

# Nursing management models for response to bioterrorism

By Anita J. Coyle, Ph.D., RN

**AFTER COMPLETING** this program, the learner will be able to:

- Discuss ability of staff to respond to bioterrorism concerning infectious disease;
- Describe intent and ability of staff to respond to disaster that includes mass casualty through violence; and
- Identify intervention patterns for nurses in the workplace to facilitate the ability and intent to respond to workplace needs in the time of disaster.

*Tuesday, 9:30 a.m.*

You have just received a call from your hospital that an outbreak of smallpox has been discovered at Dallas/Fort Worth International Airport. Individuals have been identified throughout the area with this infectious disease. You are to return to your hospital to be vaccinated, then to treat and vaccinate the public.

You worry that the choice not to have received the smallpox vaccination when it was offered might have placed you at risk. Another thought is that you may be placing your family at risk for this deadly disease.

*Tuesday, 11 a.m.*

Your hospital has just been notified that a “dirty bomb” has exploded at a major convention in downtown Dallas. Casualties are estimated to be in the hundreds. Anxious people are flooding your ER. All hospitals in the Dallas area are preparing to receive initial victims and to educate the public. People are frantically looking for their loved ones. You are called to return to work.

You wonder, what is a dirty bomb? A dirty bomb — a radiological dispersion device — is a bomb that combines conventional explosives, such as dynamite, with radioactive material. A dirty bomb disperses the radioactive material into a small, localized area around an explosion. The main purpose of a dirty bomb is to frighten people and contaminate buildings or land (New York State Health Department, 2004).

What is your first thought? Often it reflects the grieving process of denial, anger, bargaining and, finally, acceptance that your community could be on the verge of additional bioterror events. This process may take time for you to resolve. Currently you are aware that your acute-care hospital, situated between D/FW and downtown Dallas, is experiencing both large numbers of patients with infectious disease and mass casualties.

## Intent to respond

Management models for response have been based on the assumption that nurses, other health-care professionals and support staff will return immediately to the workplace. However, research indicates that they will have other concerns and priorities (New York Academy of Medicine, 2004). Factors that influence a decision to respond involve fear of the unknown, concern for home and family, and other roles and responsibilities. The question that determines an initial response is, “Who do I call first?” If you cannot reach your family, it will be difficult for you to go first to work. If you can reach family members, what is your plan?

Unfortunately, most families have not taken the time to prepare a response by establishing a communication plan and a place to meet. They have become reliant on cellphones and immediate access. The response by many people to the 9-11 terrorist attacks was to look for or try to make contact with loved ones. But as the event revealed, instant communication may not be available.

## Duty to respond

In such a difficult time, your duty to respond may be impacted by conflicting areas of responsibility. You may be called to a secondary workplace or volunteer organization such as the fire or police department. You may have family members working at another health-care facility. Perhaps you would feel safer and less anxious to respond if you knew that your whole family could be brought to the workplace with you.

## Intervention response: family communication plan

**Practice communication.** Turn off your cellphones and attempt to locate your family. Do you have a plan when there is no cellphone service?

List the times of the day when no one is home to answer the phone.

Do you have written numbers? Develop a written phone number list as a backup to the cellphone contact numbers.

Create a backup plan for making contact through 1.) ham radio or walkie-talkie, 2.) or an out-of-area “call collect” person.

---

---

## Texas Nurses Association, District Four — CE instructions for self study

**TITLE:** “Nursing Management Models for Response to Bioterrorism”

**PURPOSE:** This self-study is designed to provide information related to bioterrorism and the intention and ability of nurses to respond to the staffing needs of their health-care facilities. The goal is to expand nurses’ knowledge of the emotional, social, and physical environment of the nurse who is asked to respond to the victims of bioterrorism. Nurse managers will benefit from a discussion of the issues to enhance skills for: anticipating the nurse’s intent to respond; anticipating the nurse’s ability to respond; and developing a plan to facilitate the ability and intent to respond to workplace needs in the time of disaster.

**To receive continuing nursing education credit, the registrant must:**

1. Read the self-study.
2. Complete the post-test (score of at least 75 percent).
3. Complete the evaluation form.
4. Mail the Post-Test (with \$10 payment) and Evaluation Form to TNA D4.

Upon receipt of the required forms (the post-test with a score of at least 75 percent, and evaluation form) by TNA D4, the registrant will be mailed a CE certificate. This activity provides 1.0 contact hours for the nurse. TNA, District Four is an approved provider of continuing nursing education by the Texas Nurses Association, and an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation. This activity meets Type 1 criteria for mandatory continuing education requirements toward re-licensure as established by the Board of Nurse Examiners for the State of Texas.

**EVALUATION FORM:** “Nursing Management Models for Response to Bioterrorism”

**OBJECTIVE:** To expand nurses’ knowledge on response issues for nurses and enhance skills at: (a) anticipating the nurse’s intent to respond, (b) anticipating the nurse’s ability to respond, and (c) developing a plan to facilitate the ability and intent to respond to workplace needs in the time of disaster.

**NAME:** \_\_\_\_\_ **TELEPHONE:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_ **STATE:** \_\_\_\_\_ **ZIP:** \_\_\_\_\_

**LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER** \_\_\_\_\_

### PROGRAM EVALUATION:

Please rate how well objectives were met by circling the appropriate number:

**1 — Not Met   2 — Partially Met   3 — Met   4 — Well Met**

- |                                                                                                                                                           |          |          |          |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|
| 1. Describe staff response ability and intent to respond for disasters that include mass casualty through infectious disease.                             | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| 2. Describe staff response ability and intent to respond for disasters that includes mass casualty through violence.                                      | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| 3. Identify intervention patterns for nurses in the workplace to facilitate the ability and intent to respond to workplace needs in the time of disaster. | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |

Please rate the quality of teaching materials by circling the appropriate number:

**1 — Strongly Disagree   2 — Disagree   3 — Agree   4 — Strongly Agree**

- |                                                     |          |          |          |          |
|-----------------------------------------------------|----------|----------|----------|----------|
| 1. The objectives were relevant to overall purpose. | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| 2. The teaching/learning materials were effective.  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| 3. The program was organized.                       | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |
| 4. The program was easy to follow.                  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> |

How long did it take to complete the program? \_\_\_\_\_ Date completed: \_\_\_\_\_

MAIL the completed evaluation with your test results and \$10 payment to: TNA, D4, P.O. Box 35503, Dallas, TX 75235.

# Nursing management models for response to bioterrorism

## CE TEST

1. **A dirty bomb contains**
  - A. Bacteria
  - B. Chemicals
  - C. Anthrax
  - D. Radioactive materials
2. **The first call the nurse will likely make is to**
  - A. The workplace
  - B. Family members
  - C. Friends
  - D. Disaster planners
3. **Nurses will respond to their primary place of work**
  - A. Immediately
  - B. After being called
  - C. After considering the positive and negative outcome of response
  - D. After considering the government's plan for the disaster
4. **Creating a culture of safely means:**
  - A. Valuing the safety of the nurse at all times
  - B. Planning for the response to attack
  - C. Considering all factors before developing a disaster plan
  - D. Asking the nurse what is safe
5. **Trust is**
  - A. Not an important factor to communication
  - B. A key component of communication
  - C. A difficult factor to communicate
  - D. An unimportant factor to communicate
6. **One of the questions not included in the Transportation Plan is:**
  - A. Do you know the number to call at your workplace for transportation?
  - B. Do you have transportation?
  - C. How long will it take you to travel?
  - E. Will you be expected to take others with you?
7. **According to the Redefining Readiness Study, "People are seriously worried about something other than that from which planners are trying to protect them."**
  - A. This is an accurate statement
  - B. This is an inaccurate statement
  - C. This is an unimportant statement
  - E. This statement does not apply to nurses
8. **Only \_\_\_\_\_ of the survey respondents would go to a designated vaccination site in the event of a smallpox outbreak.**
  - A. One-fifth
  - B. Two-fifths
  - C. Three-fifths
  - E. Four-fifths
9. **The need for spiritual support for all the hospital staff cannot be**
  - A. Underestimated
  - B. Determined
  - C. Supported
  - E. Estimated
10. **Bioterrorism is the most dramatic of disasters for which the health-care system must prepare.**
  - A. This is true because of the high level of uncertainty
  - B. This is true because of the lack of planning
  - C. This is true because of the high level of public training
  - D. This is true because of the lack of experience in mass casualty

you believe that you can overcome these environmental barriers, you will strive harder to achieve your goal. Confidence in your ability to overcome barriers will also motivate you to provide care and

### **Intervention response: transportation plan**

Do you have transportation?

Are there barriers such as bridges, tunnels, or overpasses that can affect your ability to respond?

Can you travel to the agreed family meeting place or work?

How long will it take you to travel?

Will you be expected to take others with you?

### **Intervention response: family plan**

Do you have health conditions that hinder your ability to respond?

Do members of your family have health conditions that hinder your ability to respond?

Do you have pets or farm animals that impact your ability to respond?

### **Intervention response: conflicting roles**

Are you expected to respond to the military?

Are you a member of another emergency response agency?

### **Intervention response: environmental barriers**

How can you travel? Develop an awareness of alternate routes.

What are your resources? Plan a transportation response with coworkers who live near you or on the route to the work site.

### **Intervention response: environmental barriers**

How do you react to unexpected stressful events? Be alert for reactions you may experience such as fear, sadness, irritability, panic, empathy, depression, alcohol or drug use, or other stress reactions such as difficulty sleeping or difficulty concentrating.

Do you have a plan to intervene with nurses during disaster response?

respond to bioterrorism victims.

## **Planning by assumption**

The Redefining Readiness Study (2004) analyzed the public's beliefs rather than relying on untested assumptions. The study focused on "what the public cares about and how the public will behave." Will nurses respond differently than the general public?

The New York Academy of Medicine study asked about 2,500 people what they would do if terrorists detonated a dirty bomb or caused an outbreak of smallpox. Nearly 40 percent of respondents said they would do something other than the government's response plan dictated. Nursing's response may well reflect the general public's attitude. In fact, researchers concluded: "In an expected coordinated response of health-care professionals, if plans do not work as expected, a large number of people who should be protected will be unnecessarily harmed."

The study's findings are a cause for concern, and may signal a need to change existing disaster plans. For example:

- Only two-fifths of respondents say they would go to a designated vaccination site in event of a smallpox outbreak;
- Only three-fifths of respondents say they would shelter-in-place for as long as told in the event of a dirty bomb explosion;
- People would be seriously worried about something other than that from which planners are trying to protect them;
- The public's trust in official instructions and actions is important because people who don't have a lot of trust are only half as likely to cooperate in the event of a terror event as are those who do; and
- More people would find it very helpful to talk to someone they know rather than talk to someone they don't know who works for

local government.

Nurses generally act according to a planned, logical, evidence-based method. Therefore, nurse managers need to include regular updates to disaster plans and response factors. Trial runs of the plan on a unit-by-unit basis can help assess response patterns. Those responsible for the response of nursing staff must develop plans that explicitly protect everyone at risk. Consider the following points when you develop a unit disaster response plan.

- Train staff members that nurses can trust to provide information about the type of bioterrorism, as well as the decisions nurses will be facing, to respond or not respond;
- Explain what nurses may expect and what is expected of nurses;
- Be sensitive to the emotional impact of any disaster situation on all workers;
- Don't underestimate the need for spiritual support during crises. Have a team of skilled counselors in place to help nurses with emotional stress.

"Bioterrorism is the most dramatic of disasters for which the health-care system must prepare," the study concludes. "By its very nature, terrorism presents the highest level of uncertainty regarding an identifiable source of the event, the time and place of happening, and the consequences."

Nursing management must consider a nurse's beliefs and ability to respond. Nurses will be better prepared to respond to a bioterror event when nurse managers help them to develop a plan for communication, establish a meeting place, clarify their roles and responsibilities, and address potential physical, emotional and social barriers. ■

**Don't miss the Bioterrorism workshop hosted by TNA – District 4, from 8 a.m. to 4:30 p.m. on Feb. 11 at the American Red Cross Building, located at 4800 Harry Hines Blvd.**

## **Intervention response: family meeting plan**

Where will you meet?

Identify a meeting place and have a plan for when you are:

- At home
- On the road
- At work
- At the store
- At your place of worship
- At play or recreation
- At school
- Out of town

Your communication plan to contact family through an out-of-town relative has worked and you have determined that all of your family is home and safe.

You choose to immediately go to your health-care facility. What are the positive outcomes of that choice?

- Reward from fulfilling your duty;
- Support from your peers; and
- A bond between you and the person who needs your care.

What are the negative outcomes of that choice?

- Exposure to infectious disease;
- Exhaustion;
- Isolation from family; and
- Emotional strain.

You choose to ignore the call and stay home with your family. What are the positive outcomes of that choice?

- Fulfilling your role as a caregiver to your family;
- Not exposing yourself or your family to infectious disease; and
- Disconnecting from the emotional trauma of the threat.

You choose to ignore the call and stay home with your family. What are the negative outcomes of that choice?

- Fear of job loss;
- Worry about “letting down” your patients; and
- Guilt about returning to work with those who responded.

These factors should be considered by nurse managers and discussed with staff to assist nurses to clarify their intent to respond.

## **Create a culture of safety and confidence**

Creating a culture that values safety is necessary for nurses to feel protected when responding to bioterrorism.

Knowing that the environment is safe can help them to feel more confident about returning to work. While safety for one's family is a first concern, safety in the workplace is also important when considering what influences nurses to respond.

During facility orientation, it is important to include planning and disaster response. Group discussions and ongoing planning can help nurses to develop the motivation and family plan to respond. Thoughtful dialogue can create a feeling of support and confidence among nursing staff.

Note that successful planning depends on delegation, communication and training. Nurses must receive not only a list of their exact duties but also the authority to fulfill their duties so action is not delayed. Rowland & Rowland (1997) identified three basic conditions necessary for control during a disaster: 1) establishment of standards and critical pathways; 2) information showing deviations in practice; and 3) authority to correct problems. Confidence in ability to function will help nurses feel competent in their ability to respond.

## **Those who influence nurses**

When asked to return, nurses also will consider individuals or groups that are either in favor of or opposed to their responding first to the workplace.

- Employer
- Spouse
- Parent
- Child

- Neighbor
- Media
- Military
- Local government officials

Research conducted nationwide after the 9-11 terrorist attack showed that people who live in a community have similar concerns as nurses when asked to respond. The study considered the serious worries and trade-offs people face. Many people want more information or advice to decide what to do in such situations. They want decision-making support, not just facts. They want to be able to talk to someone beforehand, not just during an attack. Survey participants indicated they would find it more helpful to talk to someone who cares for them than to talk with someone they don't know from local government (New York Academy, 2004). Maintaining education for all nursing staff can both increase confidence to respond and prepare staff members to talk to the public. The credibility of the person delivering the information, as well as the accuracy of the information itself, are both necessary for people to have confidence in a disaster plan.

## **Ability to respond**

Your first reaction to a disaster is to help the sick and wounded. However, can you respond? Although you may be highly motivated to respond, you may not be able to do so because of intervening environmental conditions. The Theory of Planned Behavior asserts that a person will expend more effort to respond when his or her perception of control over the environment is high. In addition, a person's perception of control over the environment, coupled with intention to respond, has a direct effect on that person's behavior (Glanz, Rimer, Lewis, 2004).

What does that mean for you? Even if you are motivated to respond you may not be able to do so, due to road conditions, air quality, severe weather, distance and/or social constraints. Nevertheless, if