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A Web-Enhanced Simulation for Pandemic Disasters

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Background/Purpose: The terrorist attacks on 9/11 marked a shift in U.S. policy on disaster preparedness and response. The Office of Homeland Security was formed 11 days after the attacks. Homeland Security Presidential Directives (HSPD) were issued by then-President George W. Bush. HSPD-21: Public Health and Emergency Preparedness required the development of public health/medical preparedness plans and policies. As part of HSPD-21, the IOM was tasked with developing crisis standards of care; these were published in 2009. Nursing groups followed with white papers and position statements. Nursing organizations in the United States such as the American Association of Colleges of Nursing (AACN) and the National League for Nursing (NLN) advocate some form of disaster nursing education across all levels of nursing (AACN, 2006, 2008, 20011; NLN, 2013). The International Council of Nurses (ICN) developed a list of core competencies for disasters in 2009; the National Student Nurses' Association in the United States (2012) promoted the training and use of student nurses during disasters. Nurses lack confidence and adequate education to participate in disaster activities (Hanes, 2016; Locke & Fung, 2014). Training exercises enhance learning; however, full scale exercises are costly and often not feasible. Tabletop exercises are accepted, effective modes of learning frequently used in disaster education. As part a "stand-alone" disaster nursing course, I developed a web-enhanced pandemic simulation, reflecting one of the 15 National Response Framework Planning Scenarios. The purpose of this presentation it to discuss the development and conduction of that simulation in the context of social learning and nurse disaster preparedness.

Conceptual Frameworks: Pender's health promotion model; theories of social learning, Bloom's learning domains and composite cognition.

Methods: Various scenarios were reviewed for relevance to student nurses and for feasibility; the decision was made to use a web-enhanced tabletop exercise. Pandemic disaster was chosen because of its importance, applicability to nursing, and ease of presenting in this format. The scenario was developed using progressive simulated news reports, graphics, and unfolding cases. Students were "situated" in their own communities and were acting as nurses in their own neighborhoods to give them a more authentic, personal experience. Students were placed in groups of four at individual computers to progress at their own rates through the simulation and engage in group process; each student/group contributed to the exercise through submitting injects during the unfolding cases. Up to five faculty members or outside assistants were present as expert observers and in case students felt uncomfortable with the program. Students were asked to make decisions on preparation, quarantine, when and how to assist others, and disaster triage, including whether a key member of the "team" should die. Some scenarios were difficult and intense. A "hotwash" debriefing was conducted for both students and faculty at the end of the simulation. To date, approximately 150 pre-and post-licensure nursing students have participated in the pandemic disaster simulation as part of the larger disaster nursing course.

Results: At the debriefing, more than 93% of students felt that they were better prepared for a pandemic and for disasters in general. Students in different groups had different reactions to the scenarios ranging from "I could never let someone die" to "we don't have the means to save that person". Students were surprised at the level of social destruction in a pandemic. All said they were thinking about their own personal preparedness and how they would respond differently after being in the class and going through the scenario. Modifications were made to the simulation based on feedback.

Conclusions/Implications: During times of disaster, nurses are a critical component of our national response plan. National and international nursing organizations support disaster education in nursing.

Pandemics are terrifying disasters that will tax the healthcare system and require extensive planning, preparation, and training/exercises. The use of low cost simulations that are portable and require minimal equipment are an effective way to bring this important training to large numbers of student nurses leading to a better prepared workforce. Faculty need more training in the use of exercises for disaster education; additional practice opportunities with community agencies need to be explored.

Title:

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Keywords:

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Abstract Summary:

National and international nursing organizations support disaster nursing education. Pandemics are terrifying disasters that will tax the healthcare system and require extensive planning and preparation. Use of web-enhanced simulations are an effective way to bring this important training to large numbers of student nurses leading to a better prepared workforce.

Content Outline:

I. Introduction

- A. HSPD-21 directs public health and emergency preparedness
- B. Nursing organizations support disaster nursing education
- C. Nurses lack confidence and adequate education to participate in disaster activities

II. Body

A. Main Point #1: Web-enhanced pandemic simulation used in disaster nursing course

1. Supporting point #1: Table-top simulations accepted, effective teaching tool

a) *full-scale simulations/exercises costly and often not feasible*

b) *table-top simulations more portable and less costly*

2. Supporting point #2: Pandemic simulation relevant to nursing

a) *taxing to healthcare system*

b) *requires planning, preparation, and training*

B. Main Point #2: Simulations provide a more authentic learning experience

1. Supporting point #1: Students "situated" in "communities" acting as nurses

a) *groups of four-five allowed for more personal participation*

b) allowed to progress at their own rate to enhance critical thinking and decision making

2. Supporting point #2: Groups made decisions based on unfolding cases

a) engaged in group process to make difficult decisions such as quarantine and life/death decisions

b) submitted injects during scenarios

c) participated in hotwash debrief at end of simulation

d) overall felt it was an effective learning experience

III. Conclusion: Nurses are a critical component of our national response plan

- A. Need more training and disaster nursing education
- B. Need better prepared workforce
- C. Web-enhanced simulations are an effective training method
- D. Faculty need more education in disasters

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Professional Experience: Hanes has over 40 years of experience in critical care, emergency nursing, prehospital care, and nursing education. Education includes: disaster preparedness, emergency management, adult and distance learning and has an interest in disasters, disaster nursing, emergency management, curriculum, program planning, teaching/learning, teaching strategies, distance learning, and mentoring. Research in the areas of adult education, cognition, mentoring, and teaching/facilitative strategies, nursing history, and disaster nursing/preparedness and emergency management. She has certificates in Basic and Advanced Emergency Management from the Federal Emergency Management Agency (FEMA). Hanes' dissertation topic involved researching a new construct, composite cognition, as it relates to teaching/training of military combat nurses. Currently is director of MSN in Nursing Education program at Azusa Pacific University and is Medical Unit Leader on the Campus Incident Response Team. Developing courses in disaster education and conducting research in disaster nursing. Holds the Certified Nurse Educator (CNE) certification from the National League for Nursing.

Author Summary: Dr. Hanes is a professor of nursing and developer/director of the MSN in Nursing Education at Azusa Pacific University in Southern California. She developed and teaches disaster nursing

and emergency preparedness and has developed a disaster education program. She has graduate degrees in nursing; adult education and distance learning; and disaster preparedness and emergency management. Her research interests include nursing education and ways of learning; disaster-related topics, for example, nursing and wildfires; and nursing/medical history.