factors

Planning ahead to protect your family¹

Follow these guidelines to prepare yourself and your family for any sudden emergency:

- Learn about potential disasters and explore hazard risks for the region where you live and work.
- If you have children, talk to school officials about their emergency response plans.
- Know your employer's response plan and your responsibilities in an emergency.
- Talk to each member of your household about potential emergencies and how to respond. Make plans for child care and designate someone to take care of children. Make an evacuation plan for both your home and the area where you live.
- Plan how your family would stay in contact if separated. Plan two meeting places where your family could gather if you can't return home.
- Post emergency telephone numbers by telephones. Teach children how and when to call 911.
- Draw a floor plan of your home and make two escape routes from each room.
- Make sure everyone knows how to shut off water, gas, and electricity at the main switches.
- Pick a friend or relative who lives out of the area for household members to call to say they're okay.
- Make a family phone tree indicating who should call whom first. Also make alternative plans in case telephone, cell phone, and Internet services aren't available.
- Make sure you have adequate property insurance. Keep all important documents in one place, in a secure waterproof container.
- Keep a small amount of cash or traveler's checks at home in a secure place. In a disaster, banks may be closed and automated teller machines may not work.
- Consider making advance plans to help neighbors who need special assistance, such as older or disabled neighbors.
- Make arrangements for pets, which are usually not permitted in public shelters unless they're service animals.
- Make a "to go" bag and keep it handy.

to be considered include weather conditions, the number of victims and first responders, bed availability at the receiving facility, possible need for decontamination, and available transport methods.^{1,3,4}

Hospital triage

Once victims arrive at the hospital, they're quickly assessed and triaged again because their status may change during transport. This may occur outside the entrance to the facility, depending on the type, size, and scope of the event.

Hospital personnel must also be prepared for ambulatory victims who may arrive ahead of the victims transported by EMS and who may arrive at any door of the hospital. Plans to

accommodate and direct them to treatment areas must be made in advance. In addition, family members searching for victims will arrive and require direction, support, and regular information updates. Security will be needed to assist with these arrivals.

Professional development

As a professional responsibility, nurses may need to further their education. Many resources are available for nurses to build their own knowledge base. Increasingly, hospitals and other facilities are offering online modules, continuing education programs, and workshops to strengthen the knowledge base of practicing nurses.

National Incident Management System (NIMS) courses are offered

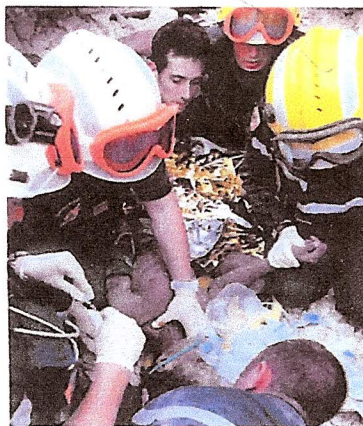
free of charge. These courses are available through the FEMA website at <http://training.fema.gov/IS/NIMS.asp>.

The NIMS model was implemented by the Department of Homeland Security and FEMA to help standardize and improve incident management planning and response across jurisdictions—federal, state, and local communities—as well as private partners, such as hospitals and health systems.^{5,6} The most valuable of these courses for practicing nurses are *NIMS IS-100.HC* (Introduction to the Incident Command System for Health Care/Hospitals) and *NIMS IS-700a* (National Incident Management System [NIMS], An Introduction).

One major challenge for nurses is the use of numerous and often unfamiliar acronyms in disaster management. These FEMA courses explain the language of incident command, clarify prioritization, and define the roles of individuals in disaster situations. Upon completion, the participant is awarded a printable certificate from FEMA with continuing education credit.

Additional opportunities are available from community American Red Cross chapters. For example, you can enroll in a *Disaster Health Care Services* course, which prepares you to volunteer in disaster response locally or nationally. *Disaster Preparedness and Response* is another online course opportunity originally developed by Sigma Theta Tau International and the American Red Cross. It's available at <http://www.nursingknowledge.org/Portal/main.aspx?PageID=36&SKU=91775>. The course is offered for a small fee and also includes continuing education credits.

The Community Emergency Response Team (CERT) course is another excellent training resource open to healthcare professionals and laypeople alike. The program is designed to teach citizens how to help themselves and others if a disaster



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strikes their community and the usual emergency resources are limited or nonexistent. Those taking the course learn how to provide basic emergency care to people and pets, suppress a fire, turn off gas and electricity, and many other practical tasks.⁷ For more information, visit <http://www.citizen corps.gov/cert/about.shtm>.

Institutional disaster plans

The Hospital Incident Command System (HICS) is a model commonly used for hospital disaster plans. It's designed after the NIMS model for incident command, and titles for roles are basically the same in both. Primary leadership or management roles include the incident commander, safety officer, liaison, and public information officer. Each position in the HICS model has a job action sheet that defines the functional role and tasks required to fulfill the role. For example, the role of the incident commander is to organize and direct the operations of the event. Most commonly, this is the executive officer of the facility. The public information officer is responsible for providing information to the news media.¹

A nurse's role within the HICS model is determined by the scope of the event and guided by the job action sheet that may be assigned by the nurse's manager or supervisor. Not all nurses will serve in leadership roles. Additional nursing roles may include performing patient care at the bedside, serving as a patient advocate, providing counseling and support for family and friends, and coordinating patient care. Nurses may function within their department or unit unless assigned to other duties by the supervisor or nursing leadership.^{1,3}

Nurses must know where in the unit the disaster plan is located and prepare in advance of an event in order to anticipate possible roles and assignments. Multiple possible scenarios should be considered when planning and preparing.

All disaster plans are designed to facilitate actions and communication during an event with multiple casualties, but each plan is uniquely tailored to individual institutions. Become informed, educated, and involved in the disaster plan in the facility where you work.

The Joint Commission has defined clear requirements for hospital organizational preparedness and disaster planning, including disaster drills to be held twice a year. One may be a tabletop exercise and one must be a mock disaster drill, which simulates a disaster with some participants posing as victims.

A tabletop exercise is a "simulated interactive exercise that helps to test the capability of an organization to respond to a simulated event."⁸ These exercises can help participants clarify their roles and sort out potential problems with the command structure, communication, and longer-range logistics.

Make sure you know your employer's expectations related to work attendance and shift commitment. For example, nurses may be expected to work as teams on rotating

shifts or work extended hours, and may be asked to assist in specialty areas outside their normal areas of expertise. When doing so, however, nurses must adhere to their own scope of practice and recognize appropriate limitations to their knowledge and practice.

Maintaining lines of communication

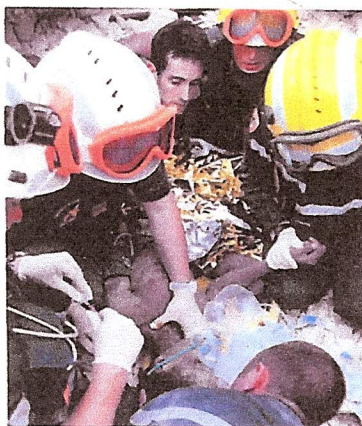
Communication breakdown is the most common problem in any disaster. To minimize problems in a chaotic situation, make sure you know the backup plan for communication in the facility or community if telephone or cell phone service is lost. Options include satellite phones, Internet, e-mail, instant or text messaging, radio or amateur radio, and television. Public methods of communication such as radio, television, and websites can give healthcare workers authoritative, up-to-date guidance and inform the public about the disaster management and available resources.

Planning for communication includes guidelines on dealing with the media. Most healthcare institutions designate a public information officer to provide information to the media during a disaster. The facility should designate an area for media to assemble and provide security to prevent media representatives from interfering with rescuers or disrupting the disaster scene.

If a reporter asks you for information, refer questions to the public information officer. Don't share information with anyone outside the workplace—including your family. Releasing information to the wrong people may lead to rumors and speculation that can fuel panic.

Altered standards of care in a disaster

In 2006, the ANA convened a multidisciplinary expert panel to advise



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the ANA on policy questions related to standards of care during extreme emergencies and to develop recommended guidelines for healthcare professionals, institutions, and policy makers. The result was a policy white paper, *Adapting Standards of Care under Extreme Conditions: Guidance for Professionals during Disasters, Pandemics, and Other Extreme Emergencies*. The document speaks to individual health professionals who find themselves providing care during an extreme emergency when the usual resources may not be available and they're faced with dilemmas related to the standard of care that can realistically be provided. The basic message is that "no emergency changes the basic standards of practice, code of ethics, competence, or values of the professional." The document states that the responsibility of every professional is to maintain a state of professional readiness for emergency response, and the responsibility of every organization or institution is to plan for and practice emergency response.²

Don't put it off

Because of our changing world and the importance of nurses in disaster response, nursing programs are beginning to integrate required courses on disaster preparedness in the nursing curriculum and graduate nurses are now tested on this content when taking their National Council Licensure Examination (NCLEX) license exams. But most practicing nurses had limited or no exposure to this content in their basic nursing education. Most of us need to be proactive in filling this gap in our expertise.

Regardless of practice setting, nurses can no longer turn their heads and think, "It can't happen to me." It can happen to any of us at any time. If you haven't already, get a personal plan together and participate in your facility's disaster preparedness drills. By preparing for the worst, you'll be better able to handle whatever the future holds. ■

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