

Disaster preparedness and response: Implications for public health nurses

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ABSTRACT

Disasters are becoming more of an integral aspect of life in the United States and in other countries. Public health nurses are in the forefront of providing health services to people affected by disasters. Thus, it is essential that all public health nurses have access to information that will assist them in disaster situations. The purpose of this paper is to illustrate how the Framework for Public Health Nurses: Interventions Model can be utilized for planning and responding to disasters. The interventions in the model are directly applicable to disaster situations and, in addition, raise questions on issues that need to be addressed by local, state, and federal public health officials.

Key words: Public health nurses, disaster situations, disaster nursing

INTRODUCTION

Public health nursing has been well defined as the practice of protecting the health of populations utilizing knowledge from a variety of disciplines such as nursing, social, and public health sciences.¹ On the other hand, disaster nursing is an emerging specialty in nursing and only a few definitions exist. The Japan Society of Disaster Nursing defines disaster nursing as "the systematic and flexible utilization of knowledge and skills specific to disaster related nursing, and the promotion of a wide range of activities to minimize the health hazards and life-threatening damage caused by disasters in collaboration with other specialized fields."² Jennings-Sanders describes disaster nursing as a discipline in which nurses identify resources and risks in an environment in order to plan, implement, and evaluate interventions designed to effectively manage disasters.³ Public

health nurses and other nurses should consider these definitions of disaster nursing as a guide as they prepare and respond to disasters in their specialty areas.

Public health nurses must have access and guidance to information that will assist them in disaster situations. In response to this important issue, The Centers for Disease Control and Prevention (CDC) published the *Public Health Emergency Response Guide for State, Local, and Tribal Health Directors*, which is an all-hazards tool for health professionals responsible for initiating the public health response during a disaster.⁴ This guide is certainly not a magic bullet for emergency preparedness and response for nurses but should be considered a helpful supplement to already existing disaster preparedness plans in local health departments.

Local health departments have instituted disaster plans and have access to supplemental materials developed by governmental agencies. Despite a plethora of materials available on disaster preparedness, nurses should approach disaster preparedness and response within the context of public health nursing practice. This will begin to provide nurses with a common base of knowledge to work from in disaster situations. The Framework for Public Health Nurses: Interventions Model is grounded in the principles of public health and can be used by public health nurses for planning and responding to disasters.

THE FRAMEWORK FOR PUBLIC HEALTH NURSES: INTERVENTIONS MODEL

The Framework for Public Health Nurses: Interventions Model was developed by the Section of Public Health Nursing at the Minnesota Department of Health. The model focuses on analyzing health status

within populations, establishing priorities, and planning, implementing, and evaluating public health programs.¹ As Figure 1 indicates, the model has three distinct components: population-based practice, three levels of public health practice, and 17 public health interventions. Interventions are population based if they focus on entire populations possessing similar characteristics.¹ The three levels of public health practice are: community, systems, and individual/family. Community-focused practice pertains to community practices that are directed toward an entire population within a community.¹ Systems-focused practice examines policies and power structure systems that impact health.¹ Individual-focused practice focuses on knowledge, attitudes, and beliefs about health and is directed toward individuals or families.¹ The 17 public health interventions include: surveillance, disease and health event investigation, outreach, screening, referral and follow-up, case management, delegated functions, health teaching, counseling, consultation, collaboration, coalition building, community organizing, advocacy, social marketing, and policy development and enforcement.¹

The authors of the model state the framework can be specifically used for program planning, describing public health nursing's contribution, explaining public health nursing to other disciplines, building intervention skills of public health nurses, and determining what changes may be evaluated as a result of an intervention.¹ To further broaden its applicability, the framework can be used by public health nurses to explore and evaluate interventions used to prepare and respond to disasters.

INTERVENTIONS: DISASTER PREPAREDNESS AND RESPONSE

The following examples of selected interventions will aid public health nurses in disaster planning and response. These interventions include: surveillance, disease and health event investigation, screening, delegated functions, coalition building, and social marketing.

Surveillance

Surveillance includes activities that describe, monitor, and analyze health events for the purpose of planning, implementing, and evaluating public health interventions.¹ For example, public health

nurses should be educated about the epidemiological clues that could signal a covert bioterrorism attack. These clues may include: unusual illness in a population, failure of a common disease to respond to usual therapy, a disease with an unusual therapy, a disease with an unusual geographic or seasonal distribution, unusual or antiquated strain of an agent, and illness among people in proximity to shared ventilation systems.⁵ For a more in-depth perspective on surveillance, a Health Surveillance and Epidemiological Investigation Checklist is available for public health nurses for use as a surveillance and epidemiological planning tool.⁶

Disease and health event investigation

Disease and health event investigation include activities that examine the threats to the health of populations, sources of the threat, cases at risk, and control measures.¹ In a biological terrorism situation, it is critical for public health nurses to recognize Category A list agents, which have the greatest potential for adverse public health impact that can result in mass casualties. Category A agents include small pox, plague, botulism, ebola, and tularemia. Nurses also need to be prepared for chemical and radiation emergencies. In chemical emergencies, nurses should be aware of the following agents: benzene, chlorine, ricin, sulfur mustard, and sarin. In radiation emergencies, nurses should be knowledgeable about dirty bombs and nuclear blasts. An ongoing educational effort to keep public health nurses abreast of all these various threats is essential as well as regular practice disaster drills and tabletop exercises.

Screening

Screening involves investigating and identifying individuals with unrecognized health risk factors.¹ During and after disaster situations, many people are in mental distress. Thus, it is very important that public health nurses identify those individuals that may need mental health services. The Mental Survey Instrument is one such screening tool that can provide health departments with core data useful for investigating the mental health symptoms associated with a disaster.⁷

Of equal importance, performing a self-assessment prior to a disaster assignment is very important for public health nurses. The Self-Assessment: Prior to

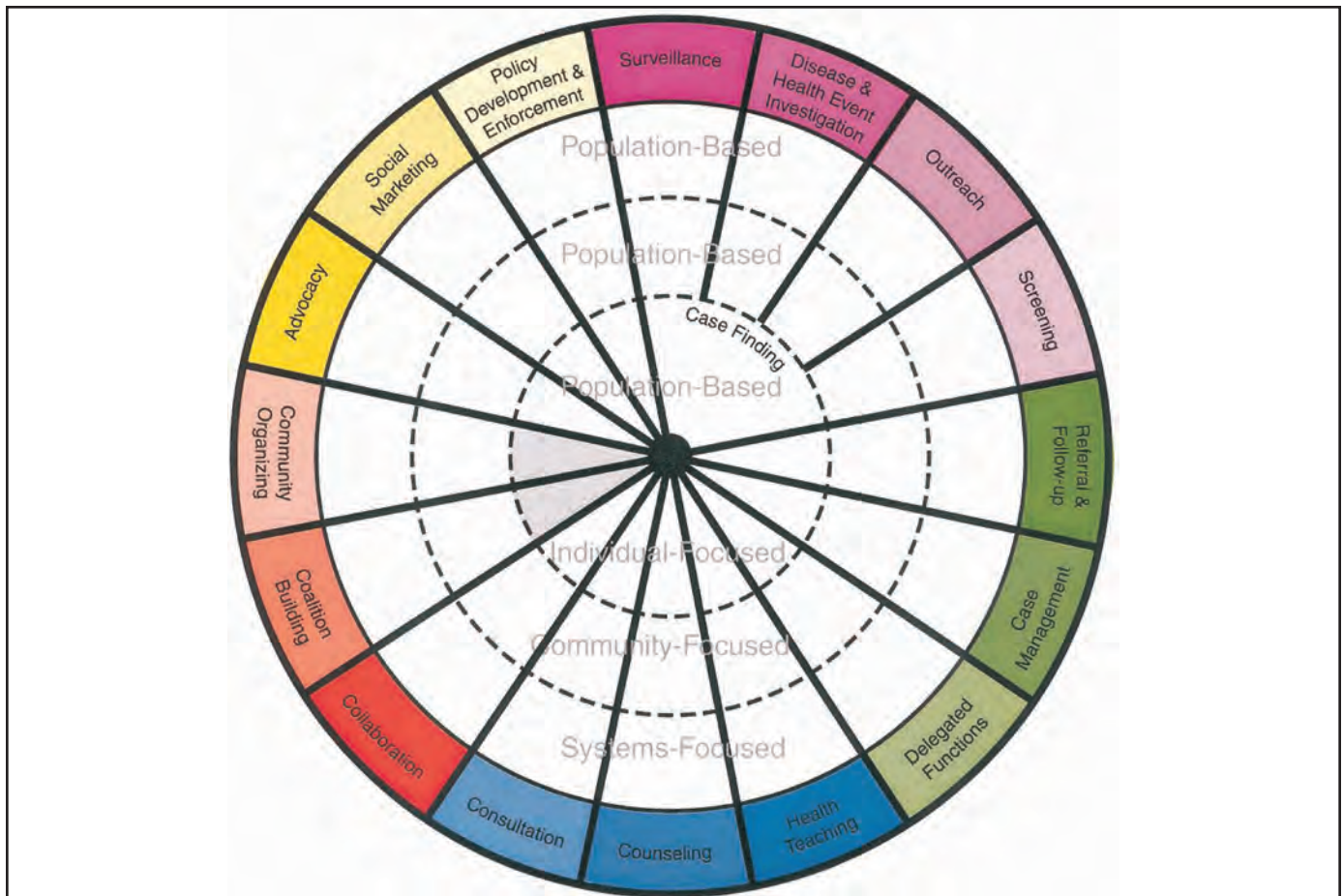


Figure 1. Public Health Interventions: Applications for Public Health Nursing Practice, March 2001; Minnesota Department of Health, Division of Community Health Services, Public Health Nursing Section.

Disaster Assignment Screening Tool can be utilized by any staff member who has been asked to respond to a disaster.⁸ The tool assesses health concerns, employment and finances, and personal and family life, and alerts the individual to any personal problems that might hinder them or others working at a disaster site.

Delegated functions

Delegated functions are direct care tasks a registered nurse implements under the authority of a health-care practitioner or a direct care task a registered nurse entrusts to other personnel.¹ According to the National Council of State Boards of Nursing, there are five rights of delegation that provide a basis to facilitate decisions regarding delegation.⁹ They are: 1) right task (is this a task that can be delegated?); 2) right circumstance (appropriate setting, available resources, and other relevant factors considered?); 3) right person

(is the right person delegating the right task to the right person?); 4) right direction/communication (is communication clear?); and 5) right supervision (is there appropriate monitoring, evaluation, and intervention?).

In normal circumstances, all of these five rights are considered and carefully addressed by public health nurses. In disaster situations, however, public health nurses may have a difficult time adhering to all five rights of delegation. For example, during a mass casualty event it would be impossible for a nurse to monitor all individuals delegated to administer medications via injections. One would be tempted to question the legal ramifications in a situation like this; should there be special provisions to protect public health nurses from liability in disaster work? Such questions should be at the forefront in the decision-making process regarding delegation by nurses in disaster scenarios.

Coalition building

Coalition building includes activities that develop alliances and linkages to address health problems.¹ For example, planning for a disaster that would require isolation or quarantine measures would require the cooperation of local health departments, local healthcare providers, health facilities, and emergency management personnel. Everyone involved would need to make sure that isolation and quarantine measures are followed according to established policy.

Public health's resources are limited so there must be significant assistance from community partners when a disaster strikes. This community assistance may be in the form of providing supplies, manpower, or space for shelters. More specifically, local pharmacies may agree to provide medications and supply stores may agree to provide emergency supplies. Establishing a volunteer pool of local nurses, physicians, and other healthcare professionals is essential for public health departments to address the shortages of manpower that usually occur during a disaster. Schools and universities can be ideal spots for setting up shelters while schools of nursing can provide support with nursing students and nursing faculty.

Social marketing

Social marketing involves activities that incorporate marketing principles to influence the knowledge, attitudes, and beliefs of a specific population of interest.¹ Public health nurses must offer optimal care to the public by providing them with the most current information about a health event or disaster. Where and how to best disseminate information must be decided based upon the disaster situation or potential disaster situation. Logical sites to disseminate critical information can include town meetings, organizational meetings, and workplace environments. The most important thing to remember here is that all messages to the public must be clear and consistent with what all other officials are saying. Also, establishing a system where the public can communicate their concerns and needs is very important, a process that can easily help reduce fear and, potentially, loss of life.

CONCLUSION

Public health nurses will be able to provide optimal care during disaster situations if they are trained and educated appropriately. The Interventions Model can be utilized by public health nurses for planning and responding to disasters. Examples of selected interventions illustrate the many resources available to help prepare nurses for disasters while serving to open up a dialogue on critical issues.

More research and dissemination of appropriate information regarding how public health nurses can best manage and respond to disasters will help greatly to develop this emerging specialty of disaster nursing.

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