

SPOTLIGHT ON NURSING

Rapid Response: The Development of Just-in-Time Education for Nursing Clinicians and Students

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The Spotlight on Nursing is a recurring column from the Nancy Atmospera-Walch School of Nursing, University of Hawai'i at Mānoa (NAWSON). It is edited by Mary G. Boland DrPH, RN, FAAN, Former Dean of NAWSON; and Joanne R. Loos PhD, Science Writer for NAWSON.

Introduction

When the World Health Organization (WHO) declared the coronavirus disease 2019 (COVID-19) a global pandemic on March 11, 2020, the world knew little about severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the agent that causes COVID-19 disease. Health professionals, workers, and students were called to action to help slow the spread of a disease about which there was minimal knowledge. Many of them had little to no experience working with a novel pathogen, using/reusing isolation-level personal protective equipment (PPE), or dealing with acute shortages of PPE. Further, the public health principles of emergency preparedness and disaster response, including crisis standards of care, were unfamiliar to students, faculty, and practicing nurses. This column describes the rapid response of a public nursing school and its partners to develop, deliver, and evaluate just-in-time education for nurses and nursing students. The lessons learned from this experience will be useful to those developing just-in-time education in the first stage of a future pandemic.

Program

As the major public educator for entry-level and advanced practice nurses for the state of Hawai'i, the University of Hawai'i Nancy Atmospera-Walch School of Nursing (NAWSON), formerly the School of Nursing and Dental Hygiene, mobilized immediately. Nursing faculty rapidly developed an online, on-demand training program targeted to nurses and nursing students in Hawai'i and other states. In partnership with the Hawai'i State Center for Nursing (henceforth: Center) and the University of Hawai'i at Mānoa Outreach College, the faculty provided the expertise to develop, deliver, and evaluate program content in a modular format. The program, "Nursing During Pandemics-COVID-19," was designed to serve as an

easily accessible online training that did not require a large time commitment to complete. Content focused on the SARS CoV-2 pathogen, provided the basic principles of public health that guide pandemic response, outlined health care workplace safety practices, illustrated proper procedures for the use of PPE, crisis standards of care, and discussed responder stress. The Center ensured content integrity and supported the evaluation process. It also provided continuing nursing education (CNE) credits as an American Nurses Credentialing Center (ANCC) accredited provider of nursing continuing professional development. Outreach College provided the online platform to host the modules and managed registration.

The Planning Committee, which consisted of the partners described above, determined the target audience would be nurses and nursing students in Hawai'i, although the content could be applicable to nurses in other states. Two nursing faculty members with extensive clinical experience and expertise in global health, public health, emergency response, and disaster management developed the initial program. Content experts from nursing, medicine, and public health then reviewed each of the program's 4 modules (Table 1). Each module required between 30 and 60 minutes to complete, and the modules could be completed separately. Outreach College offered the online, asynchronous program at no cost to participants. The Center provided participants the option to receive CNE credit for successful completion of each module, which could be used toward continuing competency requirements for licensed nurses. The program launched on April 12, 2020 and was available online on-demand through April 11, 2021. Participants provided demographic information related to location upon registering and subsequently provided information about professional licensures or student status in the evaluation. Only participants who completed an evaluation and met minimum post-test scores received CNE certificates.

Table 1. Nursing During Pandemics-COVID-19 Curriculum Overview	
Objective	Content
Module 1 Basic overview of COVID-19 and public health response	
Upon completion of the module, the learner will be able to: <ul style="list-style-type: none"> Identify key concepts for epidemic or pandemic prevention, detection, response, and recovery Use COVID-19 as a case example for epidemics and pandemics Summarize how to work within the US Federal Emergency Management Agency (FEMA) Incident Command System (ICS) 	<ul style="list-style-type: none"> Pandemics: historical context and impact on social determinants of health and populations COVID-19: overview of SARS-CoV-2 epidemiology Sources of reliable information about the disease Details about the virus Basic principles of epidemiology related to pandemic detection and response Public health response Public health system emergency response
Module 2 COVID-19 infection prevention and worker safety	
Upon completion of the module, the learner will be able to: <ul style="list-style-type: none"> Identify strategies to assure their own safety and well-being while providing care in the health care or community settings 	<ul style="list-style-type: none"> General principles of infection prevention Health care worker safety strategies during pandemic response Proper use of PPE for COVID-19 PPE supply issues and strategies to conserve Crisis standards of care Health care worker self-care resources
Module 3 Concepts of epidemiology that inform nursing response during pandemics	
Upon completion of the module, the learner will be able to: <ul style="list-style-type: none"> Identify strategies for nursing care during pandemics and epidemics 	<ul style="list-style-type: none"> Key public health concepts related to prevention, detection and response for pandemics (community burden of disease terms, disease states, modes of transmission and chain of infection, reproductive number, and herd immunity) Screening and testing Nurses' strategies as part of a response team: pre-, peri-, and post-deployment, responder mental health protection Specific nursing roles in pandemics: contact tracing and case investigation, point of dispensing (POD) operations, triage, hotlines, mass care, and home care
Module 4 Practice, legal, moral issues and nursing preparedness	
Upon completion of the module, the learner will be able to: <ul style="list-style-type: none"> explain how to make a decision that is guided by legal and ethical principles and responsibilities explain how to assure personal and family preparedness 	<ul style="list-style-type: none"> Crisis standards of care Communication during difficult times Ethical considerations Serving as a volunteer Personal and family preparedness Moving on: expected impact of COVID-19 on individuals, families, populations, nations and the world

The committee piloted the program content with nursing students and faculty, making adjustments accordingly. Committee members consulted with all Hawai'i schools of nursing and their clinical practice partners statewide, who determined that these modules were essential to safe nursing practice. Every nursing school in the state required all 4 modules be completed prior to clinical education. The Healthcare Association of Hawai'i (HAH), the statewide organization representing hospitals, hospice, long-term care, and other healthcare organizations, also required health care students to complete module 2, which focused on PPE and worker safety, before entry into any clinical settings in the state. Some health care facilities also required completion of these modules by their staff.

Evaluation and Results

Across the 4 modules, 6538 certificates were earned. Overall, 84% of participants were in Hawai'i, 13% were in other US states or territories, and an additional 3% were international or of unknown origin. Slightly more than half (55%) were nursing

students. The vast majority of nursing students (96%) reported they were enrolled in Hawai'i nursing schools.

A 5-point Likert scale (from Strongly Disagree to Strongly Agree) was used for questions about meeting the module learning objectives. Overall the training program was rated very highly: at least 94% of participants agreed or strongly agreed that they met each objective. Table 2 provides a summary of the key learning objectives and the level of agreement indicating the objectives were met.

Participants answered open-ended questions to provide feedback about the program. Findings indicate the program was beneficial on multiple levels. Attendees noted that the program strengthened their knowledge about COVID-19. They also felt more prepared to keep themselves and their communities safe and healthy.

One participant wrote: *“Overall, [the training] was very helpful and informative regarding nursing responsibilities/roles,*

Table 2. Nursing During Pandemics-COVID-19 Module Objective Results	
Objective	N%
Module 1 Basic overview of COVID-19 and public health response (n = 1594)	
I am able to identify key concepts for epidemic or pandemic prevention, detection, response, and recovery.	Strongly Disagree 2% Disagree 0% Neutral 1% Agree 38% Strongly Agree 59%
I am able to use COVID-19 as a case example for epidemics and pandemics.	Strongly Disagree 2% Disagree 0% Neutral 2% Agree 36% Strongly Agree 61%
I am able to summarize how to work within the US Federal Emergency Management Agency (FEMA) Incident Command System (ICS).	Strongly Disagree 2% Disagree 0% Neutral 4% Agree 46% Strongly Agree 48%
Module 2 COVID-19 infection prevention and worker safety (n = 2032)	
I am able to identify strategies to assure my own safety and well-being while providing care in the health care or community settings.	Strongly Disagree 1% Disagree 0% Neutral 2% Agree 37% Strongly Agree 60%
Module 3 Concepts of epidemiology that inform nursing response during pandemics (n = 1427)	
I am able to identify strategies for nursing care during pandemics and epidemics.	Strongly Disagree 0% Disagree 0% Neutral 1% Agree 39% Strongly Agree 59%
Module 4 Practice, legal, moral issues and nursing preparedness (n = 1413)	
I am able to explain how to make a decision that is guided by legal and ethical principles and responsibilities.	Strongly Disagree 1% Disagree 0% Neutral 2% Agree 41% Strongly Agree 56%
I am able to explain how to assure personal and family preparedness.	Strongly Disagree 1% Disagree 0% Neutral 2% Agree 40% Strongly Agree 57%

preparedness and safety during the COVID-19 pandemic. These modules helped to further my knowledge as this information is beneficial and can assist me in my nursing career.”

Another participant stated: *“This module was engaging because it was giving real world examples of what a person might actually say. The information presented seemed very relevant to what’s going [on] right now and made me feel prepared for a possible similar situation.”*

Discussion and Implications

Expedient implementation of this program supported professional development of Hawai‘i’s nursing workforce (including students) as they responded to the COVID-19 pandemic. The

program standardized basic information, established shared goals for education and emergency response, and validated shared decision-making for the statewide nursing academic-practice community in a time of great uncertainty.

By quickly responding to knowledge and skill gaps, the program helped to establish a statewide baseline for nursing students, faculty, and nurses engaged in COVID-19 response in clinical settings. It clarified standards of practice for nursing personnel safety and public health response. The program also provided a starting point for nursing education and practice partners to develop shared clinical re-entry requirements after nursing students’ clinical experiences were suspended during the initial months of the pandemic.

Conclusion

Swift development of nursing education materials supported learner needs and facilitated a collaborative and responsive environment among partners in a geographically isolated state. Outcome measures designed to assess the broad dissemination and educational value of the modules validated statewide engagement within the clinical education setting and provided valuable data related to students' self-assessed achievement of module objectives.

National and local attention to these modules, including by the HAH and recognition as an exemplar by the American Association of Colleges of Nursing (AACN), attracted additional users and expanded the program's reach and impact. The program was retired after 1 year due to the emergence of new evidence and increasing availability of comparable training.

The program's success demonstrated that the rapid development of online learning materials is a successful strategy for providing just-in-time training for nurses, nursing students, and other health care students and practicing professionals in the emergent phase of a global pandemic. Further, the online dissemination of free materials provides immediate access not only to the Hawai'i target audience but also to enrollees from around the globe seeking information during the initial phase of a global pandemic. The lessons learned from this effort can be used to guide just-in-time training during the emergence of future pandemics.

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Note: KQ worked as the Associate Dean for Research at NAWSON during the implementation of the program described here

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