A NARRATIVE APPROACH TO UNDERSTANDING NURSE EDUCATORS' EXPERIENCES OF TEACHING DISASTER NURSING TO UNDERGRADUATE NURSING STUDENTS IN ONTARIO

By

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Abstract

Disasters across the globe occurring with increasing frequency and devastation require an immediate response to mitigate social and economic upheaval. Nursing plays a key role in disaster management from beginning to end: prevention, preparedness, response, and recovery. Unfortunately, nurses are unprepared to manage disasters, mainly due to a lack of knowledge and experience. Although nursing literature recommends incorporating disaster nursing (DN) education into international undergraduate nursing curricula, few studies discuss how to implement such curricula; and worse, I found no studies based in Canada even though Canadian nursing regulatory bodies require competence in DN of entry-level nurses . My study aimed to explore nursing educators' experiences of teaching DN to help me understand what, when, and how nurse educators teach this important subject. Understanding the current practice of teaching DN helps to improve existing teaching methodologies and produce a more prepared nursing workforce. Using a qualitative narrative inquiry mainly guided by Clandinin and Connelly (2000), my research study includes the stories of two nurse educators who shared their unique experiences of teaching DN in Canadian nursing schools. Participants were interviewed twice, and data was analyzed using the three-dimensional narrative inquiry space of time, sociality, and place. While the findings of this study are consistent with the literature that DN education is taught in the community health course, findings also point to its inclusion in the context of the medical surgical course. This study also highlighted how nurse educators teach DN in Ontario, Canada, and key challenges they encounter including lack of DN knowledge, time, and teaching resources. One surprising interpretation of the narratives was the limit of educators' knowledge and how their experience may restrict their awareness of the need to expand their DN knowledge and expertise.

Co-Authorship

This thesis is the work of Heba Al Jelban in collaboration with:

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Dedication

I would like to dedicate this work to my dad , mom and my husband. Your constant support provided me with patience, strength and determination to overcome many difficulties. Thank you and I love you so much.

Aknowledgment

I am indebted to many wonderful people who provided support and encouragement to me these past three years.

Thank you, Deborrah for being my supervisor and being always there for me. Thank you for everything you taught me up to the end of this journey. Thank you for being patient with me throughout all phases of this process.

Dad, thank you very much for leaving everything behind and support me financially and emotionally. Mom, my heaven, you may not be able to read this, but thank you for your prayers , care and love.

My lovely husband, Kareem, we have grown and learnt so much together during these years. I love you so much, this accomplishment would not taste as great without you. Although, you were working on your degree too, you were always there for me doing the impossible to help and make me feel better. Also, I want to thank my father and mother in-law for supporting and encouraging us, I could not have chosen better than you to be my second family.

My friends, Nadine and Norah, thank you for withstanding my grumblings and empathizing with me.

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Table of Contents

List of Figures

Glossary

Disaster: "A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources" (United Nations Office of Disaster Risk Reduction (UNISDR), 2017, para 20).

Emergency: An unexpected event that exceeds local capabilities, interferes with normal procedures, and can deteriorate into a disaster if urgent action is not taken (Tichy, Bond, Beckstrand, & Heise, 2009).

Emergency preparedness: "The comprehensive knowledge, skills, abilities, and actions needed to prepare for and respond to threatened, actual, or suspected chemical, biological, radiological, nuclear or explosive incidents, man-made incidents, natural disasters, or other related events." (Slepski, 2005, p. 422).

Disaster Management (DM): The process of preparing for, mitigating, responding to, and recovering from a disaster to lessen the impact of it (UNISDR, 2017).

Disaster Nursing (DN): "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" (Jennings-Sanders, Frisch, & Wing, 2005, p. 80).

Chapter 1: Introduction

> Rooted in ancient history, storytelling was God's idea. God knew that if a thought or concept was going to take root in a person's mind, it was best communicated through story…Years later, when Jesus walked on earth, His primary teaching method was storytelling. When He wanted us to understand the concept of grace, He told the story of the prodigal son (Luke 15:11-32). When He wanted us to understand the power of love, He told the story of the good Samaritan (Luke 10:25-37). And when He talked about the kingdom, He told the story of the mustard seed (Matthew 13:31-32). Why? Because stories stick! (Harling, 2020, p. 146)

In this chapter, I will reflect on my personal experience and my position as a researcher with respect to the research topic. Next, I will explain the research problem, the purpose of this research, the primary research question, and secondary research questions.

Personal Narrative

Prologue: Meet Heba

My name is Heba, and I am a graduate student at Queen's University. From a very young age, I attended religion classes at school in Saudi Arabia, where I grew up. During these classes, we were assigned to read specific sections of the scriptures from the Holy Quran. After we read the scriptures independentaly, the teacher provided explanations and interpretations. At the end of each class, the teacher asked us what we understood and what we learned from our readings. I remember always liking stories, and my experience in religion classes reinforced in me the power of stories to create and recreate a meaning. So, you can see how from a young age I learned how to make meaning from stories, which has been an important part of my nursing practice.

I am currently completing my Masters of Nursing Science, focusing on disaster nursing (DN) within undergraduate nursing education. I describe myself as a curious person who became a nurse in the emergency department because I like a lot of variety in my life, and I don't like to

do the same thing day after day. Also, I appreciate the fast-paced emergency department (ED) environment and the adrenaline rush that comes with the variety of patient care requirements you experience every day. I liked not knowing what to expect the following day at work. This is why I chose the emergency and accidents department to be my elective area of interest and where to work after I graduated. After three years working in the ED, I decided to pursue graduate studies as I wanted to expand my skills and knowledge.

Plotline 1: Clinical Experience

I hold a Bachelor's of Science in Nursing degree from Saudi Arabia. During my fifth year at nursing school, I was working as an intern within an emergency department when a mock disaster fire drill took place. During the drill, I saw how the people leading the drill were holding walkie talkies and trying so hard to get the most out of this training session. My preceptor was focused on stabilizing patients and then maneuvering them toward the exit of the building and away from the burning fire. Although there was no preparation for this drill, most nurses seemed to know how to respond to this type of incident. I was fascinated by the way they were organized and excited to practice the drill. Meanwhile, it seemed to me that the novice nurses experiencing this for the first time looked lost, helpless, and unaware of how they should respond and engage in the drill. At that moment, I realized that I was soon going to be like these novice registered nurses and that I too would not know my role and responsibility in response to a disaster situation. I was quite sure that I knew less than these nurses, and hence, I would be even less prepared than they seemed to be. I felt that I would be ineffective in safeguarding my patients and that I would not know how to contribute to the team meaningfully. While holding the exit door so people could evacuate smoothly, I was wondering why nursing students do not have

disaster learning opportunities. This brief experience sparked my interest in researching education focused on disaster preparedness among undergraduate nursing students.

After I completed my internship and took my graduation certificate, I was hired as an ER nurse at one of the military hospitals in Saudi Arabia. During the orientation, I was taught about the different emergency response codes. In the ED, I was seeing labels with roles written on them hung on the board next to the nursing station. I asked the charge nurse who told me these are disaster roles and responsibilities and explained what they mean. That was interesting to know, but soon I forgot all about it. I was not expecting any of these disasters to happen. One day when I was off duty, a disaster occurred in my area with approximately ten fatalities in an underground construction zone. The day following the disaster, I returned to work, and everybody was talking about the experience and how overwhelmed the hospital was. The nursing director had to discharge some of the emergency patients or refer them to the clinics to accommodate the casualties. It was chaotic. As much as I hated for this incident to have happened, I wanted to be there and be part of this experience myself.

During my experience in that hospital, we frequently practiced Advanced Cardiac Life Support and Pediatric Advanced Life Support simulations where I learned a great deal. After a few years, I moved to another hospital within the same region. This hospital had a busier emergency department with a capacity of thirty-four plus beds. In preparation for this move, I attained nursing trauma certification through the Trauma Nursing Core Course. I felt the transition from being an advanced beginner to a competent nurse. I practiced a wide range of skills that I had always wanted to perform. I was taught how to check resuscitation room devices and equipment and how to be part of the response team should an incident happen. I was introduced to the different types of tagging systems and the premade disaster or stat chart. These

charts are premade for disaster victims with a pre-designated medical number, so it can be assigned to them automatically or immediately. Nurses were required to complete a number of courses such as fire safety awareness, infection control, and emergency air evacuation protocol.

In terms of personal work experience related to trauma care, I was employed as an ED nurse during the Middle East Respiratory Syndrome (MERS) Coronavirus outbreaks in 2012 and 2016. This virus is transmitted from camels to humans. During this time, most hospitals designated only a few rooms for individuals experiencing signs and symptoms of MERS. The nurse taking care of the isolation rooms must have current knowledge on infection control principles such as the proper methods of donning and doffing, identifying different types of precautions, specific measures to prevent the transmission of infections, and nursing skills such as specimen collection.

After this experience, I became so interested and curious about professional-development in the area of emergency nursing and anything related to this specialty. I chose DN because I know so little about it. I feel I received minimal nursing education in this area, and my knowledge relied on work experience. Therefore, I am here seeking to learn more about this field, understand the gaps in the related literature, and thereby contribute to preparing an generation of nurses educated in disaster management.

Plotline 2: Teaching Experience

I decided to focus my masters thesis on disaster management from the nursing perspective, as I was very interested and ready to prepare myself to be an expert in this field. I identified many gaps in the literature, and was surprised by the lack of published scientific papers in Canada. I was uncertain where to begin my research so I started by asking faculty and student colleagues about how nurse educators teach DN in Ontario, Canada. I wanted to know

when and how nurse educators are teaching DN to undergraduate nursing students. After much consideration and examining possible approaches, I decided to conduct a study to look at the experiences of teaching DN to undergraduate nursing students.

During my second year of the masters program, a faculty member heard about my research topic and invited me to provide a lecture on DN as a guest speaker. I was encouraged to share my knowledge from my research and to discuss how I am approaching my research plan. This was an overwhelming experience as I struggled to best convey this knowledge. I prepared the material for the lecture and asked the faculty member to distribute resources for the students to read in advance of the lecture. I tried to gather everything I know about DN and prepared ways to deliver the content in ways that made it relevant and interesting to undergraduate nursing students. The lecture objectives included: (1) define disasters, (2) identify types of disasters, (3) understand the impact of disasters, (4) identify phases of disasters and nurses' roles in each phase, (5) define disaster nursing, and (6) explain personal preparedness. In addition to the lecture, I organized an activity for students to apply knowledge learned during the class. I was very excited to have this opportunity to share my interest in disaster nursing.

At the outset of the lecture, I shared my story about how and why I started to focus on DN for my thesis research. During the lecture, I used readings, videos, case studies, and National Council Licensure Examination (NCLEX) type questions. Despite all of my planning, preparation, and excitement, I found it difficult to engage students during the lecture. To be honest, I could not really capture their attention, although I had enormous amounts of pictures and graphs. I tried to minimize the amount of typed words on the PowerPoint slides, to the point where I had a caricature between the slides as a way to make them laugh and keep their attention.

I incorporated two DN frameworks, the International Council of Nurses (ICN) framework. and the Jennings DN Management Model, both of which were included in their preparatory readings. I linked some of the related College of Nurses of Ontario entry-level competencies and played a funny video on the importance of being prepared. At the end of the lecture, I shared a fictional scenario in a small community consisting of three phases: pre-disaster, during a disaster, and post-disaster; and I asked students to identify the different roles a nurse can take in each of these phases. I think that only half of the class participated in the discussion, and at the end of the lecture, one of the students commended me for my efforts to teach the content in an engaging way. She was so excited to know more of this field and asked me how and where she could find more resources. I was excited to be able to direct her to more information.

Plotline 3: Learning More

Nurses are required to be prepared for disasters not only to provide a high standard of clinical care but also to work within difficult conditions that involve ruptured systems and scarcity of resources. My experience and interest in the field of DN showed me how nursing education around this area is lacking. I was looking for more disaster management training for nurses but found it hard to locate standalone courses or certificates. The fact that I received no education during my undergraduate studies on DN makes professional-development in DN and/or teaching its content very difficult. Experiencing a disaster is rare; therefore, education is imperative.

Through my work, I would like to highlight the importance of developing international educational opportunities for nurses who are interested in working in the context of disaster nursing. Having more educational opportunities will strengthen available nursing education and

support a deeper level of DN integration in undergraduate nursing education because teaching this topic requires both experience and knowledge. If educators lack experience in providing nursing care during disasters, then they need to possess the current knowledge on this topic.

Through the exploration of research conducted in this area, I have become even more aware of the need for standard DN education, including the introduction of learning objectives and more focused entry to practice competencies that address disaster nursing.

Epilogue

I became aware of the extent of my experience and knowledge gaps as I began to work on my reflexive statement that is an integral part of this study's narrative method. In attending to my personal story, I realized both the depth of my knowledge and those areas requiring further development. My initial experience with a mock drill disaster during the final year internship of my undergraduate program sparked my interest in disaster nursing. Upon reflection, I realized that I felt lost and had no idea what my role was during the drill. My experience highlights the importance of having specific DN education so novice nurses do not feel lost and unprepared. During my clinical experience, I witnessed a significant gap between what I was taught and what was needed in clinical practice. This experience has profoundly touched me and encouraged me to look at it closely during my graduate studies. I also reflected on how challenging it is to teach DN and engage students. Situating myself within the research has helped me to contribute authentic insights into teaching disaster nursing.

Problem Statement

In the past ten years, almost three billion people have been victims of natural disasters (World Health Organization (WHO), n.d.). The United Nations International Strategy for Disaster Risk Reduction (UNISDR) defined a disaster as "a serious disruption of the functioning of a

community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources" (UNISDR, 2017, para 20). It can also be defined as an event that might end the lives of ten or more people, an event that has an impact on the lives of one hundred or more people, an event that requires help from local or external authorities, or an event that results in chaos and destruction that is hard for a community to heal from (Public Safety Canada, 2017). It can be natural, such as earthquakes and floods), man-made such as explosions and radiological emergencies (e.g., 2020 Beirut Port's explosions), or other incidents such as pandemics (e.g., Spanish influenza, Cholera, and HIV) and epidemics (e.g., Severe Acute Respiratory Syndrome and Yellow Fever). Examples of recent disasters occurring within the last ten years in Canada include but are not limited to the explosion of a train carrying crude oil in Lac-Mégantic, Quebec in 2013 which killed forty-two people, and the Outbreak of Legionnaires' disease in Quebec City in 2012 that infected one hundred eighty people and killed thirteen. Most recently, the pandemic of Corona Virus Disease 19 (COVID-19), and wildfires in British Columbia during the summer of 2017 were the largest in the province's history with the largest total area burnt and the largest number of total evacuees (Public Safety Canada, 2017).

Disasters are unexpected and overwhelming. They require governmental and non-governmental institutions to demonstrate awareness, preparedness, and competent management. Non-governmental institutions include emergency responders, healthcare providers, police, political leaders, and individual citizens (ICN & WHO, 2009). When a disaster happens in Canada, local authorities must respond first. If the disaster is beyond the capacity of local resources to manage alone, they may declare a state of emergency and seek assistance from the provincial government. Emergency management strategies are often coordinated by

governmental and non-governmental organizations (Ministry of Community Safety & Correctional Service, 2016). Should the combined resources of the local and provincial governments be insufficient to cope with the disaster, the federal government may provide additional support as needed (Public Safety Canada, 2017). Through Public Safety Canada, the federal government is responsible for developing DN plans and identifying unsafe situations in their space of authority, as dictated by the Emergency Management Act (Public Safety Canada, 2017). Agencies such as police, fire, the Canadian Red Cross, and the healthcare sector are involved. As nurses represent the largest group of healthcare providers, they have responsibilities at all levels of government and in all kinds of organizations (e.g., educational, professional, governmental, and union). These responsibilities include having knowledge about nursing roles in all phases of disaster, working collaboratively with other interdisciplinary professionals involved, offering effective nursing services, and contributing to the development of disaster plans (Canadian Nurses Association, 2012).

Natural and man-made disasters frequently occur throughout the world and necessitate an immediate and organized response from healthcare providers. Since nurses represent the majority of the healthcare workforce, they are required to possess the skills to respond to and manage disaster situations (International Council of Nurses (ICN) & World Health Organization (WHO), 2009). Unfortunately, previous research has demonstrated that they are often ill-prepared in practice, which may be due to a lack of education and experience in managing disasters (Labrague et al., 2017). DN literature appears to agree that DN content should be incorporated into undergraduate (UG) nursing curricula (Achora & Kamanyire, 2016; Al Khalaileh, Bond, & Alasad, 2012; Duarte & Haynes, 2006; Littleton-Kearney & Slepski, 2008; Wilkinson & Matzo, 2015). However, recommendations about how and when DN education should be taught in

Canadian settings are lacking. This is problematic as there is a gap between what is expected from entry-level nurses as outlined by the College of Nurses of Ontario Entry-to-Practice Competencies for Registered Nurses (College of Nurses of Ontario (CNO), 2014) and what DN content is being delivered in UG nursing programs. To address this gap, this study will explore nurse educators' experiences of teaching DN education in UG nursing programs in Ontario, Canada. Our findings will provide valuable insights in order to enhance students' learning and competence in this area by discovering a variety of approaches used by nurse educators to enhance DN competency for the purpose of creating a more prepared nursing workforce.

Research Purpose

The purpose of this study is to explore nursing educators' experiences of teaching DN. Understanding nurse educators' experiences with teaching DN helps to develop educational opportunities and enhance students' preparedness for practice. Nursing students are the future nursing workforce, and we need to provide them with knowledge and skills in this area so that they are prepared to respond to future disasters. This study aims to develop a deeper understanding of the opportunities and challenges of teaching DN to UG students. It will also inform nursing educators, clinicians, and administrators about ways that they can help prepare nurses in the area of DN and how DN can be incorporated into all levels of nursing curricula.

Research Questions

The following primary research question guided this study: What stories do nurse educators tell about teaching DN in UG nursing programs?

Secondary research questions include the following:

1. What DN competencies do nurse educators focus on when they teach nursing students?
2. What teaching and learning strategies are used to teach DN?

3. What are the key challenges to the integration of DN into UG curriculum?

Chapter 2: Literature Review

In this chapter, I will provide a review of the literature that focuses on the integration of DN into UG nursing curriculum and nurse educators' experience and perceptions of teaching DN to UG nursing students. First, I describe the search strategy. Next, I present literature that discusses the importance of nurses' role throughout all phases of a disaster. After this, I review two DN frameworks, followed by a review of the level of evidence that indicates nurses' overall preparedness in the area of disaster nursing. The chapter concludes with the strengths and gaps found in the literature.

Search Strategy

I conducted the literature review using the following databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medical Literature Analysis and Retrieval System Online (MEDLINE), Nursing and Allied Health, and Google Scholar. I searched databases using a combination of terms and initial Medical Subject Headings. I employed terms such as "disaster," "emergency" and variations thereof, "perceptions," "experiences," "nurse educators," and "nursing faculty," "disaster nursing," "undergraduate nursing curricula," and "nursing education.". I limited the search to the English language and restricted it to literature published between 2004 and 2020. The reason I chose the year 2004 to begin my search with is because I believe that after the events of September 11, 2001, there was a high peak in the number of published papers on DN for at least 5 years after the attacks.

Once I had retrieved articles through the initial search of the databases, I used ancestry searching to uncover additional sources, including both grey literature and seminal paper. I retrieved papers utilizing a variety of research methodologies. I considered DN studies at an international level because few research studies exist in Canada, including qualitative and

quantitative, discussion, and published paper presentations. I compared similar studies from different angles including research purpose, methodology, and findings. The search was devided to two parts, searching for studies of all types on nurse educators perceptions regarding disaster nursing and searching for studies on how disaster nursing is taught to undergraduate nursing students. Seven examplars were found on how nurse educators teach disaster nursing (2 from USA, one study from each of Turkey, Australia, China, Indonesia, and Canada) and four studies on perceptions, experiences, or knowledge of nurse educators regarding DN (2 studies from USA, one comparative study between both Japan and Turkey, one from Australia). All of the exemplars were quasi-eperimental studies and all of the studies on nurse educators perceptions related to DN were descriptive surveys. I excluded studies using simulation or any other teaching methodologies for developing competency in *specific* area of DN. Only studies described how DN could be taught to undergraduate nursing students were included.

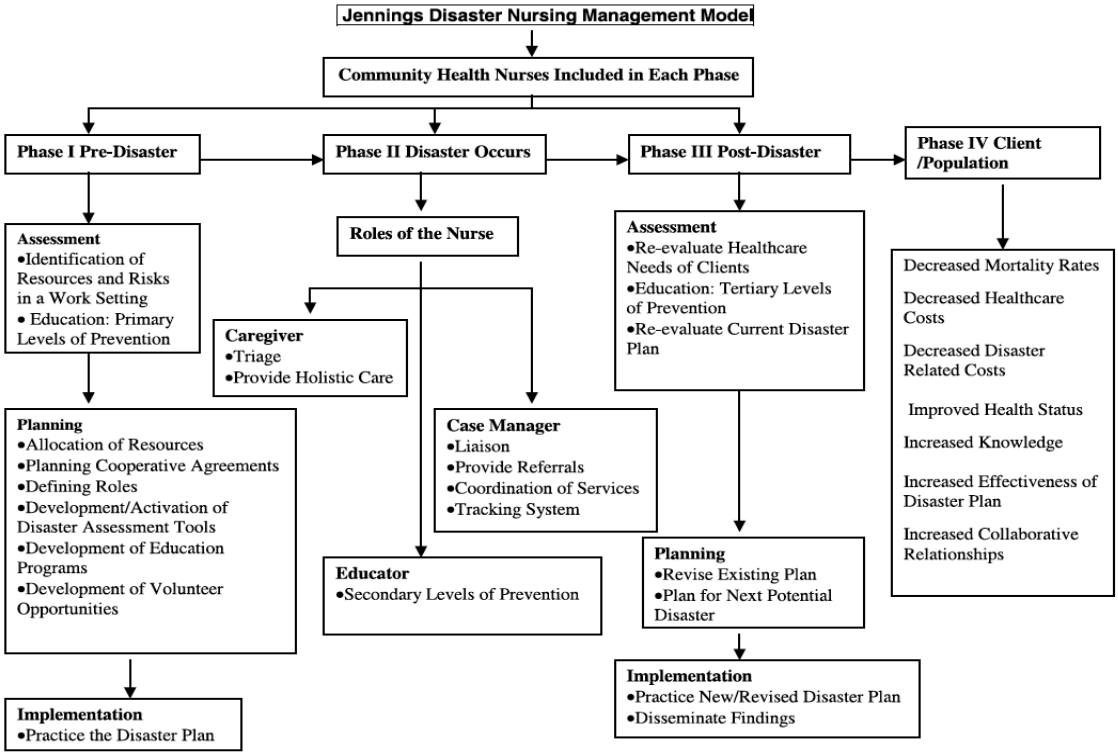
Nurses as Key Players in Emergency Management

Hospitals have always been the initial destination for victims of disaster (Whetzel, Walker-Cillo, Chan, & Trivett, 2013). Since nurses represent the majority of frontline healthcare providers in hospital settings, they play a vital role in responding to disasters as well as coordinating disaster preparedness and management (ICN & WHO, 2009; Loke & Fung, 2014).

Nurses are involved in pre-disaster planning, disaster response, and post-disaster follow-up as shown in the Jennings DN Management Model (Figure 1). This framework was created to help community health nursing students understand different nursing roles in DN (Jennings-Sanders, 2004). As illustrated in the framework, nurses have a role in the four phases of disaster management, including assessment, planning, and implementation both before and after a disaster happens, as well as during disaster recovery. To respond appropriately, nurses must be adequately

educated and possess the knowledge and skills for DN. This improves victim outcomes and ensures that nurses are protected from the risks associated with disaster response (Fung, Loke, & Lai, 2008; Gebbie & Qureshi, 2002; Stanley, 2005). This framework is a useful DN teaching and learning resource, as it is a way to demonstrate different roles that can be taken throughout all phases of a disaster and how these roles can contribute to varying outcomes, including decreased mortality rates and healthcare costs.

Figure 1. The Jennings Disaster Nursing Management Model (2004)

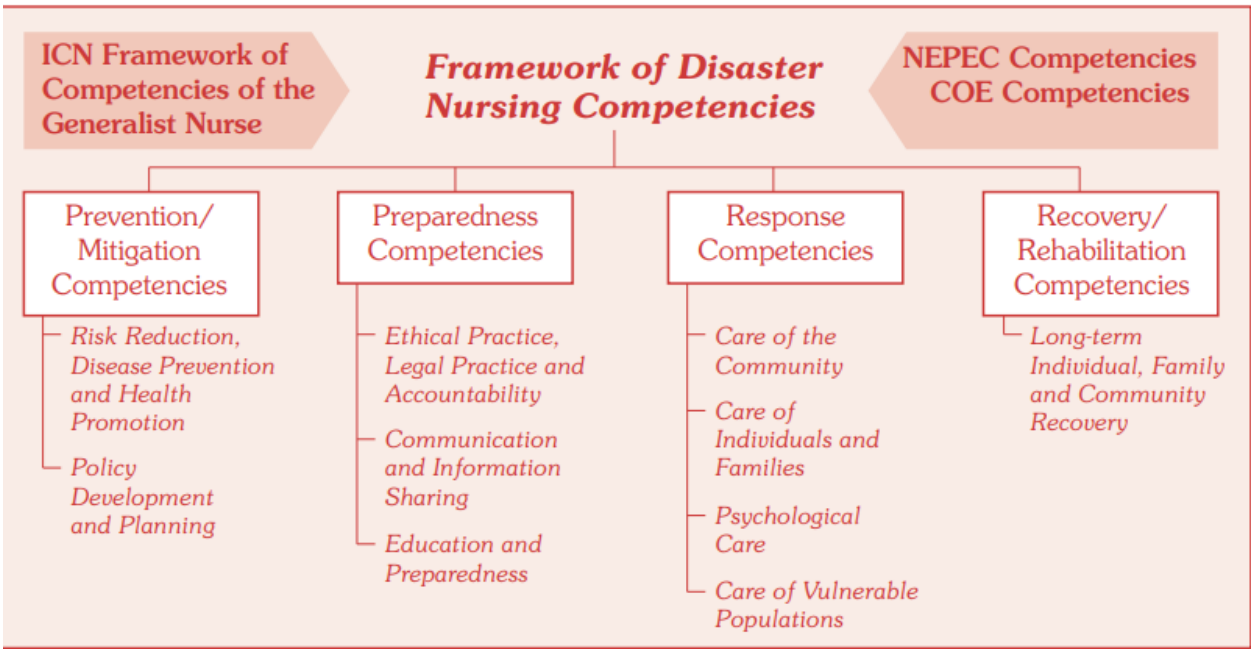


Disaster Nursing Frameworks

In 2009, ICN and WHO launched a framework of DN competencies to assist educators (ICN & WHO, 2009). The ICN framework divides DN competencies according to disaster

phase: pre-incident, incident, and post-incident (See Figure 2). The pre-incident phase includes prevention/mitigation and preparedness. The incident phase encompasses the period of time during which the disaster occurs. The post-incident phase is meant to repair and recover any lasting damage done to the people and infrastructure, often requiring rehabilitation and reconstruction (ICN & WHO, 2009). Within the four phases, competencies were arranged under ten domains as follows: 1) risk reduction, disease prevention, and health promotion; 2) policy development and planning; 3) ethical practice, legal practice, and accountability; 4) communication and information sharing; 5) education and preparedness; 6) care of the community; 7) care of individuals and families; 8) psychological care; 9) care of vulnerable populations; and 10) long term recovery of individuals, families, and communities (ICN & WHO, 2009).

Figure 2. ICN Framework of DN Competencies (ICN & WHO, 2009).



* COE: Center of Excellence; ICN, International Council of Nurses; NEPEC, Nursing Emergency Preparedness Education Coalition.

A recent review of this framework was conducted in 2014 to assess its use and to gain feedback from nursing organizations and interdisciplinary health organizations (Hutton, Veenema, & Gebbie, 2016). Surveys were sent to disaster groups that might have had nurse members who participated in disaster management in the past. With an overall response rate of 57 percent (20/35), 60 percent of the respondents thought the framework was helpful for training and educational purposes. Thirty percent of the respondents believed the listed competencies were too advanced for entry-level nurses. Participants suggested adding competencies directed at the psychosocial health of nurses and their coworkers throughout the DN continuum as well as adding the impact of disasters on public health (Hutton et al., 2016).

Chan et al. (2010) used the ICN framework to develop and assess the learning outcomes of a two-week introductory course about disaster preparedness designed for nursing students. They reported that the ICN framework for DN competencies was useful in developing the DN curriculum, guiding the teaching process, and evaluating learning outcomes. Each domain was taught separately using different learning and teaching strategies such as role play, lecturing, and group work.

Despite attempts to establish universal competencies for DN in nursing, a uniform approach to the delivery of disaster education does not exist across institutions (Currie, Kourouche, Gordon, Jorm, & West, 2018; Jose & Dufrene, 2014). This is a pressing issue as the purpose of including disaster education within UG curricula is to prepare and provide students with disaster response-entry-to-practice level skills and knowledge, as mandated by regulatory bodies such as the College of Nurses of Ontario.

The Level of Nurses' Preparedness for Disaster

Labrague et al. (2017) conducted a systematic review of seventeen articles published between 2006 and 2016 that examined nurses' preparedness for disasters. Most of the studies utilized descriptive or cross-sectional designs. The review identified that post-licensure RNs often felt unprepared to manage disasters (Labrague et al., 2017). One of the studies this review included is a cross-sectional study, Al Khalaileh, Bond, and Alasad (2012) surveyed 474 nurses of different specialties from five different hospitals in Jordan (two university hospitals and three general hospitals) regarding their knowledge, skills, and readiness for DN using the Disaster Preparedness Evaluation Tool (Tichy et al., 2009). Approximately 70 percent of nurses felt unprepared in their roles related to managing disasters. In another study, Fung et al. (2008) surveyed 164 nurses in Hong Kong about disaster management. Ninety-seven percent of the nurses who responded to the survey reported that they did not have the confidence needed to respond to disasters adequately. Also, in an exploratory, cross-sectional study conducted in the United States, 60 percent of the surveyed nurses (n=565/941) did not have the confidence to respond to a bioterrorism disaster if it should happen (Jacobson et al., 2010). Nurses feel unprepared to manage disasters due to several barriers, including lack of knowledge (Littleton-Kearney & Slepski, 2008), experience, and training (Labrague et al., 2017).

Incorporation of Disaster Education in Nursing Curriculum

In response to the frequency of disasters and the need for a prepared nursing workforce, many nursing schools around the world continue to incorporate disaster education in their curriculum, including in Australia, USA, Turkey, and China (Chan et al., 2010; Ireland, Ea, Kontzamanis, & Michel, 2006; Kalanlar, 2018; Kaplan, Connor, Ferranti, Holmes, & Spencer, 2012; Usher & Mayner, 2011). DN is primarily introduced within the undergraduate community

or public health nursing courses (Fountain et al., 2014). Although rare, DN can be offered as a stand-alone elective course (Oztekin, Larson, Altun Ugras, Yuksel, & Savaser, 2015).

The literature identifies a variety of instructional approaches to deliver DN education. The most frequently utilized pedagogies are face-to-face classroom learning, Internet-based learning, learning activities such as table-top exercises, which "involves convening key emergency response personnel to discuss a simulated or imaginary emergency situation" (WHO, 2018, para, 5) role playing, and/or disaster simulation (Jose & Dufrene, 2014). The use of simulation in disaster education can include utilizing low or high-fidelity simulators such as task trainers (e.g., intravenous insertion arms) or computerized manikins. Low-fidelity simulation activities can simulate disastrous events without the use of technology and often include role playing and mock disaster or disaster drills (Jose & Dufrene, 2014).

Duarte and Haynes (2006) interviewed three professional nurses experienced in disaster preparedness and response by using three questions: "(1) What methods should be used to implement disaster education in nursing school curricula? (2) Who should be the target population of disaster education curricula? (3) What information is deemed integral to the educational needs of nurses with regard to disaster preparedness?" (Duarte & Haynes, 2006). The professional nurses agreed that disaster education should be delivered with increasing complexity as students progress through the program (Duarte & Haynes, 2006). In regard to the methods used to implement disaster education, they did not identify a certain method; rather, they indicated that methods are chosen based on the content included in the nursing curriculum. Also, disaster education should be delivered to all nurses and not reserved for specific nursing specialties, as all nurses with varying backgrounds should have the skills and knowledge to respond to disasters (Duarte & Haynes, 2006).

The published literature contains limited examples on how disaster education can be incorporated into UG education. However, three examples that are especially relevant to the current study are explored in this and the next two paragraphs. First, Kaplan et al. (2012) developed a disaster simulation called "tornado-ravaged assisted living facility" in collaboration with students, academic faculty, community health organizations, and government in Atlanta, Georgia. In advance of the simulation, DN competencies related to planning, responding, and triaging were taught via didactic lectures offered over ten hours in a classroom setting. Through this training, students were able to develop essential skills such as critical thinking, communication, and teamwork (Kaplan et al., 2012). Evaluation of student performance was not the focus of this intervention; the purpose of the simulation was to familiarize students with the concept of disaster and develop their skills should a similar disaster happen. Post simulation, students were given a series of eight questions to rate their experience on a five-point Likert scale that ranged from strongly disagree to strongly agree. Responses were very positive, with mean scores above 4.04 for all items. The lowest mean score was for "prompting realistic expectations," which refers to how the simulation encouraged a realistic response. Ninety-five percent of the respondents agreed or strongly agreed that the disaster simulation was useful to gain more knowledge and develop new skills to provide care during a disaster (Kaplan et al., 2012).

In China, Chan et al. (2010) developed and implemented a two-week introductory course to train 150 nursing students (n=30 graduate students and n=120 senior UG students) about disaster response based on the ICN framework and the Global Standards for the Initial Education of Professional Nurses and Midwives. Four types of instructional methods were used to develop the outlined competencies. These included "action learning" where students choose an activity.

Activities ranged from using artistic artforms where students work with their hands on a disaster-related project; “problem-based learning,” solving disaster-related problems such as developing a disaster plan to lessen the impact of the disaster on settings that provide special services to the vulnerable population; “skill training,” workshops to enhance psychomotor skill practice, and lecturing. For example, one lecture addressed how to make ethical decisions in disasters to facilitate developing ethical and legal practice and accountability competencies. Moreover, to acquire recovery-rehabilitation competencies, role playing was used as a problem-based learning approach (Chan et al., 2010).

The third example examined the effect of a scenario-based course on senior year nursing students’ (n=75) awareness, knowledge, and preparedness for disaster through a quasi-experimental study conducted in Ankara, Turkey (Kalanlar, 2018). The Jennings-Sanders Framework and ICN DN continuum were used to develop the course material. The study engaged in role-playing, watching video clips on DN, lecturing, and a visit to an earthquake simulation center. However, specific instructional strategies in the intervention arm were not described. Students in the experimental group attended lectures for two hours per week for fourteen weeks. The control group was not offered any intervention. During the first week, students received a two-hour introductory class. Four hours were devoted to assessing students in both groups by offering pre- and post-intervention tests. Six hours were devoted to the Pre-Disaster Phase, six hours for the Disaster Phase, four hours for the Post-Disaster Phase, and six hours for the Client/ Population Phase. For example, in the Pre-Disaster Phase, students learned about disasters and how to assess resources and risks, while in the Disaster Phase, students learned about the different roles and duties nurses can take. The treatment group showed a

significant increase in their knowledge about disaster nursing in the final post-test compared to the control group (Kalanlar, 2018).

Perceptions of Nurse Educators/Nursing Faculty

Few studies explored perceptions, experiences, or knowledge of nurse educators and nursing faculty regarding DN (Oztekin et al., 2015; Usher & Mayner, 2011; Weiner, Irwin, Trangenstein, & Gordon, 2005; Whitty & Burnett, 2009). One study explored Japanese and Turkish nurse educators perceptions of their background and information about disaster preparedness and response (Oztekin et al., 2015); one surveyed nurse educators' opinions on the content used to teach disaster education to nursing students (Usher & Mayner, 2011); another one surveyed nursing leaderships from different nursing schools in the USA regarding the curricula of disaster education in all nursing levels (UG and graduate) and the level of nursing faculty preparedness to teach DN to nursing students (Weiner et al., 2005); and the last one investigated the relationship between nurse educators' knowledge of disasters and their perceptions of the importance of including disaster education into UG curriculum (Whitty & Burnett, 2009)

Most of the previously mentioned studies showed a lack of disaster content in nursing curricula (Oztekin et al., 2015; Usher & Mayner, 2011; Weiner et al., 2005). Usher and Mayner (2011) surveyed thirty-nine nursing schools in Australia, examining the nursing curriculum for disaster education content. The researchers developed a questionnaire that focused on multiple points that included disaster education, teaching strategies, clinical placements, and the coverage of ICN competencies within the UG nursing curriculum. Out of the nineteen schools that responded to the survey, twelve programs (63 percent) did not offer content related to disaster education. Only one school reported that they had devoted clinical placement for this area (Usher

& Mayner, 2011). Clinical practicum in the area of DN involves running mock disasters, exercising table-top games, and role playing or the use of technology such as virtual reality simulation to learn the basics of DN management (Veenema et al., 2017). Perhaps nurse educators are not knowledgeable enough to realize the importance of including disaster education (Whitty & Burnett, 2009). As a result, Australian undergraduate nursing students are not well prepared at the end of their nursing programs because they are not receiving enough disaster education o become competent in the area of DN (Usher & Mayner, 2011).

The International Nursing Coalition for Mass Casualty Education surveyed 2013 nursing schools' leaderships to evaluate U.S. nursing schools' disaster education curricula before 2001 and the following two academic years. Before the events of September 11, 2001, around 32 percent indicated that they provide disaster education, and that percentage increased to 53 percent after that date. Although teaching DN has received the attention of nurse academicians over the three years from 2001 to 2004, the mean number of contact hours of disaster preparedness content, approximately four hours, did not change markedly. With a response rate of 17.3 percent (n=348/2013), 75 percent of respondents thought that nursing faculty were inadequately prepared to teach DN. Also, when participants were asked about the curriculum element they lacked and that would be useful to augment the importance of disaster preparedness, 79 percent and 55 percent chose curricular plans and competency lists, respectively. The main resource for disaster education was websites for 48 percent of the participants and journals for 44 percent (Weiner et al., 2005).

Oztekin et al. (2015) indicates that the unpreparedness of nurse educators to teach DN is may be related to their lack of knowledge in the area of disaster science. In 2015, Oztekin et al. assessed perceptions of nurse educators from Miyazaki, Japan, and Istanbul, Turkey, regarding

their knowledge of disaster preparedness and response by using an eighteen-question descriptive questionnaire. Findings from the study showed that 42 percent (n=60/144) of participants from both countries did not have knowledge about personal preparedness for potentially disastrous events. Also, 47 percent of the participants from Japan, who did not attend courses outside of the university, reported low levels of knowledge. The reason for the low level of knowledge is linked to 52 percent of the participants having graduated before 2001 (Oztekin et al., 2015). Also, Whitty and Burnett (2009) examined the relationship between nurse educators knowledge of educational DN competencies and their perceptions of the importance of the inclusion of DN competencies in undergraduate nursing programs. One hundred sixty six out of two hundred eighty five nurse educators completed the questionnaire. Nurse educators were evaluated using a questionnaire that was developed by the researcher. Results showed that nurse educators lack knowledge, proper training and experience in the area of disaster nursing. Furthermore, a positive relationship was found between the self-perceived knowledge and of DN and perceived importance of incorporating this type of education (Whitty & Burnett, 2009). In other words, the more knowledge nurse educators have about DN the more they value the incorporation of DN education within undergraduate nursing curriculum. Before 2001, not many nurses received education on DN (Littleton-Kearney & Slepski, 2008) because nursing regulatory bodies at that time did not require entry-level nurses to have knowledge about DN, at least in the United States (Stanley, 2005).

After September 11, 2001, nursing programs in the United States and other countries realized the importance of nurses' roles during all phases of a disaster and began to incorporate disaster education within their curricula to maximize the role of nurses (Jennings-Sanders, 2004; Stanley, 2005). The American Nurses Credentialing Center currently mandates that all

undergraduate and graduate nursing programs include basic to advanced disaster education within their curricula (AACN, 2008). Similarly, in 2007, the College of Nurses of Ontario released a document that highlighted competencies required for entry-level registered nurses (CNO, 2014). This document was established for multiple reasons, including the provision of safe and ethical nursing care. The competencies are arranged into five domains: Professional Responsibility and Accountability, Knowledge-Based Practice, Ethical Practice, Service to the Public, and Self-Regulation. Disaster preparedness was mentioned under the auspices of the two domainsof Knowledge-Based Practice and Service to the Public. The Knowledge-Based Practice area specifies that an entry-level nurse must have the ability to use existing resources and methods of obtaining knowledge to learn about the population and community in which they practice, as well as all arising issues concerning global health matters such as disaster planning and immunization. To meet the Service to the Public Competency, a Registered Nurse (RN) must participate in emergency preparedness and disaster planning and work collaboratively with others to develop and implement plans that facilitate the protection of the public (CNO, 2014).

In a recent paper published by Veenema et al. (2017), a panel of DN specialists was tasked with developing a vision for the future of disaster nursing, identifying barriers and facilitators to achieving the vision, and developing recommendations for nursing practice, education, policy, and research. The panel provided multiple suggestions for current issues (Veenema et al., 2017), and highlighted how nursing programs in the United States do not give high consideration to the essentials of the American Nurses Credentialing Center that establishes disaster nursing criteria for both UG and graduate education. Furthermore, nurse educators do not give the required attention to the importance of disaster preparedness, an essential part of nursing education. Therefore, the panel recommended increasing disaster-related questions in the

NCLEX to compel nursing faculties to enhance their teaching on disaster nursing. In addition, the authors recommended support for nurse educators teaching disaster education to UG and graduate nursing students through the creation of educational courses and a toolkit for teaching (e.g., case studies, exemplars, etc.). This toolkit could be shared through different platforms such as journals, webinars, and conferences. A third recommendation was to increase the exposure of students to disaster education delivery based on experiential learning theory, which involves students' engagement such as simulation, table-top exercise, and drills (Veenema et al., 2017). The strategy chosen does not matter as it must be close to what happens in real life disaster (Kako, Ranse, Yamamoto, & Arbon, 2014; Veenema et al., 2017).

Summary

In summary, Jennings-Sanders (2004) developed a framework that described the different roles a nurse can take in all phases of disaster. Jennings-Sanders explained and gave examples of how nurses can function to achieve and contribute to different outcomes. This framework can be very helpful to nursing students as it offers nursing students the knowledge they need in a simple manner. In contrast, the framework that was produced by ICN and WHO in 2009, which provided a comprehensive summary of DN competencies, may be somewhat overwhelming for nursing students and nurse educators. Moreover, this later framework does not offer guidance on how these competencies could be achieved. According to Jose and Dufrene (2014), nursing disaster education should be limited and focused on a number of competencies, including understanding disaster plans, following infection controls, and defining the different roles that can be taken by nurses to manage disasters. Nevertheless, since nurses are unprepared to manage disasters, there is a need to incorporate DN education into nursing curricula. Although much of the literature emphasizes the importance of including disaster education in nursing curricula,

studies are deficient in explaining how nurse educators can incorporate disaster material into their curricula. As evidenced in the literature review, some schools have started to incorporate and share their experiences with DN education, yet recommendations about how and when DN education should be taught in a Canadian setting are lacking. Furthermore, the literature review found a focus on disaster preparedness and response but remains relatively silent on the role nurses play during the post-disaster phase. Moreover, while the CNO requires entry-level nurses to have disaster-related competencies, little evidence exists about nurse educators' experiences and perceptions of teaching DN in Canada. This suggests a gap between what undergraduate nursing programs teach and what is expected from entry-level nurses as outlined by the College of Nurses of Ontario Entry-to-Practice Competencies for Registered Nurses (CNO, 2014). To develop a better understanding and address these gaps, we proposed to explore nurse educators' stories about teaching DN to UG nursing students using a narrative approach. A narrative approach will help us to hear the stories of nurse educators in Ontario, Canada, and gain a deep understanding of the experiences of teaching DN to undergraduate students.

Chapter 3: Methodology

I used a narrative inquiry methodological approach to understand nurse educators' experiences of teaching Disaster Nursing (DN) to undergraduate nursing students. Narrative is a method of inquiry that uses individuals' stories to generate meanings and knowledge. The development of narrative was heavily influenced by American philosopher John Dewey. According to Dewey, to define an experience, we need four important elements: personal, social, temporal, and situation (Wang & Geale, 2015). "For Dewey, to study life and education is to study experience; that is, education, life, and experience are one and the same." (Wang & Geale, 2015, p. 196)

In narrative, researchers try to find knowledge and experiences through the telling of and listening to stories. Other approaches include the telling of life incidents and life history in the form of an autobiography (Letherby, 2003). Through storytelling, participants share their life experiences, and the meaning that is derived from the stories is open to multiple interpretations (Denzin, 1989). The stories that are told emerge from the storyteller's social lives, and the listener understands and interprets the stories based on their knowledge of, and experience with, their own social world (Joyce, 2015). Narrative methods allow the researcher to gain a rich description and understanding in relation to the research question (Wang & Geale, 2015). Through narrative research, we can access the world of the storytellers, understand it, and then present it (Joyce, 2015).

Interpretive Framework

A research paradigm reflects how the researcher sees the world. Furthermore, it guides the research by the assumptions, beliefs, norms, and values it holds (Denzin & Lincoln, 2005). Social constructivism is the interpretive paradigm that guided this research. All interpretive

paradigms, including social constructivism, are comprised of three elements or philosophical assumptions: 1) ontology; 2) epistemology; and, 3) axiology (Creswell, Hanson, Clark, and Morales, 2007; Lincoln & Guba, 1985). The ontological underpinning of social constructivism is that multiple realities exist that are created by individuals' experiences as well as the researchers' experiences (Green & Thorogood, 2018; Polit & Tatano Beck, 2017). The epistemological underpinning of social constructivism is the belief that the knowledge and the knower are interdependent (Polit & Tatano Beck, 2017), which means that the researcher has to interact with the participants to broaden and deepen their understanding of the area studied in order to generate new knowledge. The axiological underpinning includes the interpretation of participants' values and beliefs (Polit & Tatano Beck, 2017). My position as a researcher within the social constructivism requires me to acknowledge and value participants' unique realities in the development of new knowledge. In addition, it is very important to acknowledge my own values and beliefs as I undertake data collection, analysis, and interpretation.

Methods

Participants and Recruitment. After obtaining ethical approval by Queen's University and Affiliated Teaching Hospitals Research Ethics Board (HSREB), an information letter was shared with members of the Registered Nurses' Association of Ontario (RNAO) Nurse Educators Interest Group (See Appendix B), who then shared study information with other members of the interest group. Ten individuals were initially recommended and contacted by the researcher. Among those recommended, two individuals agreed to take part in the study. The particulars of the study were explained, such as the purpose, duration of the study, the right to withdraw, availability of incentives, and to whom to address concerns about the duration of the research conducted (see Appendix B). I obtained informed consent from members showing interest, and

shared additional information about the interview via email. A consent form stated that participants were willing to have the interview audiotaped. Participants were informed that they had the right to withdraw from the study at any time, take a break during the interview, or stop the interview. Participants were required to have a minimum of four years experience in teaching DN. According to Benner (1982), it takes a nurse up to four years to be competent in any area.

I interviewed two nurse educators who teach DN within a baccalaureate nursing program in Ontario, Canada. This small sample size is supported by Creswell (2013), as the notion of Narrative Inquiry is to look closely at life experiences and details that contributed to form these experiences. Also, a small sample size helps to support the required depth of qualitative analysis, as well as not to over-consume assets more than what is actually needed (Guetterman, 2015). As a token of gratitude for the participant's time, they were given a $50 VISA gift card immediately after the final interview was completed.

Data Collection Methods. I used a combination of individual open-ended and semi-structured interviews for data collection, as these types of interviews help to gain insight into the extent to which each person values and is motivated to teach DN. The first interview was open-ended because the goal was to have the informant lead the interview, rather than the interviewer. Through unstructured interviews, we can learn new rich meanings from the material provided by the informant (Lune and Berg, 2017). Each participant was interviewed two times, separated by approximately three to four weeks. The time between interviews allowed participants time to reflect on their interview, and to prepare for the subsequent interview. The second interview followed a semi-structured format, as in the second interview we wanted to explore some aspects of the participants' stories in more detail.

I arranged interviews at a time convenient for participants; and sent a reminder email one week and one day prior to the interview. One-on-one interviews with participants allowed them privacy to talk freely, to express their feelings, and to reveal their thoughts and experiences to the researcher without fear of judgment. The open-ended interview guide (see Appendix C) guided the interviews. I pilot-tested the interview process with two nurse educators in order to gain experience in conducting an open-ended interview. I collected data using two interviews separated by a period of approximately three weeks. Each interview took approximately fifty minutes and was audiotaped. The interviews were conducted virtually through a web-based platform called Zoom Video Communications. At the beginning of the interview, oral consent was taken and participants were reminded that the interview will be audio recorded and they could decline to answer any questions. I listened to the participants carefully and did not talk over them. I allowed them to speak freely without any interruption and gave them the freedom to take breaks whenever they wanted. Participants were encouraged to share any thoughts or notes they had through a Word document sent by email before the beginning of the second interview.

The second interview was scheduled three to four weeks following the first interview. I used a semi-structured interview approach for the second interview, in that I prepared prompts and questions to gain more knowledge in areas that had been covered during the first interview. For example, I asked the participant questions such as: “Is there something from your notes you wish to share with me at this time?” or “ Tell me more about [something the participant spoke about in the first interview].”

Researcher journal

The purpose of a reflexive journal is to allow the researcher to reflect upon their thoughts, feelings, previous knowledge or experience, and how this might affect the data collection, analysis,

and interpretation (Polit & Tatano Beck, 2017). I took field notes to record my observation of what occurred in the field, my thoughts, and my impression of these observations throughout the research process. Field notes will strengthen the quality of the data and provide a detailed description of the interviews, thus enhancing transferability and increasing trustworthiness (Creswell & Creswell, 2018; Polit & Tatano Beck, 2017). Also, I wrote reflective notes to record my thoughts, experience, feelings, and to reflect on my own assumptions and experiences related to the teaching of DN. For field note creation, I followed Phillippi and Lauderdale's (2018) guide. (See Appendix D for field notes guide.)

Data Management

Anonymity was maintained and preserved throughout the data collection, analysis, and publication of research findings through the use of pseudonyms as identifiers. This pseudonym was used for audiotaping, data transcription, and all other related documents. All research documents, including consent forms and audio-recorded interviews, were saved on a password-secured encrypted computer. All research data will be stored for five years in accordance with the policy of Queen's University. After five years, all the research data will be destroyed. Only the principal investigator and supervisory committee will have access to the research data.

Data Analysis

The data analysis process begins with getting familiarized with the collected data (Joyce, 2015). Interviews were transcribed verbatim by the researcher. First, after reading and re-reading the transcript to develop a good sense of understanding of the participants' stories, the data was partitioned based on the three dimensions of narrative identified by Clandinin and Connelly (2000): interaction (personal and social), continuity (past, present, and future), and situation

(places of the storyteller). Next, each of the three dimensions will be examined to identify important events, which in turn will be interpreted to determine how they contribute to the larger meaning of the story (Clandinin & Connelly, 2000; Creswell, 2013) in relation to the research questions. Each participant's story was reconstructed to reflect the narrative dimensions and the aim of the study. The reconstructed stories were shared with the participants to check accuracy and acceptability. Finally, narrative threads that are woven across the three stories were identified and discussed (Clandinin & Connelly, 2000; Creswell, 2013).

Analysis of First Interviews and Preparation for Second Interview. After completing the first interviews, I transcribed audio recordings verbatim. I listened to the interviews many times to check the accuracy of the transcriptions and become familiarized with the data. Some areas needed corrections and clarifications, so I kept listening until I found out what the interviewee was saying. I took some notes during the interviews, but made most of the notes immediately after the interview. I followed Phillippi and Lauderdale's guide on field notes creations (2018). After that, I went back to the research questions, aim and purpose of the study, and compared the stories of the nurse educators to what I wanted to know from these interviews. I read the transcripts again to prepare questions for the second interview. Based on the research questions and the first interview, I prepared the second interview questions with my supervisor. I also started to partition the data based on the narrative dimensions and placed quotes where they belong in the three-dimensional table.

Analysis of Second Interviews and Merging Transcripts. After completing each of the second interviews, I transcribed audio recordings verbatim. I listened many times to the interviews to check the accuracy of the transcriptions and get familiarized with the data. I corrected some areas as needed. I took some notes in the researcher journal and commented on

some of the collected data that prompted my personal feelings. I brought transcripts from the first interviews and merged each participant's interviews together into one document. I went back to the three-dimensional table and added some new data from the second interview to the table.

Partitioning Data Based on the Three Dimensions of a Narrative. Again, I analyzed data by entering them into the three-dimensional table (time, sociality, and place). I pasted a template of The Three-Dimensional Narrative Structure at the top of my document that I could follow while analyzing data. This template has all three dimensions and contains a description of what could fall under each dimension. For each piece of data I entered in the table, I commented on it and provided a justification on why this piece fit under one dimension and not under another.

Data Mapping and Narrative Writing. After partitioning the data in the three-dimensional table, I started to organize the relevant information in chronological order and made notes about the initial interpretation of each set of data. Next, I started writing the narratives and started to review the literature to understand if the experiences described by the participants had been reflected in the literature. This step also offered me the opportunity to reflect on my personal experience.

Emergence of Narrative Threads. From the beginning of the process of data collection and analysis, I was documenting the similarities between the two stories and triangulating them with my personal experiences. I recorded the emergent threads in my research journals and subsequently examined them more closely to determine their meanings and to compare them with other findings from the literature.

Trustworthiness of the Research Study

Trustworthiness is used to assess the rigor of data collection and analysis in qualitative research (Klopper, 2008). A trustworthy study reflects how well the work of the study was actualized and managed unanticipated conditions Developing trustworthiness in qualitative research is through the criteria delineated by Lincoln & Guba (1985) which includes dependability, credibility, transferability, and confirmability (Lincoln & Guba, 1985).

Credibility. This is to ensure that the research findings accurately reflect what participants meant to express to the principal investigator (Polit & Tatano Beck, 2017). To achieve credibility, I tried to get engaged with the data for a long period. I audio recorded the interviews and transcribed them literally in addition to maintaining a reflexive journal. Also, I carried out member checking so that interpretations were consistent with participants' statements. I followed up with the informants interviewed to check the accuracy of key findings and other data I interpreted and have their approval on the interpreted findings (Polit & Tatano Beck, 2017). Also, my thesis supervisor served as a peer reviewer to ensure accuracy and proper interpretation (Holloway & Galvin, 2017; Polit & Tatano Beck, 2017)

Dependability. To ensure the dependability of the study results in qualitative research means to ensure accuracy and consistency to be able to replicate it in similar settings and contexts (Holloway & Galvin, 2017). The best way to demonstrate dependability is through creating an audit trail (Lincoln & Guba, 1985). I established dependability by providing a clear and thorough audit trail of the research plan actions, data analysis, and the thoughts of the researcher in a journal (Lincoln & Guba, 1985).

Confirmability. Confirmability was maintained by using a journal to keep track of the research plan, analysis, my experiences, and reflections during the study. I reflected on my reflexivity statement during the data collection and analysis process. Furthermore, my thesis

supervisor served as a peer reviewer to ensure accuracy and proper interpretation (Holloway & Galvin, 2017; Polit & Tatano Beck, 2017).

Transferability. Transferability was supported by providing a thick description of the research process and the findings. I provided a detailed account of the experiences of the two study participants to allow readers to picture the context of the research study and to judge transferability themselves (Lincoln & Guba, 1994).

Authenticity. Authenticity was added as a fifth criterion in Lincoln and Guba (1994), with respect to fairness, and was achieved in this research study by paying close attention to each participant's narrative and retelling their stories in a way that preserved their integrity (Holloway & Galvin, 2017).

Ethical Considerations

Before conducting the study, a proposal was sent to be reviewed by the Queen's University HSREB. After obtaining ethical approval by HSREB, data collection began. Informed consent was obtained from all participants. Pseudonyms were assigned to participants to ensure anonymity. I tried to make the participants feel comfortable as much as possible and help them share their experiences without causing any discomfort or disturbance. At the beginning of each interview, participants were reminded verbally of the purpose of the study and that the interview would be audiotaped. Also, they were reminded that they could withdraw from the study at any time or refuse to answer any of the questions. Anonymity and confidentiality were preserved throughout the analysis and publication of research findings by using participant pseudonyms as identifiers and storing the study data in a password-encrypted computer. Participants had the chance to review the reconstructed narratives.

Chapter 4: Christine's Story

Prologue: Meeting Christine

Christine was my first participant to interview, and I was very excited to meet with her and to learn about her experiences of teaching disaster nursing. As a novice researcher, I really doubted the type of information I would get, because I was not sure that one question would give me the information I needed for her story. At the same time, I believe that stories are easy to remember and useful for learning. Our first meeting was on the afternoon of February 5, 2020. Christine greeted me and seemed to be very friendly. She was calm and confident in her demeanor, and she seemed to be very interested in my project and excited to hear about it.

This interview was my first time using the Zoom platform, so I was not familiar with it. I was amazed by the clarity of internet technology and how it could replace a face-to-face meeting. Christine was happy to be the host of the meeting, sent me an invitation, and I found it easy to follow the link and be connected with her. Christine finds Zoom to be very convenient and almost like in-person meetings; she even uses Zoom to meet with her extended family.

Christine has been a nurse educator for twenty years. Before working in academia, she was a clinical educator at the hospital. She specialized in intensive care, coronary care, cardiac surgery, cardiac lab, and the cardiac intensive care unit. I admire her for working in this specialty, as it seemed to be very critical and sensitive. While she was working at the hospital, Christine taught health assessment and coronary care courses at the college where she is now employed. I imagine she was hired because she is a good clinician and a good educator.

Plotlines in Christine's Narrative Account

Plotline 1: Clinical Mastery

Christine's experience was long and interesting. Although Christine states that she has not personally faced a lot of disasters, other than Severe Acute Respiratory Syndrome (SARS), Acquired Immunodeficiency Syndrome (AIDS), and now COVID-19, she gained great experience in teaching about disasters from her previous jobs. She reflects and says that these disasters drained and are now draining the healthcare system during their surge, and that they take a lot of resources to manage. She talked about the AIDS pandemic too, and observed how this experience overwhelmed the healthcare system. When she was working in the hospital, Christine taught nurses about emergency codes, including code orange, which refers to a disaster. Because she was a clinical educator and the hospital needed a prepared workforce should a disaster happens each month, she would practice one of the hospital codes (code blue, orange, red, green, and black). During these practices, they would review policies on the code and procedures that must be performed during each particular code, including how to evacuate the hospital.

Christine reflected back to her experience working during the 2003 outbreak of SARS, and expressed that she learned a lot during this disaster. She told me the story of SARS and how it spread in Canada and explained how Canada was strongly affected by this pandemic. She thinks that after SARS, hospital staff were more careful and wore their personal protective equipment (PPE), even to the extent of sometimes doubling their protection. As a result of SARS, new protocols and rules for safety were implemented, including the use of universal precautions when transferring patients between organizations. Now, in Christine's opinion, Canadians have a better understanding of this type of disaster. Christine highlighted the need for knowledge of disaster preparedness to be able to face a disaster effectively and the contribution

of past experience to future disaster preparedness and management. Christine reflected on her experience with a major power blackout:

> And I think that if you were, if you have that kind of information, you're not as frightened. I do remember years ago when I was working in the cardiac catheterization just after 9/11. Then the lights went on and off and I thought, oh my gosh, what's going on? Something's scary. And so I ran to call my husband to see what was going on, and when in fact it was, it was just that we had a, a power shortage on that whole grid. And so the power was going down all around, like so in, in Ontario, Quebec, Vermont, maybe even New York. So that, that whole patch lost power for about three days. So, it was very interesting. So from that point I've always made sure that the nurses know to plug their battery sources into a special plug that has backup power and all that kind of stuff.

Christine's clinical mastery and experiences with various disaster-type situations contribute to her appreciation of the importance of disaster knowledge and awareness that a disaster can happen at any time and in any place. Christine reminds us that the healthcare system and critical care, in particular, can be quickly overwhelmed when responding to a disaster. Because of Christine's extensive experience in critical care, where patients are closely monitored for changes in clinical condition, she knows how small changes can have an impact on the larger system. This is an example of the intersection of temporal and contextual dimensions, where she brings her past experiences from clinical practice to her teaching encounters with students. Perhaps this is her way of helping students to overcome the limits of their lived experience, and thus their capacity for learning about how to respond in a disaster situation.

Plotline 2: From Clinical Mastery to Classroom Teaching

Christine teaches critical care nursing to second-year nursing students in the three-year Bachelor of Science in Nursing Programme in Ontario. As in any other school, a curriculum mapping and review process determines where particular content will be taught in the program. Christine explains that DN content is integrated into the program in two places, including in the second year Medical-Surgical course, and in the third-year Community Nursing courses. DN topics and learning objectives are determined by the curriculum committee, and the method of teaching is left to each classroom teacher. As long as the learning objectives are achieved, the nurse educator has the freedom to present it in any way seen suitable.

Christine teaches DN within the context of a second-year course focused on medical surgical nursing. In this course, Christine teaches about topics such as chronic lymphoproliferative disorders, magnetic resonance imaging, Crohn's disease, and diabetes, and she describes how time constraints prevent her from teaching a number of topics . Christine described how DN content falls under the overall topic of medical surgical nursing, and how she is able to dedicate ten minutes of a lecture to talk about trauma-informed care, and to teach students about disaster nursing. Christine explained that the lecture is structured by determining the learning objectives and how they are relevant to the course objectives. After that, the faculty member is responsible for integrating interactive learning methods such as media, activity, case study, or reflection, and subsequently assess the extent to which students meet the objectives. Christine clarified as follows:“Basically we just do a high-level look at disaster management, whereas in year three of our program, they get a more concentrated effort in disaster management more from a community perspective.”

In the short amount of time Christine has allocated to discuss disaster nursing, she introduces the "most important principles" without going deeply into these principles. Christine points out how these principles would be discussed more in detail in year three of the program when students learn about planning for incidents such as water contamination or nuclear disaster. Reflecting on how difficult it is to get everything into the curriculum, she stated: "But because our students are so overwhelmed and we have to fit this in the curriculum somewhere … [what I teach]is a really little snippet."

Christine described how she teaches her second-year nursing students to be clinically prepared in case there is a situation that requires them to evacuate the hospital, transfer patients, and take care of them. These situations are categorized under a number of emergency codes, such as code orange, blue, red, etc. For example, if the hospital has a code orange (hazardous or material spill incident), nurses should be prepared to transfer or discharge their patients and know how to manage the situation inside the hospital. Christine emphasized that students do not have an opportunity to engage with DN or planning while they are completing the clinical placement that runs parallel to her classroom teaching.

Christine uses a medical-surgical nursing textbook for the course. She finds this book very convenient because it has all the topics she is teaching. The book has a chapter on disaster nursing, but Christine does not assign this chapter for students to read in advance of the class. However, she does assign other readings about emergencies related to medical-surgical nursing, such as myocardial infarction, strokes, and malignant hyperthermia, explaining that: "because when they go to clinical, they have to know what to do if they should encounter one of those. So if there's a disaster, they'll be told what to do."

Christine also provides the students with some preparatory material that includes case studies and videos. For instance, students might be assigned to watch a YouTube video and then practice it in class. They would be divided into small groups to work together on a case study. In particular, they might be assigned a case study that involves the identification of fire evacuation protocols, different emergency codes, and understanding key operational roles in a disaster followed by a discussion. At the end of the class, Christine evaluates the students using mastery testing or mastery quizzing or by asking them to write a reflection. In the test, students would practice a number of questions until they develop mastery in this topic. Christine assigns a small percentage of the overall grade to encourage students to complete the questions. The mastery quiz consists of National Council Licensure Examination (NCLEX) style questions. Not enough time is allocated to the subject of DN to allow for guest speakers, and the program does not provide resources, including complimentary parking or an honorarium.

Christine provided more detail about how she approaches DN teaching in the allocated time. During the lecture, where she teaches about DN, she begins with a brief introduction:

> And so it depends on where in the course I have time to fit it in. It might come under the meds-surge emergencies. Depending on the topic or what the cause of the disaster is. And so, again, just a brief introduction to it, ambulatory first, you're responsible for your patients, you have to know how to evacuate, so horizontal then vertical. Just those basic principles.

Although Christine teaches some disaster principles such as evacuation and prioritization, she does not use the word *triage*. Instead, she teaches the students "how to decide who to take first. So ambulatory first." She elaborates, saying:

> So, ambulatory first. Um, how, how to evacuate from … to a safe area horizontally and then vertically. Um, what is . . . So, you know, someone's got to bring the charts. So, all of those protocols, um . . . There's, there's a funnel list that, you know, we would make a funnel list of who's closest to the hospital to who's farthest from the hospital, and we'd actually call the furthest one first so they can get here, and then call the nearest one last so that the . . . I mean we can get help when we need it. Um, to be prepared in the clinical area that if your pa- . . . if they're . . . you know, we are undergoing a bad snowstorm or

> other kinds of disasters that you are prepared with having your, um, plugs all plugged into the electrical, the correct electrical sockets. That you would be prepared to um, care for your patient and maybe not . . . in, in less than ideal situations.

She provided additional detail about the other information that students must learn to manage a disaster in acute care:

> So you might need to take all their medications. You might have to go into the med selected and, and open it up without the key, because I've shown them how to open it up manually and get all the medications so they . . . the patient will have medications when they arrive at the new destination. That somebody needs to know who are all the patients? Like you just can't leave your patients. You have to have some sort of a format or charting system. Take the chart or whatever and making sure that all the patients are well identified, armbands etc. And then they can be . . . So somebody knows where they are. Well, so just very basic, because in year three of our program, they learn disaster planning from a community perspective. And that's where they would talk about if there was a water source contaminated, that sort of thing.

Christine reflected about the different levels of knowledge nurses need in relationship to DN in professional practice:

> So we teach them things such as, um, to know your patients and know . . . and this is on a micro level, this is not the macro level. And so you're thinking, you know your patients and know where they're at so that if there is a . . . an evacuation, then you're able to evacuate the ambulatory first. Then you would, um, evacuate horizontally, then vertically, those principles. So how do you get that bed out of that room and, and you know, how to get that patient out of that bed and get that patient down the hall? So things like that we, we would discuss. And just communication, like who do you, do you . . . You know, you don't want to be talking to everybody about what's going on. There's going to be communication through once . . . one person. And so we don't share with everybody. And so those, those sorts of things.

Christine was able to easily recount multiple stories based on her clinical experience to engage students in active learning. Usually, she shares with her students one of the stories from the past when the healthcare system was overwhelmed by issues related to HIV, or SARS, or the fires that made them evacuate part of the hospital:"I remember when I was a move captain when I

worked at Sunnybrook and I had to be prepared to evacuate. Although we didn't have to evacuate. There was a fire alarm in the new wing, and we were getting prepared to evacuate."

The university where Christine teaches conducts an annual mock disaster with other disciplinary teams and specialties. Christine recalled how nursing students who have participated in this activity have not understood their role in managing the (mock) disaster, and in particular, she is cautious about teaching nursing students about triaging in relationship to disaster management. Elaborating on her concern, she shared a story about an event from a past mock disaster experience:

> Well, they had somebody in that role [triage] that was not familiar with that and they didn't know the colors, they didn't know how important that was. So they were just joking around *you're orange, you're blue, you're pink, you're green*. And they were just really not taking it seriously. That has serious implications. And, in fact, in the past, the College of Nurses of Ontario disciplined a nurse for incorrectly triaging a patient in the emergency department. So, it has huge implications. The students are not ready for a big casualty disaster at this level. They need to make it much more pragmatic at this lower level.

Christine reflected on her students lack of interest in learning about disaster nursing, saying, "They are too tired. It is just like the fire drills they did when they were in high or public school." She suggested that they may not be experienced enough to understand the importance of disaster nursing, and stated:

> They don't have contextual background to really understand the implications for it. And I don't think it's until they're practicing that you will have that higher-level knowledge to think, *Oh my gosh, what does this mean for my twelve med-surg patients that now I have to evacuate from this ward to that ward? How do I keep them together safely? How do I provide care that they need in the emergency?* New grads don't think about that. People in year two do not think about that.

Christine's mastery of clinical practice contributes to her overall confidence in classroom teaching. Christine seems to effortlessly bring her experiences into the classroom so that the students can gain insight into the importance of being prepared for emergency situations. She is

comfortable teaching DN in the context of acute care (medical-surgical); however, DN is just one of many topics that she needs to address in her course. She demonstrates how DN content can be effectively distributed across multiple courses, and how the content can be tailored to the specific context and client population. Christine spoke to the challenges of engaging students in learning about DN in the classroom setting, and drew attention to the fact that the students do not have an opportunity to apply their new DN knowledge in clinical practice. Based on her previous experience as a clinical educator in clinical practice settings, she knows that it is only when new nurses transition into a professional practice role that they begin to be aware of the implication of disaster preparedness for their patients. Thinking about the narrative dimensions of time and place, we see how Christine's past experience of teaching nurses in clinical practice settings informs her sense of responsibility as a classroom teacher to ensure that her students have optimal learning experiences. This sense of responsibility contributes to her motivation to share her clinical experiences in order to engage students more fully.

Plotline 3: Mastery of Disaster Nursing Teaching

Christine believes that the mock disaster exercise may not provide the best learning experience for nursing students. With this past experience in mind, and in order to respond to the need for additional teaching and learning supports, Christine is working with her colleagues to develop a DN simulation for nursing students that she feels will have a better fit within the overall curriculum. Also, she has learned from her past experience that the simulation they develop will need to be practical and tailored to the desired learning goals.

The simulation will consist of a disaster plan, a scenario, and a mock disaster, and it aims to impart all the basic principles of DN from a clinical perspective. Specifically, she believes that second-year students need to learn clinical skills such as assessing vital signs, assessing ABCs,

and related nursing care. Basically, “they need to learn what nurses do and understand the reason behind why they do it.” Hence, the new simulation project will guarantee a safe practice in a closed environment and control other parameters. Further, she believes that second-year students do not need to know the role of other healthcare professionals, such as paramedics, or how patients are brought to the hospital. An example of the disaster scenario Christine will introduce through the simulation activity could be a train derailment. She says, “But really I can think of the train derailments and large, mass traumas, that sort of thing. Active shooters.”

Students at the time of the simulation will be at the hospital and will be instructed to relocate or transfer their patients. Students will learn who they could transfer at that point and how they can do that in preparation for the incoming train accident victims/patients. Students will be taking care of patients with minor but not major injuries, and get them admitted to the right units.

With respect to clinical simulation in general, Christine was quite sure that simulation benefits the learning process and asserted that up to 50 percent of the clinical placements could be replaced by creating and developing realistic situations. She believes that simulation is very beneficial and has a lot to offer. She explained:

> Yes. So those are the sorts of things that we would focus on in terms of disaster training or disaster planning. Definitely simulation has a huge role in it because I can control that. I can develop the learning objectives. I can teach the faculty and formally educate faculty to know what is the objective. And so that they can’t just go freewheeling it. They have to stick to the plan. I can prepare the students by having them do various preparatory materials, and then they can engage in it where they can actually play an active role in doing that assessment. What is it going to be like? I can put up dry ice and makes smoke in the hallways. I can get a smoke machine and make visibility difficult for them.

She added:

> I can use mannequins that, you can’t risk real patients, but I can use mannequins that they can evacuate. And I know they do one on our campus, but I, anyways, I won’t comment,

> but this way I can create psychological safety so that if the students think, *Oh, maybe I should have gone the other way, not this way*, they don't feel like they have just like endangered their life and their patient's life. So it's a very psychologically safe environment for learning a very intense skill. We can do it interprofessional because it is going to be communication with multiple departments. And then we can watch a video recording or just sit back, and we can debrief and really help the students to understand the significance of their actions and close any performance gaps.

Christine talked about how she does not use role play with students as a form of simulation because she has found in the past that students do not respond well when they are given a specific role to play, and that role playing makes students feel vulnerable in the learning situation. She also wants to maximize the opportunity for student engagement, and she explained the need to create more authentic learning experiences:

> So, if I say you're now a standardized patient [the student is assigned a patient role], it robs [the student] you of being in part of that because now you're a patient. And so I need to have people that are really older people. So we do not use other students because it's really not an authentic learning experience.

Christine emphasized that students will benefit from simulated experiences in ways that "cannot be learned by reading policies/" She is confident that after learning in a simulated environment, students will be better prepared to respond to the disaster situation with the correct procedures. Christine stated that this learning outcome is particularly true when the simulation teaching and learning activity included a reflection element:

> So reflection in action, upon action, and then reflection beyond action. So, they get to sit and ruminate on it for a while. Then when the student is finished, it sort of builds their confidence in dealing with it as opposed to feeling terror.

Christine is also planning to include a debriefing session at the end of the simulation activity, as debriefing provides the opportunity to consolidate learning. She elaborates:

> I can debrief with them. We can evaluate them and give them formative evaluation, closing the performance gap, and then I can debrief with the faculty to see what was their

> role and how did they mentor the students in that moment. Because that's a lot of the role of nursing is mentoring and I don''t see that we do a lot of that. Sometimes we're just too busy. Sometimes we think, *what did they teach them at that school?* And so I think that it is a really important piece in the end. So, for sure. I've been wanting to institute this one disaster sim for a while now. And it would be very helpful for them to learn the principles. Because I can't possibly do a disaster sim that;s going to cover off all of the anticipated disasters, but we'll teach disaster principles. And even just code orange, that call back, the fan out sheet, all of that sort of thing. I was taught that in orientation. Never forgot it. And I think that now that they are forgetting it.

Christine also thinks that it is imperative to integrate more teaching about disaster preparedness in the final year of the nursing program. Year four focuses on leadership and management, which is an important element of disaster management since nurses constitute the majority of healthcare workers. Therefore, nurses would be vital team members during disaster incidents. A nurse leader would be the one communicating, directing, and planning. Christine also thinks that because disasters are becoming more common, students need to have more education in disaster preparedness and management. Nursing is one of the most trusted professions, and for that reason, nurses have to be prepared, knowledgeable, and skillful. About including disaster nursing education in nursing programs, Christine concluded, "I think it's going to become a much more common phenomenon."

Christine was very keen to engage in a conversation with about best practices in teaching disaster nursing. She wanted to discuss the idea of using a scaffolding technique to integrate content across the curriculum, the ways in which content could be divided into smaller sections, and how these sections could be introduced at various times over the program as students were equipped to learn increasingly complex ideas and practices. She suggested:

> I think that's [scaffolding] is a really good point because in year one, or even year two, they can't put . . . they can't even think about a train crash or- . . . you know, a nuclear disaster.

Christine noticed the lack of sharing of best practices concerning the teaching DN in nursing education literature. She said,"So, we just did a systematic review and that was what the literature said. There's lots of stuff going on, but people are not publishing it. So, we have to, if you're doing something, just write it up."

Christine was very excited to share her ideas about how teaching DN could be enhanced with the use of clinical simulation. In sharing her passion for the preparation of nursing students, she quickly referred to the unlimited options that using simulation offers. Her current collaboration with colleagues demonstrates her confidence in simulation teaching and learning, and her ability to collaborate with colleagues to develop simulations. With respect to the narrative dimension of time, she has learned from past experience about how simulation needs to be tailored to specific learning outcomes, and she brings this understanding forward to the work she is currently doing to develop DN scenarios. It is obvious that she is passionate about teaching with simulation, and the work that she and her colleagues are doing to develop DN simulation indicates that she sees this method of delivery more useful than classroom teaching alone. It is apparent that she is a determined teacher who knows what knowledge and skills students need to be successful in practice.

Christine was equally excited to ask questions and learn about best practices in DN teaching, suggesting that she is a life-long learner keen to gain more knowledge. Christine also demonstrated how she has taken the time to become knowledgeable about education design concepts that she integrates into her simulation work.

Attending to Christine's Story of Teaching Disaster Nursing

Christine is a master teacher and a clinician who is really keen to teach her students what she has learned from her past experience. Christine's past experience informed her

present/current experience in teaching disaster nursing. She is really realistic in what she expects from her students, and she is aware of the limitations of teaching the topic of disaster nursing. Her mastery could be seen in the future plans of simulation. She is very excited to work on that innovative approach to engage students and help them be as prepared as possible. I was really impressed that despite her mastery, Christine still wants to learn and gain more knowledge.

Chapter 5: Alana's Story

Prologue - Meeting Alana

The day of Alana's interview, I woke up at 6:00 a.m. because I was excited to meet her. The weather was nice and was starting to get warmer. I went for a run at 7:00 a.m. and came back to prepare for the interview. I was excited to listen to Alana narrating her experience with teaching DN to undergraduate nursing students. Our first meeting (April 3, 2020, at 11 a.m.) was through Zoom, a technology that is convenient, easy, and free. Around 9 a.m., Alana sent me an email to confirm our 11a.m. meeting. I was really impressed by how she was so careful and eager not to miss the interview. Alana had sent me a signed consent through email earlier in the week. Because Alana has limited internet connection where she lives, the interview was conducted using the telephone connection over Zoom. To be honest, I was worried because I knew it would be hard to do a telephone interview. Usually, a telephone interview does not allow the researcher to read the interviewee's facial expression and study the surroundings of the interviewee. However, the interview was audio recorded; and I had only one question to ask Alana. Although we were in different places, we began to talk in this the first of two interviews with her. Alana sounded kind and calm. I think she came prepared to share her experience with me because I was hearing her flipping the pages of her notes, presumably looking for an accurate answer. That showed me how interested she was, and she sounded knowledgeable and well-informed. She is very passionate about global health and delivering quality teaching to her students. Alana provided a great deal of information and insight throughout the interviews.

Alana described herself as a diploma-trained nurse who began professional practice in the emergency department. When she decided to become a nurse, she chose to complete a diploma [a three-year diploma vs. four-year degree program] so that she could get into practice as soon as

possible. During her experience, she also completed her bachelor's and master's degrees. In addition to her work as a registered nurse in the emergency department, Alana practiced in a variety of other nursing roles, including nursing resource coordinator, acute care nurse educator, hospital strategic planner, and as a research coordinator for a health outcomes project for the Ministry of Health and Long-Term Care Alana has always been interested in international nursing, and she completed a PhD in nursing with a focus on global health. As we will see below, Alana approaches emergency preparedness and disaster planning through the lens of global health.

Plotlines in Alana's Narrative Account

Plotline 1: Clinical Mastery

While Alana was working in the emergency department, she helped develop triage protocols and conducted local disaster training in collaboration with regional emergency services. She has worked as a nurse in a variety of disaster situations, including SARS, a train accident, and a major ice storm. As a charge nurse in the emergency department, she was involved in training for basic and advanced life support, and she was involved in simulated emergency preparedness scenarios with local paramedics, the fire department, and the police. This training would take place over a half day or a day and would involve simulated disaster situations.

Alana credited her interest in global health to when she was in high school when her father worked as a police officer in northern Ontario communities, including Moosonee and Moose Factory. While in high school, Alana worked as a summer lifeguard in the Northwest Territories, and she continued this summer work while she was studying to become a registered

nurse. Alana's first international nursing experience was in 1998 when she was part of a group of healthcare providers responding to Hurricane Mitch. She has also worked as a consultant to improve the protocol used to guide short-term medical missions.

Alana stated:

> I have some practical experience that I'm able to bring into the classroom. I very much feel that understanding population health and the differences between countries, so, for example, understanding the healthcare system and meeting with ministries of health and doing these interviews, you very much get a sense of they're struggling with day-to-day type work, let alone when there is a disaster or a malaria outbreak. I was there during the dengue outbreak.

Upon completion of her PhD, Alana obtained a faculty position in a university-based undergraduate nursing program. When she first started to work at the university, she was teaching acute care; with her experience and passion for global health, she was always aware of the importance of emergency and pandemic preparedness. Alana stated:

> When I was first hired at the university, I was doing acute care. But . . . because of my passion for global health, I was working in global health and international nursing, I knew that emergency and pandemic preparedness was important because of my clinical experience.

Alana recounted how, when teaching acute care, she would share her international experience with her students. At this time, she also provided instruction about communicable diseases, including malaria and Ebola, which overlapped with community health and disaster nursing. Alana noted that overlap can occur with teaching about ecological determinants of health, environmental health inequities, and global health. Ultimately, she was offered the opportunity to teach the Health Promotion and Population Health course, which she saw as an excellent fit with her international clinical experience and research interests.

Alana began her story by recounting her personal experiences with global health, including her personal experience with disasters. These stories of her early years as a nurse indicated that she first developed mastery in the area of emergency nursing, followed by the development of her expertise in global health. Moreover, her mastery of global health is underpinned by her nursing experience in a variety of international settings. In addition, her background in emergency nursing has served her well as a member of Short-Term Medical Missions. Her passion for global health seems to stem from her experiences as a teenager when she lived in northern Canada. These experiences have fostered an interest in attaining advanced academic preparation in global health to foster a deeper understanding of how the context of health and healthcare differs within and between countries. Her experiences with the development of standards of practice and guidelines for health care providers indicate her interest in assuring a high quality of care for all people.

Plotline 2: From Clinical Mastery to Classroom Teaching

Alana currently fulfills three teaching roles within the undergraduate nursing program: 1) she teaches the second-year health promotion and population health course, 2) she is the course lead for clinical placements for Community-Based Nursing Practice, and 3) she is faculty lead for an international clinical placement opportunity. Alana described how she approaches the health promotion and population health course through the lens of equity and social justice and tries to ensure that students understand the basics, including the social determinants of health. She stated:

I try to get [students] to understand the social determinants of health. So if you don't have some of those basic foundational principles within your society, you can show them the dramatic

examples then when you do have a disaster in a country like Malawi or in the Philippines who hurricanes and tropical storms are just almost a part of life for them now.

Alana believes that nursing students need to understand how the social determinants of health influence the outcomes of disasters, such as hurricanes and tropical storms, and especially in lower-income countries. Alana also believes it is crucial for nursing students to "understanding population health and differences between countries." In addition, she also focuses her teaching on communicable and non-communicable diseases, and how these are a "double burden of disease" in a lower-income country.

When Alana started teaching the community course, she collaborated with her colleagues to move the simulation focused on the donning and doffing of PPE to a more appropriate place in the program. She stated:

> [Now] they do the Ebola simulation in second year and mostly what it is focused on donning and doffing of PPE in someone who would have contracted Ebola. They demonstrate with the glow germ to show [students] how easy it is to self-contaminate when you're doffing. They use the Center for Disease Control (CDC) protocols and go through that. So that also covers off community, donning and doffing.

Alana sees the challenge of fitting DN into an already overcrowded undergraduate curriculum. Alana points to the fact that some students can earn their BScN in twenty-two months if they have a previous degree: "That's the challenge! It's hard to get all of this content in a very short period of time. I think that's the challenge for us juggling all of these priorities."

The community health nursing course that Alana teaches takes place over twelve weeks, and is divided into multiple lecture topics with a new topic each week. Each topic involves three contact teaching hours a week, comprised of a two-hour lecture and a one-hour seminar. The topics leading up to the week on DN include ecological determinants of health, environmental health inequities, and global health. The final topic in the course (week twelve) is "Emergency

Preparedness and Disaster Planning," and Alana explains that she places this content in the last week of the course to help the students understand step by step what they are studying. She explained:

> I have already established learning in health promotion and population health. We've done epidemiology. It's a nice segue to be able to have these conversations. I think if you started with this lecture, it would be very confusing . . . if you tried to do [disaster management] at the beginning of the semester.

At the start of each two-hour lecture, Alana engages students in a discussion about current events that she describes as "in-the-news" session. In the past, discussions in this opening session have included topics such as Ebola, cholera, and ice storms. In the winter 2020 term, the class engaged in many discussions about pandemic preparedness related to COVID-19.

The three hours dedicated to teaching "Emergency Preparedness and Disaster Planning" consists of a two-hour-lecture and a one-hour companion seminar in the final week of the term. The seminar is designed to provide students with an opportunity to apply concepts learned in lecture. Alana starts the two-hour lecture by talking about the concepts of environmental health, explaining:

> I've just talked about global health and communicable diseases the week before. The lectures are coming together and then emergency preparedness. I still need to talk sort of about the emergency management framework, around prevention, mitigation, preparedness, response and recovery.

Alana outlined the six learning objectives for the three hours of teaching and learning on DN as follows:

> The first [learning objective] is to define disaster, the various types of disaster, and their consequences. I always speak about both in developing countries and then within Canada specifically. Then [second] any sort of national legislative frameworks. I look at the Canadian Public Safety and Emergency Preparedness. We go through many examples of past crisis in public health, that would be the third objective. The fourth is the roles of responsibility then of the Public Health Agency of Canada in Emergency Preparedness. I

> always throughout this whole course, as a course objective, is around a health equity and social justice lens so that I bring that forward. We then [fifth] identify key functions and roles of community health organizations, the different health organizations and then the role of the community health nurse before, during, and following our public health disaster. Then the last objective [sixth] for that lecture and then accompanying seminar is around discussing the safety of vulnerable and priority populations during and following a disaster. As an example, I try to use an article, an evidence-based article around a recent disaster so that there is follow-up, right, because that sort of follow up after a disaster is almost as important. We need to learn from that.

While Alana does not structure the lecture specifically around DN competencies, she makes a point of addressing the College of Nurses of Ontario (CNO) entry-to-practice competencies and the Canadian Community Health Nursing (CCHN) Standards. She is aware of DN competencies that have been developed by the College of Nurses in Nova Scotia but not by CNO. Alana expects students to prepare for the class, and she supplements learning with material and resources, such as the Canadian Nurses Association (CAN) position statement around emergency and pandemic preparedness, and the International Council of Nurses (ICN) framework for DN Competencies. Alana also provides students with resources such as online toolkits and planning resources provided by the World Health Organization (WHO) and Public Health Canada for pandemics preparedness. Students are also required to read the chapter on Emergency Preparedness and Disaster Planning in the textbook used for the course. Alana incorporates information about emergency management frameworks and models in her lecture, including the four phases of disasters (prevention/mitigation, preparedness, response, and recovery), and discusses the different roles, responsibilities, and competencies for nurses in all phases of disasters.

As part of the hour-long seminar class, Alana uses a public health case study when the students are divided into groups and are asked to brainstorm the roles and responsibilities in

immunization clinics and influenza programs. Students are also asked to consider questions of available resources, safety, and security. Alana said,

We talk about nurses' responsibilities and influenza programs or clinics, immunization clinics, where they're located in the community. Because they've also done a community assessment as part of their practical, like their practicum. They've assessed the community using a framework, so they look where things are, availability of resources, health resources, safety, and security."

They also talk about the most trending matters in global health, such as gross domestic product of a country and how much is spent on health. At the end of the case study a discussion ensues:

> And then the discussion, there's three questions. What type of disaster is H1N1? Think about roles and responsibilities of public health agencies and structures. What if we had to have a mass vaccination clinic? How would we do that? Where would we do that? Would there be a role for nursing students and how every organization has emergency preparedness plans.

Alana is very confident in teaching disaster nursing. In fact, she credits her past experience with helping to build her confidence. Alana believes that when you have experiences, you are better able to make the lecture or the teaching more interesting and you are more equipped to make sense of whatever you are teaching by drawing a real picture for the students. Alana always tries to link her clinical experience to the subject being taught, and she works hard to bring her past experiences into her classroom teaching. As a result, the lecture can be very interesting as it represents real-life scenarios. Alana's experience helps her to draw a real picture for the students to make more sense of the subject she teaches. Even though she tells her students different stories of disasters, she still adheres to the course objectives. In her words,"You really need to bring real-life examples into the classroom. I try to stay focused on those six objectives because that gives some frameworks and some contexts."

Alana recalled how she links her clinical experience to DN teaching and what stories she shares with her students:

> I've told them about the . . . I've been in the ice storm, I've been in tropical storms. In the hospital environment, we had a train derailment. I've been able to tell them about that. And then being a part of simulations around disaster preparedness. With all this we had a big sort of mock simulation. I've been able to tell them about that. The train crash didn't, it wasn't that many people, so it wasn't as many people coming in at the time and my role then was both charge and triage. So, I think you just can talk about the different responsibilities. Especially in a disaster how everyone needs to be communicating and it should be clear who is in charge and who you're listening to, who you're responsible to, that kind of thing. Because your roles often will change in a disaster quite quickly. So that's my experience with disaster. The acute care emergency department is further away. It's not as current. I try to be as current as I can, but . . .

Alana also brought out some of the examples from Hurricane Katrina to demonstrate the effects of disasters on vulnerable populations and lessons learned: "I've used Hurricane Katrina information and some of the qualitative studies around seniors or people living with vulnerabilities, how they manage through that disaster and what we were able to learn from that."

One of Alana's goals is to expose students to future opportunities they may have to work in global health and to highlight the need for advanced preparation to develop competencies in global health nursing. When reflecting on her teaching experience, Alana said:

> I try to make lectures interesting. I feel like it's almost this performance. Every week I think how it seems to be getting harder and harder to engage with students, I don't know, in these last few years. I feel like I'm almost performing like I'm an actress or something. "

As much as Alana enjoys sharing personal stories with her students, she still tries to engage the students in deep thinking by using different teaching and learning activities. Methods include case studies, videos of disasters or hurricanes, and questions to better prepare students in

the future for diverse nursing roles and responsibilities. Alana emphasized: “I do lots of things to get their attention.” Over the term, she limits the number of guest speakers to around four, because “you can be criticized for having too many guest speakers in your classroom.” Another way Alana tries to make the lecture interesting and engaging is by including multiple-choice questions or NCLEX-style questions during the lecture. In addition, Alana asks students about their personal clinical experience internationally and locally to help them integrate theory with clinical application. She explained,“I try to get them to share their personal international experiences. I also include students who are working at the AIDS Resource Network or the people this semester that were working at Public Health.”

Overall, Alana believes that students respond positively to the Emergency Preparedness and Disaster Planning lecture, and especially if a present disaster is happening, such as this year’s COVID-19 pandemic:

> I think this year it was much more timely. I think it seemed very relevant and real for them. I think it does make sense to them and if you try and put it in the context of how they’re going to be working, or where their families live. Even though they’re younger, this was my younger group of students, so they’d be anywhere from nineteen to twenty-one. They’re young so many of them haven’t had experiences but maybe their parents did or their mum was a nurse and she worked in the hospital during SARS. I think if you can just try to get them to participate, but this does make sense for them. This year, though, it was particularly very real.

The second interview with Alana was slow to start, and it seemed as if Alana was not expecting me to ask her specifically about how she teaches disaster nursing. Despite what might have been an initial misunderstanding, she was very helpful, and she pulled out her notes and started to tell me about her teaching experiences. Alana puts a great deal of effort into her classroom teaching; she finds gaining and holding students’ attention increasingly challenging, and to help engage students more fully, she integrates multiple teaching methods within the time constraints of the class.

Alana is not only passionate about teaching, but she also structures her course in a way that demonstrates her commitment to helping students achieve learning outcomes. She upholds her responsibility to provide her students with the best possible learning experiences. In addition, she is equally committed to the topic of global health, as is demonstrated by the way she sequences the topics in her twelve-week course in order to build students' foundational knowledge in the area of social determinants of health or what she calls "the basics." Alana's experience in both emergency nursing and global health contributes to her attention to detail and her appreciation of how the smallest details are interconnected with the bigger picture.

Plotline 3: Mastery of Disaster Nursing Teaching

Alana was eager to talk about the future development of the DN curriculum. To start, she thinks that the global health competencies could be used as a basis to develop new DN competencies, especially since the Registered Nurses of Ontario (RNAO) have not developed emergency or pandemic nursing competencies. Alana sees how the Global Health competencies would help nursing move beyond a medical model and how they would introduce more of a social justice lens and a focus on vulnerable populations. Alana emphasized the need to develop these competencies, especially after COVID-19. Given the current pandemic context, Alana believes that nurses might have a stronger impetus to make changes and to update some of the available protocols and frameworks, including the ICN framework. She said:

> We've been trying to rapidly license retired nurses, maybe we have had more of a voice around contingency plans and not for this pandemic. So maybe some of those things will start to be looked at and nursing will have a stronger voice in input into some of those changes. I think things are quite outdated and I'm sure that's going to be obvious after this pandemic: how things need to be updated.

Alana suggested that another opportunity for development of DN curriculum is to re-examine the use of technology:

> I did a pilot with a group three years ago for the community health clinical course, and I didn't really like the product. It wouldn't run with our [learning management system] that the university uses. That was tricky, because there'd be tests in the software package but then the students had to input everything manually. The technology wasn't really helping us. I just felt like it was more work and cost.

However, with the current pandemic situation and dependence on remote teaching, the developers of an emergency preparedness simulation-based program have contacted her to consider implementing their products into her fall 2020 course. Alana wonders if the products have been updated and if they will show more promise for use with the students. She stated:

> " . . . they just sent out an email recently to see if I was familiar with this product and they have all this emergency preparedness planning. Is it something I would want to use? And I said, no, not unless they updated their software and it's going to mesh with our learning system, because [when I used it before] it was an incredible amount of work and the functionality wasn't there. I think it had potential . . . unless they've upgraded the version, I don't think it's worth the money or the time, and the students were not happy paying the extra costs.

While Alana does not want to integrate an ineffective and inefficient technology, she is still considering trying out a newer technology in the near future, hoping it will be better and compatible with the university system. Alana is concerned that software may be incompatible with their learning management platform. She wants to ensure that technology fosters learning rather than contribute to frustration. Moreover, she is clear that clinical faculty must be included in future decision making about software procurement. As Alana states: "We have to be up for simulations for sure, that would be really helpful because I don't get additional hours for sure, on the topic." In her opinion, DN simulations do not have to involve high-end technology. She prefers using low fidelity mannequins in the classroom.

> I think the simulation would help. I think if that's an area where you could bring in some practical pieces I think that that would be helpful because again, it depends on where their [community] placement is and it depends on the agency or organization. I think the thing that will help in this class, would be around some form of simulation in the lab itself and then you can bring some low fidelity simulation into the classroom. I think that that would be helpful. And I don't think it has to have all of the bells and whistles. I think you need some basic equipment and some basic structure in the simulation.

The way Alana expressed her opinion about simulation suggests the importance of simulation in this area and how it could take DN education to another level.

Upon further reflection, Alana suggested that another approach to teaching DN in the future might involve a stand-alone fourth-year elective course, or some method to vertically integrate content across the four-year curriculum:

> There's different ways that you can bring this topic into the classroom. One of our core foci is around seniors, older population. In fourth year if you do one of our elective courses around caring for the older population, [disaster nursing] could definitely can be a topic in that course. Who's most vulnerable during these types of emergencies or who should we consider in pandemic planning? We know from past disasters, that it is the older population. It is the last objective I talked about [in my lecture], who is most vulnerable.

Alana is aware of the challenges of integrating DN in the undergraduate nursing curriculum that is already "overcrowded." Her past experience as a global health nurse reminds her of the importance of preparing nurses to work in all phases of disasters. Her suggestions about potential curricular changes demonstrate an awareness of the need to make the content more meaningful for students. Her cautious approach to the use of technology highlights the tension between the need to offer experiential learning opportunities and the need for faculty members' training and preparation with these various technologies (i.e., simulation).

Attending to Alana's Story of Teaching DN

Alana is a master teacher and a clinician who has had international clinical practice experiences. It is likely that her extensive experience in the field of global health has influenced how she approaches teaching disaster nursing. She is very aware of all the basics that students need to understand in order to be prepared. From her story, we can see how she is well-informed, detail-oriented, and knowledgeable in this area. Her competence in teaching the topic of DN is demonstrated by the way she structures her lecture to meet the students' needs and to

convey what she sees as appropriate for their stage of learning. Alana is open to new teaching methods and approaches.

Chapter 6: Understanding the Experience of Teaching Disaster Nursing in Undergraduate Nursing Education Across the Narrative Threads

The focus of this narrative inquiry was to understand the experiences, stories, and events of nurse educators who teach DN to undergraduate nursing students in Ontario, Canada. I interpreted their stories based on the three-dimensional narrative inquiry space that includes time, place, and personal/social experience, which helps to perceive the meaning of the participant's experiences (Clandinin, 2007). After reconstructing the stories, and performing member checking, I considered the interwoven threads between the two stories, taking into account my own experience of teaching DN to undergraduate nursing students. Threads represent the similarities between the stories. In this chapter, I discuss the threads and examine how they relate to experiences described in the literature. The three threads that emerged from the data were: fitting it in; making it real; and teaching confined to personal experience**.** This chapter concludes with implications for nursing practice, education, and research.

Thread 1: Fitting It In

The issue of an overcrowded curriculum is a common challenge described in the two narrative accounts. Overcrowded curriculum implies competing priorities, and subsequently, lack of time and resources. The stories of Alana and Christine suggest the delivery of limited DN content to students. Within nursing academia, the literature has repeatedly identified this challenge (Weiner, 2005). Both participants described trying "to fit" the content into the curriculum in their own way. Content taught tended to be driven by their own nursing experiences caring for patients/population during disasters and/or pandemics, and within the context of assigned courses, community health course (Alana) and medical-surgical nursing (Christine), respectively. We see how Alana and Christine adapt DN content to make it relevant

to the courses they teach. The focus of the community nursing course is to promote the health of the community and prevent diseases, while the medical-surgical course focuses on the utilization of the nursing process and the provision of the knowledge and skills students need to manage patients admitted to both medical and surgical wards. However, DN skills and competencies can be adapted and incorporated in any nursing course (Alfred et al., 2014). Alana's and Christine's experience of having limited time and resources are described as the first thread, titled Fitting It In.

Alana believes it is very challenging to teach DN within the existing curriculum, where some students have only twenty-two months to earn their degrees, which she describes as a very short period of time. However, as we see in Alana's narrative, she teaches a more comprehensive picture of DN within the context of a community health course. She dedicates a two-hour-lecture and a one-hour seminar in the final week of the term. Alana uses different methods, including case studies, videos, and NCLEX-style questions. Prior to the lecture, students are given a number of reading materials to prepare for the lecture. Alana does not structure her lecture or underpin the content around a specific DN competency. Instead, she introduces the entry-level nurses' competencies by the CNO on disasters and emergencies and addresses the Canadian Community Health Nursing (CCHN) Standards. For the third hour, a dedicated seminar where students meet in smaller groups, she presents and discusses a case study and supports students to apply concepts taught during the lecture.

In contrast, Christine teaches DN from a critical care perspective. She teaches within the context of a second-year course focused on medical surgical nursing. Christine has ten to fifteen minutes of time in one of her lectures dedicated to hospital/clinical disaster nursing. Content includes responding to hospital codes such as orange, red or black. Teaching strategies include

using videos, case studies, and reflective writing. Case studies are effective teaching strategies when discussing DN content (Ishikawa, Yamada, Muto, Sato, Miyazaki, & Ushio, 2006). Christine does not use a formal DN framework to guide her lectures as she feels that students are already overwhelmed by the amount of the material they have to learn in the course. In fact, she claims to teach very little DN content in her courses.

In regard to my own experience of teaching DN management, I was invited to be a guest lecturer for two consecutive terms to deliver this topic as part of the community nursing course. I had no guidelines to follow in preparation for this lecture; I used the findings from my literature review and knowledge gained from my clinical practice to prepare my lecture. I used videos, readings, and a case study at the end of the lecture to apply knowledge learned, and I introduced two of the most popular DN frameworks. I found it very challenging to deliver the content in the one hour allocated to me to teach this topic.

The literature indicates that DN education is usually delivered in the undergraduate community or global health courses (Alfred et al.; 2014, Fountain et al., 2014, McKenzie, 2019), which we can clearly see in Alana's narrative and my experience. However, I found no report in the literature about teaching DN in the context of a medical-surgical nursing course; on occasion, DN was delivered as a standalone elective course (Oztekin et al., 2015). Evidence shows that nurse educators teach DN content face to face besides other methods such as simulation, internet-based learning, gaming, (Jose & Dufrene, 2014), and inviting guest speakers (McKenzie, 2019). Alana and Christine deliver content didactically (face to face). The literature does not support one method over another (Duarte & Haynes, 2006; Jose & Dufrene, 2014). In any case, methods should be chosen based on the context of the course, and it is appropriate to use multiple methods (Duarte & Haynes, 2006). Moreover, the literature emphasizes that the only

reason that nurse educators are inclined to teach DN is because of the few questions on this topic in the NCLEX (Veenema et al., 2017).

The challenges encountered by Christine and Alana of fitting DN into the curriculum are consistent with the literature, which points to a lack of resources, heavy workload, and lack of knowledge by educators to teach in this area (McKenzie, 2019). Further, the number of hours dedicated to DN by both participants differs from that reported in the literature, as studies showed a higher number of hours devoted, which ranged from ten to twenty-eight hours (Kalanlar, 2018; Kaplan et al., 2012; Chan et al., 2010). The literature points to how the use of a framework or a skeleton for related competencies can help the teaching and learning process, as well as guide the development of course material (Chan et al., 2010; Jose & Dufrene, 2014; Kalanlar, 2018). Content was delivered in multiple ways, including role play, tabletop exercises, art activity, and simulation (Chan et al., 2010; Jose & Dufrene, 2014; Kalanlar, 2018; Kaplan et al., 2012; McKenzie, 2019).

Alana and Christine indicated that their students do not have an opportunity to engage in clinical practice related to disaster nursing. This finding is consistent with the literature, suggesting it is uncommon to have a clinical placement just for DN management (Usher & Mayner, 2011). The lack of clinical exposure is related to the lack of multiple factors including nurse educators' DN knowledge, dedicated curriculum time, and courses and resources, all of which in turn affect their perceptions of the importance of DN education (Whitty & Burnett, 2009; Weiner et al., 2005). These factors in turn affect students' level of knowledge, and thus, their preparedness, because not enough content about DN is incorporated into UG programs (Oztekin et al., 2015; Usher & Mayner, 2011; Weiner et al., 2005).

With regard to improving the teaching of disaster nursing, Christine favors the notion of scaffolding the content across the curriculum. She believes it is essential for students to develop their knowledge and skills over the entire program, which is consistent with the work of Duarte and Haynes (2006), who indicated that DN education should be delivered with increasing complexity as students grow intellectually and personally through the program. Nevertheless, the content of DN management is rarely levelled throughout the program (McKenzie, 2019). The notion of scaffolding requires a DN management-concept-based curriculum wherein the concept of DN management is treated as one of the foundations for the infrastructure of nursing programs alongside other concepts (Xia et al., 2016). Also, to achieve the inclusion of DN as a foundational concept this requires review and restructuring of the curriculum, as well as coordinating between faculty members.

Be that as it may, study participants Alana and Christine did not state their primary resource for teaching DN education. The literature indicated that the most commonly used method of teaching DN is lecturing (Xia et al., 2016). The main resources I based my lectures on were official websites such as the World Health Organization (WHO), Public Health Agency of Canada, the international disaster database, and scientific papers.

Thread 2: Making It Real

The second thread that emerged from Alana and Christine's experiences was their attempt to make the content real to their learners. These two nurse educators achieved this teaching objectiveby bringing past clinical experiences into the classroom. They also make the content real through the use of videos and case studies. Christine and Alana also discussed the possibility of using simulation in the future as another way to enhance experiential learning and educational experience. In this thread, we see the temporal and personhood dimensions of the narrative

coming together in ways that make the teaching and learning experience more realistic for students.

Through her narrative, we see how Alana links her past clinical experience to DN management teaching in ways that help to bring reality to class and facilitate students' learning. Although Alana's extensive experience with global health gives her the confidence to teach about disaster nursing, telling stories or events from the past also benefits introducing a concept and helping students understand it more fully as she relates the idea to the stories about her past experiences. For instance, in her narrative, we see how she included lecture content specific to the storms and the accidents she has faced as part of her international nursing experiences. She also tells stories about being part of a disaster preparedness simulation and relates this to entry to practice competencies. Similarly, Christine brings her personal experience with SARS, AIDS, and fire evacuation to class teaching. Christine recounts her experiences with acute care disaster situations, which helps her to emphasize the importance of DN preparedness from a medical-surgical nursing perspective.

Reflecting on the dimension of place, participants come from different perspectives or backgrounds. Alana's expertise is in global health and Christine is a critical care specialist with expertise in simulation-based teaching and learning. Regardless of how these participants link or bring their experience into the classroom, it is clear that they are aware of the importance of attracting students to the knowledge to be taught and making it relevant for them.

It is interesting to observe how Alana focuses her teaching on the population level. In contrast, Christine focuses on the micro level of how nurses respond to individual patient needs in the acute care setting. Alana believes that students will not be receptive to the content she teaches unless it makes sense, and it is something relevant to their perception of nursing. It is

interesting to note that Alana describes herself as an actress as she tries hard to make the topic interesting and real, as thinking about teaching in the context of a theatrical perspective could be problematic. This theatrical teaching style may distract from learning. While the exaggeration of theatrical presentation may capture students' emotions and imagination, a theatrical presentation might be a barrier. It may contribute to a distorted reality, reduce the range of content delivered, and be an obstacle to a comprehensive representation of the types of responses required in a disaster. Christine takes a more pragmatic approach as her narrative does not refer to the role of theater in teaching.

The literature links the lack of preparedness of nurse educators to teach DN to their lack of knowledge and experience with disasters (Oztekin et al., 2015). Moreover, despite the lack of educational resources and toolkits for use by nurse educators to improve their knowledge (Veenema et al., 2017; McKenzie, 2019), Christine and Alana looked for resources such as videos and case studies of real disasters.

It is interesting to note that Christine and Alana have not incorporated any other forms of technology to bring their teaching to life. For instance, I wonder why these nurse educators, given their extensive clinical experience, have not explored the use of video gaming, including tabletop exercises. Perhaps their workload, and their approach to fitting the content into other courses, act as a deterrent to exploring new approaches to teaching and learning. While I have recently become aware of the existence of gaming activities that might allow students to interact and respond well to DN education, without previous exposure to these methods, I resorted to using the easiest and simplest methods available to engage students.

The use of clinical simulation is another way to provide students with learning experiences that reflect real-life practice (Jose & Dufrene, 2014; McKenzie, 2019). The stories of Alana and

Christine reveal that students do not have hands-on practical experience for this topic, and that is confirmed by the literature (Usher & Mayner, 2011). Nevertheless, Christine strongly believes that having a disaster simulation is very imperative to prepare newly graduated nurses for practice. To achieve this goal, she is working with some of her colleagues on a very promising disaster simulation project that would take the teaching of DN to another level. The literature supports the use of simulation for teaching and learning in unpredictable areas (Kalanlar, 2018; Kaplan et al., 2012; Chan et al., 2010; & Xia et al., 2016). However, the literature does not offer any recommendations about the type of simulation that would be most effective for DN teaching and learning (Jose & Dufrene, 2014).

When reflecting on the question of how to make disaster education real for students, I recall my experience as a guest lecturer and how I tried to show students that disaster preparedness and management are relevant to nursing. I started with how knowledge is essential because I was in a position one day where I did not know what the word *disaster* meant. I wanted so hard to make it real, and we are at risk at any moment. I designed a case study of a fictional disaster, and I played a video on how everybody should be personally prepared, and how everyone must have a grab and go kit. It is crucial to give students a sense of the full range of nursing responsibilities throughout the spectrum of DN and preparedness. They should have practical (simulated) experience with disasters because nurses play a key role in all phases of DN.

The literature points to the need to expose students to more DN education, and to more experiential-based learning in particular (Veenema et al., 2017). Despite the strategy used to involve students, the most important aspect of DN teaching and learning is that it mirrors real-life scenarios and is something that students can relate to (Kako et al., 2014; Veenema et al.,

2017). In fact, the most preferred educational methods by students are the hands-on experience (Landry & Stockton, 2008).

Thread 3: Teaching Confined to Personal Experience

The third thread across the narratives relates to Christine and Alana describing how their teaching is based on their personal experiences, which can be seen as both a strength and a limitation of their approach to DN teaching. As we have seen above in the second thread, Making It Real, a strength of Christine and Alana's teaching is their ability to engage students by relating their personal experiences with disasters and disaster-like situations. However, one limitation of teaching to personal experience is that it may limit the utilization of more formal educational resources, such as thoses that are available in nursing textbooks. Also, it may limit the consistency of the education being provided to nursing students on this topic as it is dependent on the instructor's experience. In addition, nurse educators' personal experiences with disasters may not be comprehensive enough to address the breadth and depth of knowledge required by nurses to effectively manage disaster situations. While nurses who have participated in disasters have absorbed a considerable amount of practical experience and they understand the characteristics of a disastrous event (Xu & Zing, 2015), the experience is not enough to deliver what today's nurses need. Previous experiences are contextually relevant to the individual and may not be fully representative of the nursing role. To build a robust lecture, educators often use a wide variety of academic resources (grey and white literature, textbook readings) that may be further supported by stories of personal experience that provide contextual relevance.

Nurse educators are required to develop disaster-related content to equip undergraduate nurses to meet entry-level competencies mandated by the regulatory body (Whitty & Burnett, 2009), which in our case is the College of Nurses of Ontario. The literature points to how the

lack of faculty knowledge and resources in the area of DN is an obstacle to preparing nursing students for disasters (Veenema et al., 2017; Xia et al., 2016). Given the lack of a standardized approach to DN educational materials for use by nurse educators, it is not surprising that Christina and Alana teach content based on their personal experience.

The use of other teaching methods for DN education is essential to maximize student engagement and deliver the knowledge successfully. Other methods that would allow Alana and Christine to teach beyond their personal experience include the incorporation of standardized DN frameworks, the use of simulation, and approaching disaster management from the perspective of interprofessional education.

Consider, for example, the fact that both of the university programs in nursing that Alana and Christine are associated with have adopted the same *Medical-Surgical Nursing in Ontario*, a Canadian textbook, that contains a dedicated "Emergency Preparedness and Disaster Nursing" chapter. This textbook, used by both undergraduate nursing programs, serves as a seminal textbook across both universities' curriculum. However, as noted in Alana and Christine's narrative, the DN chapter is not assigned as required reading within their course, nor do they refer to it as a source of supplementary reading and a useful theoretical foundation. It is interesting that neither Alana nor Christine use the textbook to guide their DN lectures, especially given the fact that the dedicated chapter provides a comprehensive outline of the knowledge and skills required for DN management (i.e., the ICN framework and Jennings DN Management Framework).

Although Alana and Christine use a combination of didactic teaching, case studies, and videos to teach DN, neither has used other effective methods for teaching DN. Both use teaching tools based on familiarity rather than maximum effectiveness, thus excluding the stated

importance of experiential learning opportunities such as simulation, community or hospital-mock disasters, and virtual games.

Time constraints also appear to be a significant challenge. The time allocated within the curriculum for teaching DN may be reflective of limited faculty knowledge or perceived value of teaching disaster nursing. It has been suggested that nurse educators who graduated before 2001 have relatively little knowledge about DN management (Littleton-Kearney & Slepski, 2008). Specifically, prior to 2001, the curriculum included no disaster-related education, which in turn affects nurse educators' perceptions of the value of including DN, and their ability to engage in effective teaching activities (Oztekin et al., 2015; Stanley, 2005; Weiner et al., 2005). Lack of DN in nursing curriculum lays bare the drawback of teaching from personal experience alone as the sole source of teaching content. As both Alana and Christine emphasized, they were not experts in DN, which is especially relevant because teaching from personal experiences may introduce a level of personal bias, as personal experiences may not be comprehensive, current or relevant within either the course or current practice environments. If nurse educators rely only on personal experiences to teach, many key disaster-related elements may be omitted from the content. For example, if a nurse educator has participated in a disaster planning and response scenario, but not in the recovery phase, this may not give students a comprehensive picture of all phases of disaster management and related nursing roles. This insight gained from Christine and Alana's narratives highlights the need for nurse educators to use consistent and standardized resources when they teach disaster nursing.

Another aspect that emerged from the participant's narratives when teaching DN was the lack of Inter-Professional Education (IPE) content. DN is highly reliant on a team-based approach to planning, care, and mitigation. Nurses need to understand the role of other essential

health professionals within the DN team, as well as the role played by community services such as housing and social services. Addressing these elements in DN education would contribute to improved understanding of the complexity of disaster response and recovery and equip nurses to provide a more holistic response to disaster management (Veenema et al., 2017). Also, to function effectively in inter-professional teamwork, nurses must understand the role of other health care providers and foster cooperation between them (Silenas, Akin, Parrish, & Edwards, 2008). IPE can be practiced through interprofessional activities such as mock disasters or even by inviting guest lecturers from other disciplines such as firefighters, police foundations, hospital DN leaders, emergency nurses, or municipality representatives. Neither Alana nor Christine spoke to an IPE element in their teaching, nor do they engage with guest speakers, who can be a key resource for students and nurse educators to help with closing gaps of knowledge (Silenas et al., 2008).

The thread of teaching to personal experience may indicate that Alana and Christine lack the understanding and/or expertise required to articulate the full scope of the nursing role in DN. Consistent with reports in the literature, the more knowledge nurse educators have about DN competencies, the higher the level of valuing this knowledge to include it in nursing programs (Whitty & Burnett, 2009). Educators who have low levels of disaster knowledge may hesitate to include DN when they are engaged in undergraduate teaching and learning activities (Hilton & Allison, 2004; Whitty & Burnett, 2009). Additionally, as DN is not assigned dedicated focus but is assumed to be threaded through the curriculum, both participants describe loosely covering DN content while assuming other courses will cover essential DN-related content. Threading of content requires continued focus and monitoring by the curriculum committee to ensure all

aspects of DN content are adequately covered. It is unclear from the Alana and Christine's narratives if curriculum oversight of DN content is prioritized.

Tying the Threads Together

After looking at the narratives of both Alana and Christine, I got a new insight into how the two nurse educators teach DN in Ontario, Canada, the gaps that exist in the current teaching methods, and how previous experiences have an impact on how nurse educators may approach the teaching of disaster nursing.

The first two threads provide insights into how, when, and what nurse educators teach DN. Although this study cannot be generalized, it still gives a view of two nurses who are approaching the teaching of DN in Ontario, Canada. These threads show how nurse educators have a short period of time to deliver DN content with no foundational support. Although Alana and Christine thrive on teaching it, the lack of knowledge and resources in this area do not help them deliver the required content to optimally prepare novice nurses and meet the requirements to enter the workforce.

We see through the narrative threads that while study participants believe in the value of DN for nurses, they are committed to teaching DN because it is a curriculum requirement. No doubt that Alana and Christine have a solid clinical experience that gives them first-hand knowledge of the importance of nurses being prepared for disasters. However, teaching cannot be solely based on experience. The third thread suggests how experience may limit growth. In particular, while Alana and Christine seemed to be satisfied with how they integrate their clinical experience into DN teaching and learning, their confidence may have limited their awareness of the need to expand their knowledge and expertise. Future nurses urgently require better preparation for their role in disaster management; therefore, DN education content should not

rely solely on the individual experience of an educator as it could significantly impair the acquisition of vital nursing knowledge. Thus, standardized education should be developed. Standardization does not require the development of an entirely new framework or generation of new knowledge. Standardization could be allocating sufficient time for DN content throughout nursing programs across Canada and having a toolkit for nurse educators to guide their teaching of this topic. Reflecting on the nurse educators' narrative accounts, the factors that influence how nurse educators teach DN include, time, resources, and nurse educators' knowledge and experience.

These narratives provide us with a greater understanding of how nurse educators handle the teaching of DN to UG nursing students. They show us the gaps in both the existing nursing curriculum and nurse educators' knowledge. They suggest how nurse educators have to be up to date and frequently educated, even with their extensive clinical experience that can be a double-edged sword sometimes. This study informs nursing education and research to better equip the new nursing workforce to participate successfully in all phases of disasters.

Chapter 7: The Final Narrative: Learnings About Teaching Disaster Nursing to Undergraduate Nursing Students

The following chapter is the final chapter of my master's thesis. I begin the chapter by discussing my experience as a novice researcher using narrative inquiry to explore the experience of nurse educators about teaching DN to undergraduate nursing students. The research primary research question is: What stories nurse educators tell about teaching DN to undergraduate nursing students? First, I describe my experience using narrative inquiry as an approach to answer the research questions. Next, I discuss the emerging knowledge related to the question of teaching DN to undergraduate nursing students based on. Then, I discuss the significance of the study and I identify implications for nursing education, practice, and research. Finally, I discuss the strengths and challenges of my study, and conclude this chapter with a closing reflection on my next steps as a DN educator.

Embracing the Narrative Inquiry

The idea of embracing narrative inquiry as the methodology for this study was very scary at the beginning. I felt unsure how this methodology could answer my research question as I did not fully appreciate the value of this process until I began listening to the experiences of each participant and identified how their answers were intertwined.

As a master's student, I have no experience with collecting data specifically through interviewing study subjects, analyzing data, and managing it. I began to read articles and available narrative works by other researchers. At first, this methodology appeared complex and unachievable. However, with the guidance of my supervisor, whom I worked with very closely, I

was able to engage in this process fully. Since the beginning, I separated the work into smaller chunks to understand each step fully. I was unsure about the usefulness of partitioning the data based on the three narrative dimensions. Nevertheless, I found these dimensions useful to explore how personal experience, time, and place are all interrelated with each aspect impacting the other. To overcome the lack of experience with interviewing participants, I had piloted the interviews with two nurse educators and received feedback from my supervisor. I followed Clandinin and Connelly (2000) and Creswell (2013) in using narrative inquiry.

Emerging Knowledge Gained from This Study

In Summary, Alana and Christine teaches in different bachelor nursing programs. Alana teaches Public health course and Christine teaches medical surgical. Both participants teach DN but approaches the teaching within the context of their assigned courses. Alana has a 2-hour-lecture and a one hour seminar with defined objectives. On the other hand, Christine has 15 minutes dedicated for DN, but no defined objectives. Alana focuses her teaching on the population level. In contrast, Christine focuses on the micro level of how nurses respond to individual patient needs in the acute care setting. The resources used by both participants to teach DN are very similar and they include lecturing, case studies and videos, but Christine added reflective writing as a learning strategy.

This study taught me a lot as I attended to Alana's and Christine's experience with teaching DN, and in particular highlighted four important takeaways learnings: (1) DN education can be adapted for application in many nursing courses; (2) extensive experience can be a double-edged sword; (3) appreciation for the value of narrative inquiry; (4) learning how to listen.

First, by exploring the experiences of nurse educators who teach DN, I learned that DN education is applicable in nursing courses encompassing the full scope of disaster management. That was evident in the ICN framework that supports this premise and was seen through the stories of both participants. Each one of them was approaching it from a different angle, medical-surgical and global health. I always thought that the only and the most appropriate medium or course is the public health course. Also, this study was insightful as it opened my eyes to the importance of creating a DN concept-based curriculum. Without having a DN concept-based curriculum, the integration of DN into the undergraduate nursing curriculum becomes difficult.

Second, I learned that experience could be a double-edged sword. While experience is very crucial to teach DN and serves as a foundation to teach DN content, it also could limit the scope and delivery of content by nurse educators. The use of stories may reflect a biased experience focusing on the negative experiences or not fully exploring the full scope of nursing practice in disaster management. When one feels a sense of expertise in an area, they may not be motivated to attain and diversify their scope of knowledge.

Third, conducting a narrative inquiry helped me immensely to appreciate qualitative research in general and narrative inquiry specifically. This methodology is a unique approach to uncover the details about previous experiences. I appreciate that stories provide us with lessons, but never understood how storytelling could help further develop a deeper understanding and appreciation for our surroundings. This study helped me to position myself as the protagonist of the story and consider the actions and reactions and why they were created.

Fourth, as I started to pilot the interviews and then conducted the participant interviews, I learned how to truly listen with an open mind to allow the participants' stories to unfold. I found

that listening is important for sharing ideas, insights, and learning. While there were many times I wanted to interrupt the participant, I began to appreciate how being silent allows one to learn more.

Significance and Implications of the Study

Further research is needed in the area of DN management in Canada that uses both qualitative and quantitative methods to achieve a deeper understanding of this area and its educators. Future research should focus on how and when DN management could be delivered and what kind of knowledge should be included. Also, a stand-alone DN management course offered to undergraduate and graduate nursing students would support nursing expertise and the ability to become more involved in the complex and interprofessional team working to support effective disaster management practices. Nurses can play a leadership role in all areas of disaster management, policy development, and governance. The findings of this study may aid other nurse educators in the development of DN management education in the absence of nurse educators teaching packages or standard teaching plans. Also, this study will be valuable to nurses, nurse educators, and nurse administrators. Dedicated continuing education opportunities in the area of DN management need to be expanded. This study shows the lack of available resources available to educators teaching DN management. Simulation is a valuable teaching strategy that could portray real-life scenarios offering students first-hand yet safe experiences in DN to better prepare them for practice. Nursing care during disasters requires a level of skill and expertise that practicing nurses have repeatedly expressed they lack. Their ongoing concern voices a call to action for the importance of DN preparedness.

Strengths and Challenges

This research is the first of its kind in that similar information may have been seen in other published papers, but not qualitative and narrative in nature. No research study comes without challenges. It was difficult to recruit nurse educators who teach DN in an undergraduate nursing program who would be interested in participating in this study. Conducting interviews in a virtual environment was challenging as it may have limited the ability to collect non-verbal communication between myself and the interviewee.

Final Reflection

At the beginning of this study I wondered about the types of stories and experiences I would hear from Alana and Christine regarding how they teach DN to nursing students. I was unsure how similar their experiences were to what was found in the literature. The narrative threads I found in this study emerged from both Alana's and Christine's stories. These highlights offer insight into teaching DN to undergraduate nursing students in two Ontario universities. Each participant's story was presented in a separate chapter that pictures each nurse educator as the main character in her story as she tells it. My conversations with Alana and Christine were around their experiences about teaching DN to undergraduate nursing students and about their past experiences related to DN prior to entering academia and being under the influence of the way instructors approach teaching this topic. I interpreted the stories of both Alana and Christine based on the positioning of their experiences and events in the three narrative dimensions of time, personal/social experience, and setting/place. After the interpretation of each participant's story, I looked at the interwoven threads or the similarities across both stories and found the following threads: (1) fitting it in; (2) making it real; and, (3) teaching confined to personal experience. These findings offer a greater understanding of how, when, and what nurse educators teach undergraduate nursing students about DN in Ontario, Canada.

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Appendix A: Ethics Clearance Letter

Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB)

HSREB Initial Ethics Clearance

December 16, 2019

Ms. Heba Al Jelban
School of Nursing
Queen's University
TRAQ #: 6028244
Department Code: NURS-476-19
Study Title: "NURS-476-19 A Narrative Approach to Understanding Canadian Nurse Educators' Experiences in Teaching Disaster Management to Undergraduate Nursing Students"
Supervisor: Dr. Deborah Tregunno
Review Type: Delegated
Date Ethics Clearance Issued: December 16, 2019 Ethics Clearance Expiry Date: December 16, 2020

Dear Ms. Al Jelban:
The Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB) has reviewed the application and granted ethics clearance for the documents listed below. Ethics clearance is granted until the expiration date noted above.

Document Name	Comments	Version Date
Letter of Information/Consent Form (combined document)		2019/12/06
Other document	Snowball Sampling Recruitment Script	2019/12/06
Interview Guide		2019/11/13

Documents Acknowledged:

- Ethics training certificate

Amendments: No deviation from, or changes to the protocol, informed consent form and conduct of study should be initiated without prior written clearance or an appropriate amendment from the HSREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the study.

Renewals: An annual renewal event form or a study closure event form must be submitted annually as per the TCPS 2 Article 6.14. As a courtesy, the Office of Research Ethics may send reminders 30 days in advance of the ethics clearance expiry date. All lapses in ethics clearance will be documented on the annual renewal clearance letter. Suspension letters may be issued for lapses in ethics clearances one day or greater, with subsequent termination and closure of the ethics file for lapses greater than 10 business days. Terminations should be reported to applicable regulatory authorities (e.g., Health Canada, FDA).

Completion/Termination: The HSREB must be notified of the completion or termination of this study through the submission of a study closure event in TRAQ.

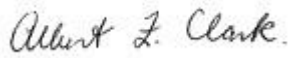
Reporting of Serious Adverse Events: Any unexpected serious adverse events occurring locally must be reported within 2 working days or earlier if required by the study sponsor. All other serious adverse events must be reported within 15 days after becoming aware of the information.

Reporting of Complaints: Any complaints made by participants or persons acting on behalf of participants must be reported to the Research Ethics Board within 7 days of becoming aware of the complaint.

Note: All documents supplied to participants must have the contact information for the Research Ethics Board.

Investigators please note that if your study is registered by the sponsor, you must take responsibility to ensure that the registration information is accurate and complete.

Regards,



Albert F. Clark, PhD
Chair, Queen's University Health Sciences and Affiliated Teaching Hospitals Ethics Board

The HSREB operates in compliance with, and is constituted in accordance with, the requirements of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the international Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Product Regulations; Part 3 of the Medical Devices Regulations, and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP). Federalwide Assurance Number: FWA#: 00004184, IRB#: 00001173.

HSREB members involved in the research project do not participate in the review, discussion or decision.

Appendix B: Combined Letter of Information and Consent Form

Study Title: A Narrative Approach to Understanding Canadian Nurse Educators' Experiences in Teaching DN to Undergraduate Nursing Students

Name of Principal Investigator: Heba Al Jelban, BSN, Master of Nursing Science Student, School of Nursing, Queen's University

Name of Supervisor*:* Dr. Deborah Tregunno

I am inviting nurse educators who teach DN to undergraduate nursing students in Ontario, Canada. The purpose of this research is to explore undergraduate nursing educators' experiences and stories regarding teaching DN in Ontario, Canada. If you agree to take part, I will interview you twice and each interview should last about 50 minutes at a place of your own choice or virtually via web-based platform such as Zoom Video Communications. The interview will be audio-recorded and transcribed. There are no major risks involved related to this study but answering some questions may make you feel upset. You can decline to answer any questions you find uncomfortable. We do not know of any other risk of taking part of this study. If you feel upset after the interview, we advise you to contact the employee assistant program provided through your organization for support. There are no direct benefits to you as a participant. Your participation will help us to understand your experiences bout teaching DN to undergraduate nursing students in Ontario, Canada. Also, it could provide valuable insights into the needs and barriers to enhancing student learning and competence in this area. The results will help to improve nursing students' preparedness for disaster management as well as inform other Canadian nursing educators, researchers, and academic leaders to help create a more prepared nursing workforce. Study results will help add to the body of literature about the incorporation of DN education within nursing curricula. You will receive a $50 VISA card for participating.

Participation is voluntary. You can stop participating at any time without penalty. You may withdraw from the study at any time until presentation and publication of the findings. You can withdraw by contacting me at 16haj@queensu.ca or by contacting Dr. Tregunno at tregunno@queensu.ca.

Your confidentiality will be protected, to the extent permitted by applicable laws. I will do this by replacing your name with a pseudonym in all publications and a study ID number in all study records. Your name will not be disclosed unless you want to have your first name associated with your told stories. You may request a copy of the interview transcript if you wish. The study data will be stored on an encrypted hard drive on Queen's University servers. The code file that links real names with pseudonyms and study ID numbers will be stored securely and separately from the data on an encrypted USB key. I will keep your data securely for at least five years per Queen's University Policy, after which the data will be destroyed. The code file identifying your pseudonym and study ID number will be destroyed five years after study closure. The Queen's

University and Affiliated Teaching Hospitals Research Ethics Board (HSREB) may require access to your study-related records to monitor the ethical conduct of the research.

I plan to publish the results of this study in peer-reviewed academic journals and present them at conferences. I will include quotes from some of the interviews when presenting my findings. I will never include any real names with quotes. I will do my best to make sure quotes do not identify participants. During the interview, please let me know if you say anything you do not want me to quote. In addition, you will be given a copy of the findings to review and you may request removal of direct quotes and selected data.

For ethics concerns please contact the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board (HSREB) at 1-844-535-2988 (toll free in North America) or clarkaf@queensu.ca.

If you have any questions about the research, please contact me at 16haj@queensu.ca, or my supervisor, Dr. Deborah Tregunno, at 613-533-6000 ext. 74742 or Tregunno@queensu.ca.

This Letter of Information provides you with the details to help you make an informed choice. All your questions should be answered to your satisfaction before you decide whether or not to participate in this research study. Keep one copy of the Letter of Information for your records and return one copy to the Researcher, Heba Al Jelban. You have not waived any legal rights by consenting to participate in this study. This study has been reviewed for ethical compliance by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board.

By signing below, I am verifying that: I have read the Letter of Information and all of my questions have been answered.

☐ Yes, you have my permission to use quotes/audio record.
☐ No, you do not have my permission to use quotes/audio record.

_____	_____	_____
Signature of Participant	PRINTED NAME	Date
_____	_____	_____
Signature of Person Conducting the Consent Discussion	PRINTED NAME & ROLE	Date

Appendix C: Interview Guide

Interview Information

Interview Date	
Interview Type	
Interview Start Time	
Interview End Time	
Interview Total Time	
Participant's Name	
Pseudonym	
Voice Recorder File #	

Introduction

Welcome and thank you for your participation today. My name is Heba Al Jelban and I am a graduate nursing student completing my Master of Science in Nursing at Queen's University. Thank you for agreeing to take part in this study. This interview will take about fifty minutes to complete. I am interested to hear your stories and experiences about teaching DN within undergraduate nursing education in Ontario, Canada. I would like your permission to audio record this interview, so I may accurately document the information you convey. Your participation in this study is completely voluntary. You do not have to respond to any question you feel uncomfortable answering and may withdraw from the study at any time. If at any time during the interview you wish to discontinue the use of the recorder or the interview itself, please feel free to let me know. All of your responses are confidential. You will only be identified in the study report by a pseudonym. This study will provide us with a valuable insight into the needs and barriers to enhancing students' learning and competence in the area of DN.

Do you have any questions or concerns before we begin?

First interview: (fifty minutes)

Introductory mini questions:

Do you have any experience with disaster-related events outside the field of academy?

Can you tell me about your experience as a nurse educator?

How did you begin teaching disaster nursing?

Main question:

> "Please, tell me your story, events, and experiences about teaching DN to undergraduate nursing students. Begin wherever you like and take all the time you need. I will not interrupt. I will just take some notes for later."

After two to three weeks a second interview will be conducted.

Second interview: (fifty minutes)

Examples of prompts to be used during the second interview:

> "Can you tell me how important you think it is to teach DN to UG students?"
>
> "Do you have an idea if it is taught in other programs?"
>
> "Are you aware of any DN content taught within or outside the nursing program you are employed within?"
>
> "Can you tell me what competencies/skills you focus on when teaching DN?"
>
> "Can you tell me about the learning and teaching strategies are used to teach DN?"
>
> "Do you know anything that was/could be a barrier to the delivery of teaching DN?"
>
> "Tell me about your first time you responded to a real disaster."
>
> "How do you feel about teaching DN?"

Appendix D: Fields Notes Guide