WESTERN UNIVERSITY OF HEALTH SCIENCES
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AN EXPLORATORY STUDY TO SHAPE A DISASTER NURSE PRACTITIONER SCOPE OF PRACTICE

A dissertation submitted to the

College of Graduate Nursing

in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

Frances Dunniway DNPc, MSN, RN, CNS, FNP-BC, CCRN

College of Graduate Nursing

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DEDICATION

"The lord is first, my friends are second, and I am third." Gale Sayers

Since childhood I have been dedicated to serving God, my country and my patients. *Walking for Life* as a young Girl Scout to build homes for troubled families, participating in the run to raise money to build a *Ronald McDonald House* in Loma Linda, and more than 25 years as a nurse, I remain humbled by the vulnerability of all the patients and families who have allowed me into their lives, if only for a brief moment, to provide health needs during some of the most devastating events or cherished moments of life and death.

Being a responder to a catastrophic event makes one pause to ask the question, how can one person make a difference? Over the last five years while researching and preparing this document, I have seen many individuals, many without professional training, act selflessly and become the difference in the life of a victim. I hope this work can begin a conversation, to improve understanding about the responder roles, and highlights that every ONE person can make a difference.

This written work capturing changes over the years in development and hopefully the most current guidelines at the moment, is dedicated as a thank you, to all the responders, victims, patients and healthcare experts, for the intimate moments we have shared and journeyed through together, making me realize that choosing to become a nurse is still the best decision of my life. Blessings, Frances.

ABSTRACT

AN EXPLORATORY STUDY TO SHAPE A DISASTER NURSE PRACTITIONER SCOPE OF PRACTICE

by Frances Dunniway, DNPc

The impact and devastation from national disasters pose imminent risk to large populations. If trained in disaster response and following evidence-based practice standards, the Nurse Practitioner (NP) could be prepared to adapt to any setting or surrounding, utilizing their full educational and health care training. Currently there are no written guidelines during disasters to manage the various clinical conditions. Using a Delphi technique, this exploratory study investigated the multidisciplinary understanding about the disaster NP role. Key findings included: 1. Across four groups of disaster responders, there was confusion about the disaster NP role, indicating a need for role clarity. 2. Among NP respondents, there was agreement that practice was limited in a disaster compared to everyday practice, identifying no scope of practice and lack of role knowledge as causes. 3. To help understand the disaster NP role, simulated field training was the most highly valued and the least was individual training. 4. Regarding services delivered, the most valued were the disaster NPs ability to perform urgent services with competence and skill, NPs ability to recognize need to triage to higher level of care and NPs acknowledging emergent skill limitations. Having one defined scope of practice could establish guidelines for practice, reducing legal risk and eliminating role confusion, and improve victim access to care. Furthermore, standardized guidelines could be disseminated to other disaster responders and victims, which could eliminate duplicity of resources and practice barriers across local, state, tribal, and federal boundaries.

TABLE OF CONTENTS

TABLES

FIGURES

CHAPTER I

INTRODUCTION

Natural and man-made disasters are a world-wide phenomenon and when they strike, can create significant confusion and chaos through the enormous loss of life and property. With the health care needs for disaster victims unpredictable, nurse practitioners (NPs) are positioned to impact the health of a community during such events by responding as a disaster NP.

The World Trade Center attack in 2001, Hurricanes Katrina and Rita in 2005 and Sandy in 2012 are among the many disasters that have increased public awareness regarding the devastation disasters can cause. Incidents such as these also reveal the vulnerability of disaster victims of all ages and cultures. The literature shows that advanced practice nurses with competencies and knowledge regarding systems coordination, offer a unique set of wisdom and skills towards primary care services (Cole, 2005). By blending generalized advanced practice nursing education with specialized disaster training, there is an opportunity to demonstrate to collaborative teams, the care capabilities an NP could offer to the vulnerable populations affected in non-traditional settings such as disasters (Hohman, 2008).

During a disaster, where incomprehensible losses are suffered, the specific roles of the disaster response NP must be flexible, adaptable, and practical, yet also be completed as a member within the interdisciplinary and collaborative response (Murray, 2006). The individual needs of each person, whether injured or not, must be assessed and the disaster NP must be prepared to adapt to these differences. The disaster NP must incorporate disaster training with conventional health care training to deliver evidence-

based care. The NP must be able to work in any setting or surrounding, and follow the clinical practice guidelines that have been established collaboratively through medical and disaster practitioners at the local, state, tribal, and Federal disaster response agencies.

If additional confusion is added, such as the chaos during a disaster event or a practice setting in an austere environment, the unknown scope of practice or lack of role clarity for the NP, could potentially lead to untrained and unprepared NP providers. In the recent Institute of Medicine (IOM) report *Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations*, the NP scope of practice may change in accordance to the scenario of response and the declared level of emergency (Altevogt, Stroud, Hanson, Hanfling, & Gostin 2009). In order for disaster NPs to assume professional responsibility and practice to their full potential, the IOM committee in *The Future of Nursing: Leading Change, Advancing Health*, call to lift the legal barriers that currently restrict some NP practice (National Research Council, 2011). This study will contribute to clarification and understanding the role of an NP in a disaster situation.

Background of the NP Professional

During the 1960s and 1970s emerging health care challenges across rural and city populations in America provided opportunities for the expanded role of nurses to address and extend access to care within communities of need (Bigbee & Amidi-Nouri, 2000). In 1965 Loretta Ford, co-founder of the nurse practitioner (NP) movement, provided the foundational work for the academic and clinical preparation of the nurse practitioner profession. Her pioneering efforts forged the way and her legacy continues today through graduate schools of nursing across the nation, that have created programs which competently prepare nurses at an advanced practice level to meet the diverse health care

needs of their communities. In her address to the American Academy of Nurse Practitioners (AANP) in 2006, Ford described the primary healthcare responsibilities for the NP and challenged practitioners to utilize the education, communication skills, and talents to set innovative models of practice. Envisioning innovations that blend nursing, medicine, and prevention with patients' own knowledge and experience about their illness, Ford encouraged a standard of improved healthcare delivery for all persons (Goolsby, 2006).

Since 1996, the Veteran's Administration (VA) has been an effective change agent and leader incorporating NP practice within its health system, reflected by a 200% increase in the utilization of NP services across all inpatient and outpatient primary care settings (Fletcher, Baker, Copeland, Reeves, & Lowery, 2007). Resulting studies by the VA and others demonstrate comparable healthcare outcomes when NPs provide primary care services (Asch, et al., 2004; Dierick-van Daele, Steuten, Romeijn, Derckx, &Vrijhoef, 2011; Fletcher et al., 2007; Horrocks, Anderson, & Salisbury, 2002; Ohman-Strickland et al., 2008). According to the IOM (2011) Report Brief, *The Future of Nursing: Focus on Scope of Practice*, "no studies suggest that APRNs are less able than physicians to deliver care that is safe, effective, and efficient or that care is better in states with more restrictive scope of practice regulations for APRNs" (p. 2). However, critics of these research findings cite that a lack of defined skill competencies and undefined scope of practice hinders the increase use of NPs in practice by many physicians (Dierick-van Daele, Metsemakers, Derckx, Spreeuwenberg &Vrijhoef, 2009).

Three decades later, the health care needs of vulnerable and health disparate groups continue to exceed the demands of the health care system, and fall short in

securing an adequate capacity of primary care physicians that can provide timely and available access to care and services across these populations. The Institute of Medicine's report on the *Future of Nursing: Leading Change, Advancing Health* calls for action to transform the nursing profession to improve health care access for all persons (National Research Council, 2011). The report advocates for greater utilization of the knowledge and training skills that the NP provide across health care communities, and regard NPs as instrumental in building capacity for the primary care workforce when allowed to practice to the fullest extent of their education (2011).

Defining the Nurse Practitioner Role

Describing the role of the advanced practice nurse (APN), the California Board of Registered Nursing (CA-BRN) defines an NP as "a registered nurse (RN) who possesses additional preparation and skills in physical diagnosis, psycho-social assessment, and management of health-illness needs in primary health care, and who has been prepared in a program that conforms to board standards" (Department of General Services, 2009, p. 87). While not having a differentiated scope of practice from the RN, NPs in California "rely on standardized procedures for authorization to perform overlapping medical functions" (CA-BRN, 2011). In detail, Section 2725 of the *Nursing Practice Act* clarifies that nursing functions and activities essential to providing primary care services such as assessment, disease prevention and even the initiation of emergency activities do not require standardized procedures (CA-BRN, 2011). However, the CA-BRN regulations describe that to provide these essential procedures independently, the NP must assume responsibility and accountability to the consumer or recipient of health care and be "clinically competent, and possess the degree of learning, skill, care and experience

ordinarily possessed and exercised by a member of the appropriate discipline in clinical practice" (Department of General Services, 2009, p. 87).

Evolving Changes to Nurse Practitioner Competencies

Beginning in 1991 the National Organization of Nurse Practitioner Faculties (NONPF) identified entry-level core competencies required as educational expectations for NP graduates entering independently licensed specialty practices (National Organization of Nurse Practitioner Faculties [NONPF], 2012a). Within the specialty practice roles, the APRN Joint Dialogue Group Report prepared the *Consensus Model for APRN Regulation: Licensure, Accreditation, Certification, & Education (Model),* which describes the Advanced Practice Registered Nurse (APRN) as an independent licensed practitioner who provides care to "family/individual across the lifespan, adult-gerontology, pediatrics, neonatal, women's health/gender-related or psych/mental health" (Advanced Practice Registered Nurse [APRN] & National Council of State Boards of Nursing [NCSBN], 2008, p. 6) populations. In 2013, NONPF added further clarification to the specialty roles publishing the specific population-focused competencies required for primary care, adult, family, gerontology, pediatric, women's health, acute care, psychiatric-mental health, and emergency care nurse practitioner practice (NONPF, 2013). In 2012, incentives were added to encourage organizations, such as National Association for Clinical Nurse Specialists (NACNS) to also define population focused core competencies (National CNS Task Force, 2010).

This *Model*, developed through the work of the APRN Consensus Work Group and the National Council of State Boards of Nursing (NCSBN), continues as the standard regarding advanced practice titles to be used, defining new and specialty (population

focused) roles, and presenting strategies for implementation of these roles. The *Model* encourages the clinical doctorate as the entry-level education for the four advanced practice nursing roles, Nurse Practitioner, Clinical Nurse Specialist, Certified Nurse Midwife and Certified Registered Nurse Anesthetist (APRN & NCSBN, 2008). Yet, while the *Model* articulates considerations related to licensure, accreditation, certification, and education, the more recent emphasis on population-focused competencies for NP practice, varying interpretations of scope of practice, and variations of advanced practice nursing by states, ultimately provide confusion about the NP scope of practice, and especially about a disaster NP's scope of practice.

The IOM 2010 report overwhelmingly supports full utilization of the NP in accordance to professional education and training (National Research Council, 2011). Communicating and clarifying the required competencies necessary for independent practice within the various NP specialty areas, will allow health care disciplines and consumers to better understand these roles. Through the elimination of barriers that restrict what the NP can do from what the NP has been trained and educated to do, the disaster NP could focus on collaborative patient management, which might include attending to the emergent needs of disaster victims. Furthermore, clarifying and defining specialty competencies for disaster NPs might reduce the barriers and limitations that an NP might encounter if being called upon to assist in a disaster.

The Problem of Disaster NP Role Confusion

The NP who makes the decision to attend to medical needs of disaster victims faces significant barriers and limitations that should be understood before one leaves home. Many state licensing agencies have disaster contingencies that allow for any

registered nurse (RN) to provide nursing services in another state during times of crisis or mass casualties (Stokowski, 2008). This disaster contingency is based on a similar and well-defined practice act for the RN.

In the *Hurricane Katrina After Action Report (AAR) and Recommendations*, medical volunteers and well-intentioned nursing personnel caused concern, confusion, and lack of collaborative understanding of the Practice Act within the Incident Command System (ICS) for the coordinated incident goal (Mississippi Department of Health [MDH], 2006). The collaborative assessment report by the North Carolina Division of Emergency Management, Public Health, and Emergency Medical Services (EMS), discovered issues of poor inter-discipline coordination and communication and provided a powerful interdisciplinary and multijurisdictional recommendation for change (MDH, 2006).

Using the Federal National Response Framework for clear communication during disaster deployments and all responders communicating and collaborating through the Incident Command System (Federal Emergency Management Agency [FEMA], n.d.), society, as a whole, will greatly benefit from a coordinated and clearly defined scope of practice for the disaster NP. "Society is best served when consistent definitions of the scope of practice are used by states: geographic mobility of nurses is enhanced and residents of every state have access to full range of services that nurses are able to provide" (ANA, 2003, p. 82).

This same clear definition of services does not address the role of the NP, as there are numerous variances to the NP scope of practice. Interstate definition of the NP role is challenged by a wide interpretation of the specialty duties the NP may and may not

perform. In 2007, a report from the University of California, San Francisco Center for Health Professions, lists 27 states with NP/physician collaborative agreements, which broadly defined, states the NP provides medical services using written practice protocols (Christian, Dower, & O'Neil, 2007). The report additionally describes 11 states with independent practice agreements where the NP works without physician involvement and 10 states with a dependent practice agreement where the NP must have direct physician oversight (Christian et al., 2007). This overview report of the NP scope of practice throughout the U.S. identifies a significant problem regarding the confusing rules for practice, as well as further misunderstanding regarding the NP role due to the rapidly evolving changes towards a more autonomous practice (Christian et al., 2007). Additional changes continue and through 2009, *The Pearson Report* highlights expanding legislative or regulatory NP scope of practice in 31 states and calls for removal of all barriers to autonomous NP practice in order to provide better access to care for all persons (Pearson, 2010).

Defining a Vulnerable Population

Defined as persons at risk for physical, psychological, or social health problems, vulnerable populations in a disaster situation demonstrate a variety of responses, which are compounded, when expected actions or resources are no longer available (de Chesney & Bongiorno, 2008). The persons most likely to be affected by the confusion of the NP role during a disaster are the vulnerable populations, who have become victims. Use of Rosemarie Rizzo Parse's theory of human becoming where nursing practice is based on profound respect, enables the vulnerable person to participate in changing their circumstance, searching for the possibilities beyond the now, to reconnect the person to

their community of support (Parse, 2003). Utilizing nursing theory to provide health care services to the vulnerable, advanced practice nurses (APNs) consider some groups at greater risk when unable to advocate or speak for their own needs, such as young children, disabled, or elderly persons. Advanced Practice Nurses' use of nursing theory can help the individual to gain insight about the possibilities available to them (Gueldner, Britton & Terwilliger, 2008).

Through their advanced education and training, NPs with disaster training can complete assessments and anticipate the needs of the various high-risk populations encountered in practice, while still able to provide primary services to the chronic and acute illnesses (Phillips & Knebel, 2007). The disaster NP needs to anticipate the special reactions of all persons, especially the children and elderly who may have unique psychological stress responses (Jones, 2006; Murray, 2006; Saunders, 2007). Furthermore, a holistic assessment from a nursing perspective also benefits the victims of catastrophes, with the NP additionally offering end-of-life and palliative care services to the disaster setting.

Bridging theory driven nursing practice with the unique challenges created by sudden devastation, NPs with disaster training can provide emergency response and stabilization for trauma victims as well as crisis management and referrals for persons needing emergent psychiatric, psychological, or spiritual services. When death is imminent, resources are not readily available, or when injured persons cannot be transferred to higher-level facilities due to massive community devastation, the NP embracing a theoretical practice, can offer a holistic approach to nursing services within a larger systems response.

Problem Statement

Currently, no scope of practice exists for a disaster NP. This was discovered when, as a nurse practitioner involved in disaster response for the National Disaster Medical System (NDMS) and prior to deployment, this author (I) asked for a disaster NP scope of practice in order to abide by legal practice guidelines. I was told there was none, and discovered first-hand, that, without this document readily available, the widely varying interpretation of the NPs scope of practice across state lines, leads to considerable role confusion. The purpose of this research is to add clarification to the disaster NP role and to begin to answer the problem statement: Could the role of the NP as a disaster responder be more clearly understood by disaster victims, non-medical disciplines (i.e. politicians or news reporters), and other disaster health care responders if there was one standardized disaster NP scope of practice (SOP)?

Purpose of the Study

The purpose of this dissertation research project was to begin the consensus-building process by first determining current understanding about the disaster NP role. With a better understanding of the role from the standpoint of representatives from the various disaster responder disciplines, findings from this project could inform the development of standardized protocols, procedures and guidelines by policy makers. The Delphi process for building consensus was the inquiry approach used to begin to address the lack of disaster NP role clarity.

This study is the initial exploratory round of the process using a survey to tap into the perspectives of multidisciplinary experts in the area of disaster response including nurse practitioners, physicians, paramedics, and other first responders. Using a

consensus-building process, it is expected that evidence generated from this process will begin to inform development of an accepted scope of practice for advanced practice nurses responding to a disaster situation. Utilizing nursing theory in the care of the vulnerable patient populations, this study will offer further support for a single, professional scope of practice for the disaster NP.

Study Questions

The broad question for this dissertation study is: What are the current perspectives and levels of agreement of disaster team members across the country as they relate to the disaster NP scope of practice? Specific questions that will be answered by this study:

a. Is there a need for one defined NP scope of practice to clarify the NP duties during the provision of disaster services?

b. How knowledgeable are health care professionals regarding the role and duties about disaster NP capabilities?

Limitations, Assumptions and Control

Limitations

1. The researcher is a novice in using the Delphi method, which may contribute to limitations in reaching a high level of consensus across interprofessional disaster-response specialists during the early phases of the Delphi process.

2. Because no existing scope of practice exists, the process of reaching consensus might be more extensive.

3. A third limitation is that limited resources are available to complete a non-funded doctoral research project.

Assumptions

1. It is assumed that the qualified disaster responder will be an expert who has deployed to two or more events and who answers the questionnaire research questions.

2. It is assumed that all respondents have the experience that qualifies them to participate as stipulated in the survey round instructions and they are expert within their disaster healthcare discipline subject matter.

3. It is assumed that the expert respondents will have electronic access and basic computer skills as well as the ability to read and speak medical jargon in English.

4. It is assumed that a single defined role of the disaster NP will help to reduce role confusion, and will help to improve disaster victim medical outcomes.

Control

1. An 80% level of agreement is the criteria for meeting the consensus during quantitative and qualitative questionnaire analysis.

2. Definitions of research terms have been controlled. For example, ‘expert’ is a health care professional from any discipline who experienced at least two disaster events as a first responder.

3. Expert participants have been controlled through electronic invitation from disaster and professional organizations and websites, and personal solicitation from disaster conferences, trainings, and colleague referrals.

Definitions of Key Terms

Collaboration: to work jointly with others or together, especially in an intellectual endeavor with an agency with which one is not immediately connected (Merriam-Webster, n.d.).

Competencies: The essential knowledge, behaviors, and skills that a health care professional should be able to demonstrate in practice, which delineate the unique aspects of a particular area of practice (Emergency Nurses Association, 2008, p. 3).

Credentialing: Providing documentation that can authenticate and verify the certification and identity of emergency responders (FEMA, 2008, p. G-3).

Delphi Technique: The seeking of judgment or consensus on a particular issue through structured process and questionnaires whereby mathematical averaging determines consensus (Keeney, Hasson, & McKenna, 2006, p. 206).

Disaster Event: An incident whether natural or man-made, that requires responsive action to protect life or property, or to lessen or avert the threat of a catastrophe in any part of the US (FEMA, 2008, p. G-4).

Disaster Medical Assistance Team (DMAT): A group of professionals and paraprofessional medical personnel designed to provide medical care during a disaster or other event (Veenema, 2013, p. 33).

Disaster Responder: Includes persons from Federal, State, territorial, tribal, regional and local governments, private-sector organizations, nongovernmental organizations who assume emergency role or provide emergency medical services during a disaster incident (FEMA, 2008, p. G-4).

Disaster Response: A coordinated response between various Federal, state, local, government agencies, and non-governmental entities collaborating to provide services during a disaster incident (Veenema, 2013).

Disaster Victim (Victim): One that is acted on and is usually adversely affected by a force or agent such as terrorism, natural event, or catastrophic disaster incident (Merriam-Webster, n.d).

Doctorally Prepared (Doctorate): One whose education and training practices meet the doctoral program standards and review of an academic institution. The highest degree granted by a university (Merriam-Webster, n.d.).

Doctor of Nursing Practice (DNP): The DNP is a terminal degree designed to prepare individuals for specialized nursing practice…meeting competencies for all nurses practicing at this level (American Association of Colleges of Nursing [AACN], 2006, p. 7).

Emergency Medical Technician (EMT): A specially trained person certified to provide basic emergency services (Merriam-Webster, n.d.).

Emergency Medical Technician-Paramedic (EMT-P): An emergency medical technician with advanced training who is certified to provide a variety of highly specialized and diversified health care activities before and in route to a medical facility (Merriam-Webster, n.d.).

Expert: Having or displaying special skill or knowledge because of what you have been taught or experienced (Merriam-Webster, n.d.). For this research, an expert is a working professional in a health care discipline that has previous experience as a disaster first responder at two or more events.

Federal Emergency Management Agency (FEMA): Coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror (FEMA, 2008).

First Responder: A person who is among those responsible for going to the scene of an accident or emergency (Merriam-Webster, n.d.).

Health Care Professional (HCP): A trained or licensed professional in a specialized discipline who restores or maintains health (Merriam-Webster, n.d.).

Incident Command System (ICS): A standardized on-scene emergency management construct specifically designed to provide for the adoption of an integrated organizational structure (FEMA, 2008, p. G-6).

Interdisciplinary: Involving two or more academic, scientific, or artistic disciplines (Merriam-Webster, n.d.).

National Disaster Medical System (NDMS): A key organization for the efficacious management of potentially overwhelming patient load that is associated with a disaster (Veenema, 2013, p. 49).

National Incident Management System (NIMS): A systematic, proactive approach guiding government agencies at all levels, the private sector, and non-governmental organizations to work seamlessly to prepare for, prevent and respond to incidents regardless of cause, in order to reduce the loss of life, property and harm to the environment. (FEMA, 2008, p. G-9).

Non-governmental organization (NGO): An entity that is based on interests of its members, individuals, or institutions and is not created by the government but may work beside, and serves a public purpose (FEMA, 2008, p. G-10).

Nurse Practitioner (NP): "a registered nurse (RN) who possesses additional preparation and skills in physical diagnosis, psycho-social assessment, and management of health-illness needs in primary health care, and who has been prepared in a program that conforms to board standards" (CA-BRN, 2011, NPR-B-23) and "will be licensed as independent practitioners for practice … within at least one of the six identified population foci" (APRN & NCSBN, 2008, p. 6).

Physician (MD): One educated, clinically experienced and licensed to practice medicine (Merriam-Webster, n.d.).

Physician Assistant (PA): A physician assistant is a medical professional who works as part of a team with a doctor (American Academy of Physician Assistants [AAPA], n.d.).

Provider: One who provides services to others such as health-care *provider* (Merriam-Webster, n.d.).

Registered Nurse (RN): A health care professional accountable for an ongoing comprehensive assessment that includes data collection, analysis, and drawing conclusions/making judgments in order to formulate diagnoses and update diagnoses, formulate or change the plan of care, decide on specific activities to implement the plan of care prioritize and coordinate delivery of care and advocate for the patient as needed. The RN uses scientific knowledge and experience to make clinical judgments about

observed abnormalities and changes based on a series of complex, independent and collaborative decision making activities (Department of General Services, 2009).

Scope of Practice (SOP): The practice of nursing within the meaning of this chapter means those functions, including basic health care, that help people cope with difficulties in daily living that are associated with their actual or potential health or illness problems or the treatment thereof, and that require a substantial amount of scientific knowledge or technical skill (CA-BRN, 1998).

Standardized Procedure (SP): An official set of collaborative practice guidelines between physicians and nurse practitioners, which allow accountability and description of specified patient care activities to be implemented by the NP (CA-BRN, 1998).

Survey Respondent: Any health care professional who has attended two disasters as a responder and has consented and participated in this data collection.

Survey Round: A 30-day period to complete an online or paper questionnaire within a Delphi technique research study towards consensus that utilizes the data of previous responses to develop subsequent questionnaires (Hoyt et al., 2010).

Victim (Disaster Victim): A person that is acted on and usually adversely affected by a force or agent such as terrorism, natural event, or catastrophic incident (Merriam-Webster, n.d.).

Volunteer: A person who voluntarily undertakes or expresses a willingness to undertake a service (Merriam-Webster, n.d.).

Summary and Conclusion

This research study explores the need for a single disaster NP scope of practice and identifies the possibilities for optimizing the contributions that NPs can make in

disaster situations. Through interprofessional collaboration, mutual respect, and a comprehensive understanding of disaster systems, NPs can maximize their potential contribution to the care of the vulnerable population of disaster victims. Crossing state, cultural, and professional disciplinary boundaries, this study addresses practice opinions, which might optimize patient care outcomes by clarifying the role and special qualifications of a disaster NP.

Chapter two presents the humanbecoming theory as a framework for disaster NP practice, as well as an explanation about how disaster nursing care is rendered within a much larger system perspective.

CHAPTER II

THEORETICAL PERSPECTIVES

As described in the first chapter of this dissertation, implementation of the nurse practitioner (NP) role in the delivery of health care to disaster victims might be limited by role confusion and the inability of other disciplines to understand the NP scope of practice. This chapter will attempt to better articulate the potential of the NP role through the description and use of nursing's theory of humanbecoming by Dr. Rosemarie Rizzo Parse. Additionally, as NPs are one discipline within healthcare, understanding disaster response using a systems theory will further describe the importance of clearly defined roles to maximize the coordination effort.

From the humanbecoming perspective, the focus is on the nurse-person relationship. Furthermore, the health systems framework will be used to situate the disaster NP within the context of different levels of the disaster response system and within the relationships to other members of the interdisciplinary disaster team. As one of several disciplines in the emergency response, understanding disaster services within a large, systems model and using the humanbecoming perspective will enable the NP first responder to utilize knowledge and skills unique to their profession, while optimizing care to victims and improving health care outcomes.

Journal Reflections

According to Chinn and Kramer (2011), personal journaling describes the expression of inner values, insights, thoughts, feelings, and emotions and helps convey the moment of the event, permitting the reader to understand the experience at a deeper level. The journaling approach, when used to describe intense experiences, offers a

glimpse into the unknown, events faced by disaster responders at the point of health care, in the hope of illuminating some meaning. Reflecting on the personal connection with the victims, journaling often can affirm nursing actions during stressful events, demonstrating compassion and the willingness to risk the lasting emotional memories (Ramey & Bunkers, 2006).

> Children, it was always the children; afraid to trust but willing to take a risk to finally eat. 1999 in Fort Dix New Jersey, the Kosovo refugees arrived to the United States seeking political asylum and medical assistance after traumatic and political unrest in their home country. As disaster workers, the deployment and expectations of rendering aid are often unknown. The refugees, Bosnian Muslims, arrived through a make-shift customs and were greeted by interpreters as well as health care teams and trained military psychologists who understood trauma and post traumatic disorders. As a deployed disaster nurse, it was my job to identify the most at risk persons.
>
> One mother brought her young 6-year-old son to the clinic to see if the Americans could get him to eat. She reported that it had been four days since he had taken solid food-the length of time since he had been removed from his village home near Pristina, crossed over the Macedonia border, and was now a stranger in this foreign land. He was alert, but very thin. I sat on the floor and watched him as I played with bubbles. Bubbles are a method of diversion therapy I had often used in the emergency department to help injured and frightened children blow away pain. Next to me and my bubbles was a common American childhood treat, graham crackers and applesauce. The game was on, not through

> the different languages that were spoken, but in a language clearly understood by all in the room: eat a bite, gain a reward with blowing a bubble, eat another, more bubbles. We played for thirty minutes-enough time for five packages of graham crackers, two containers of applesauce, tears of a mother's relief, and a beginning trust state between a child and a stranger (F. Dunniway [Brown], personal communication, May 24, 1999).

The meaning of my actions, above, demonstrate the integrated and person-centered nature of Dr. Parse's theory of humanbecoming. This child needed nutrition, but also needed to feel safe. As this journal entry revealed, the language of play provided the practical means to achieve both nutrition and safety, which resulted in the beginning of a new relationship between these two people. It clearly demonstrates the theory's focus on the meaning of lived experiences as described by the person (Parse, 1998).

The humanbecoming theory provides a framework to structure the meaning of conversation, extending beyond one's self to give meaning to conversations both verbal and non-verbal. The rhythm of these personal encounters, when we are relating to one another, enables us to transcend into a nurse-person relationship while providing disaster care services to victims (Parse, 1998).

Some disaster victim's introduction to the United States disaster medical assistance team was not as easy as the child's described above:

> An 18-month-old girl arrived listless, hypoxic with a pulse oximeter of 67%, barely breathing, severely dehydrated. I was the most experienced pediatric nurse. After starting the oxygen, I prepared the IV (intravenous). When she did not fight the needle insertion, I knew we had little time. A 22-gauge into her right

> antecubital vein. (My thought, should I be trying a 24 gauge?). A flash of blood with a silent prayer, "Dear God please let this IV go in." Success, a patent IV! The IV enabled the administration of life-saving hydration. My continued prayer, "please God help us to save her!" Fluid replacement, antibiotics, and successful resuscitation measures-she will live for now. We called for transport to the acute care hospital. Minutes seemed like forever. She's breathing; a miracle or skill? Are these not both from Him? (F. Dunniway [Brown], personal communication, May 25, 1999).

I used a disaster journal to capture my thoughts and actions and review the care I rendered while deployed, allowing me time to silently reflect what I had experienced. From re-reading my entries, I have learned that the resulting outcome of each nurse-person relationship during a disaster is a unique exchange of knowledge and skill, but also requires the victims to participate or respond to the services provided.

The critically ill child above whose life was in jeopardy, had a moment of improvement while I was still caring for her. However, understanding disaster care services through a humanbecoming theoretical perspective, it is the continued ability of the child's own defenses, and her own will to live that will ultimately determine her fate. By recognizing various limitations in each austere setting, the trained first responder is prepared for human and environmental challenges during disaster response. It is within these challenges that the nurse practitioner's role flexes to cultivate a safe and caring environment, administer and coordinate appropriate treatments within the disaster care team, and foster recovery, coping, and wellness through a therapeutic and co-learning relationship.

The Nurse Practitioner (NP) is one healthcare provider among many disciplines that deploy to disaster settings. The NP deployed to a disaster must demonstrate the knowledge, behaviors and skills of advanced practice nursing as well as understand how serious illness and/or stress can affect disaster victims. Measuring the impact that each potential disaster can wreak onto the victims is influenced by a number of personal characteristics, which can be manifested or lie dormant until a disaster strikes and which may continue to affect the victims after the disaster event has ended.

Personal characteristics such as disaster preparation and emergency planning, resiliency, level of poverty, social status, handling the loss of city and local infrastructures, emotional devastation from the loss of life and property, medical co-morbidities and sustained injuries, or the ability of persons to unite in an effort to rebuild, are all characteristics which to varying degrees may determine how a person responds to a devastating event. Personal events such as disaster pre-planning and dependency on family structure, determine how one manages in a time of crisis. Having the ability to look to the future after such devastation, whether or not there is a desire to rebuild, are dimensions of resiliency and are behaviors which can be understood using nursing's theoretical foundation of the theory of humanbecoming.

Theory of Humanbecoming: Focusing on the Victims' Lived Experience

Developed from an existential-phenomenological perspective in 1981, Dr. Parse in her humanbecoming school of thought removes some of the limitations of a sole medical science perspective and thus better addresses nursing practice. Rather than view the nurse as the health expert, the humanbecoming perspective embraces the idea that the

individual person is their own health expert and how each lived experience of the person affects their response to health (Parse, 1998).

What the disaster means to a victim who has experienced, has witnessed, and has lost personal belongings and/or family members will become part of that victim/person forever (Somers, Drinkwater & Torcello, 1997). In a disaster deployment the lived experience of each victim within the changing situation can influence his or her resilience and desire to seek health care. The health care required for victims in the immediate aftermath of an event may change. Different needs may arise the morning after and change again the week or month later. The nurse who deploys with understanding about the theory of humanbecoming can identify the changing needs and unspoken requests from the victims using the concept of languaging (Somers et al., 1997). Engagement in an intentional and personal conversation with a victim, simply asking, "What is your immediate need?" can be a defining moment where the victim reveals their needs, where communication is open and honest, where trust is established and true presence is achieved.

The transformative experience of living through a disaster changes all future encounters with disaster healthcare professionals and will become part of this victims' memories, thoughts, and meanings of the events. The humanbecoming perspective addresses the victim's plans about today, next week, and next month, and healthcare providers need to honor the meaning of the known and unknown events.

In a deliberate attempt to move beyond traditional nursing theory and synthesizing tenets from Martha Rogers' science of unitary man (Parse, 1998; Pilkington & Jonas-Simpson, 2009), Parse developed and refined this theoretical work. Grounded in

belief that all humans, while continuously communicating, are mutually creating at all times within their universe (Parse, 1999), the theory of humanbecoming describes that persons while ever-changing, are free to choose their values and beliefs from various situations and encounters (Parse, 2003). In a disaster situation, this assumption describes health care delivery in an ever-changing and unknowing environment and assumes the nurse-person relationship is built upon understanding the meaning of the situation for each person. The bio-psycho-social consequences of disasters cause significant devastation to the person, and if larger communities or regions are involved, the greater impact will affect societal and cultural coping responses (Hoffman & Kruczek, 2011).

All language, verbal and non-verbal, may change the relationship between disaster response personnel and community victims. As the victims describe their situations and uncover the meaning of the disaster events, the nurse bears witness to the person's thoughts while demonstrating genuine emotions and the ability to relate to the individuals (Chinn & Kramer, 2011). Whether with care and compassion or in a detached and unfeeling manner, the rendering of disaster services may be interpreted differently even though provided with equal technical skill. The NPs attitude or movements can invite or disinvite conversation. Chinn and Kramer describe interpretation of body language as a fundamental symbolic marker of the abilities of a nurse (2011).

Victims who are observing how the medical services are provided will interpret the actions based on their own belief system. For example, if a disaster victim has lived without the experience of counteracting terrorism, the medical care interpretation may take on a meaning that was never intended by the provider. Therefore, disaster care services require intentional actions by the disaster professionals to meet the individual's

health care needs. Using the simple treatment and rapid triage system (START) for all disaster settings, reduces responder bias and allows for the maximum medical services for the greatest number of victims (Kahn, Schultz, Miller & Anderson, 2009).

Intended specifically for the healthcare professional, humanbecoming was a framework to view each person's quality of life of from his or her own perspective, honoring the person's beliefs and values (Parse, 1998). Disaster NPs provide primary and emergent services within the setting of unexpected patient encounters and experiences. The unpredictable, never-ending, intertwining, and constant motion of change is the disaster environment for the first responder.

Understanding and embracing the humanbecoming perspective, where the person is in constant interaction with the environment (Parse, 1998), disaster NPs can integrate specialized advanced practice skills while rendering care to the victims. These skills ease suffering and encourage resolve of the disaster situation while maintaining each person's dignity (Mendenhall, 2006). The value of specialized training as part of the team, and deliberate actions to see the big picture of a disaster event, may ameliorate the responders becoming like the victims, suffering "the same overwhelming feelings of loss and hopelessness" (Somers et al., 1997, p. 1407).

Utilizing the theoretical foundation of humanbecoming enables the disaster NP to honor the postulates of the theory of humanbecoming and bear witness to the sorrow and fears of the victims. Understanding the changing and unfamiliar environment for each individual, enables the NP to value the individual meaning that each person derives from the disaster situation is different from another's. The theory also describes the lived experience that each disaster worker discovers while facing personal changes within each

situation and deployment experience, and through the paradoxical and rhythmical patterns of relating (Parse 1998), each person administers healthcare services, leaving a mark, but returning home with a different perspective.

> I am not a hero. I am a nurse who acted upon my call to duty. My return from the World Trade Towers 2001 has me forever changed. There was so little I could do for them. All I could do was talk or listen. We never had anyone really sick in the clinic; just exhausted-emotionally spent workers, firemen mostly, refusing to leave, refusing to give up hope, refusing to stop work. If they stopped looking, it meant defeat. They have brothers in the rubble.
>
> Now at home Collette needs me. The school is writing letters that she has done nothing for 3 weeks. No homework, no assignments, no attention in class. I must transition from the nurse at the pile in New York to my family and role as mother in Corona. I am different today. I have changed in an instant. We are at war and I cannot properly protect my children from this reality (F. Dunniway [Brown], personal communication, October 27, 2001).

The experience and meaning for every disaster responder is unique, personal, and continues to emerge as they ponder and discover the paradoxical living of remembering-prospecting all-at-once (Parse, 2001). While providing disaster services to victims, who also within their own humanuniverse are "indivisible, unpredictable, and everchanging" (R. Parse, person communication, June 02, 2009), the disaster responder transforms new meanings in their own relationships.

As I review my deployment journal writings, the stories again come to life, my emotions change and I return to the setting. Sitting in the blue tarp café speaking with

Benjamin, a rescue responder who is still asking why, I return immediately to those emotions.

> All my senses are alive: the noise, the machines, the trucks-backing up and being loaded with steel girders. Crashing steel. Soft voices and whispered conversations. There is a feeling of respect, reverence to keep down extra sounds. It's the middle of the night, lit up like noon. I can see across the pile, through the smoke to the faces of others, rescuers-not rescuing, watching, waiting, hoping, praying. The smell of the burning towers, smell of hot coffee, the smell of dust and ash, less tonight after the soft rainfall. The rain doesn't stop the fires. The taste of coffee…and dust. It's late as I write, as I turn pages. Capturing the moment. Trying to find words. Many thoughts begin, but don't end…
>
> I didn't know his name when I sat down and we started to talk. I was drawn to him, meant to sit near him on purpose. If he wanted to talk I was there to listen. He started. Guarded at first. He talked about the personal side to the tragedy, his losses, his personal friends gone, the presence of evil. I hoped he understood the importance of clinging to goodness. Praise the goodness. He questioned why he was spared. He talked about his pain though he did not allow tears to fall. There is no pill or treatment for this horrible sadness. He is carrying two forms of identity openly in his hands-a pharmacist's license and an Irish rosary. How did he know I was safe to open up to and I would understand his Catholic Irish ancestors? I was willing to listen to help heal if I could. He will come home with me I know. This was his personal story, but for me a lasting

memory of a moment. The day/night clock has stopped. We are stuck on 09-11-01 forever (F. Dunniway [Brown], personal communication, October 2, 2001).

The uniqueness of Parse's humanbecoming theory for nursing is that it is based on what nurses know about human beings and the health of these humans, and how this knowing guides nursing actions (Cody, 2006). It is about being there at 3 am for Benjamin who just needed to talk, needed someone to listen, looking for meaning rather than answers from the last few weeks. There was no good answer, no explanation, and few words to take away his pain. There was a nurse in the middle of the night who participated in his world, fully engaged to his pain, listening with intention to help him find meaning, to help him transcend past this hurt. How he will recover is up to him. How he will return to work as a fireman and as a pharmacist will be his decision.

A disaster scenario can be described as a constant motion of situational possibles. In this disaster setting, the practice of nursing while applying the humanbecoming perspective incorporates the holistic meaning of the disaster situation for the victim. Within one's own universe, while defining health, each person must now freely choose what is next and how they can "move beyond each moment with hopes and dreams" (Parse, 1998, p. xi).

The possibilities of a transformative experience, allows a victim/person freedom to react in his or her way in any situation. The survival mode where the fight or flight takes hold can emerge. Therefore, the disaster NP realizes that each individual describes the situation from their own inseparable connections and experiences, and while unpredictable, the mystery about the disaster nurse-person encounter, guided by listening

to the story of each disaster victim, determines the individual care options and improves the health outcomes of each victim (Parse, 1999).

Applying the method of intentional listening in an engaging nurse-person relationship, the disaster NP can seldom fully prepare for the uniqueness of the person's response until it happens. One unique aspect of a large unfolding event is that a disaster NPs response varies between patient encounters and changes after every deployment. The NP is always becoming, part of the continuum of nurse-person care before, during, and after the deployment has completed.

Moving the Focus of Humanbecoming from the Victim to the Nurse Practitioner

The experience of nursing and the development of skills and ability to care for the variety of disaster victims are also a becoming process. Clinical training and educational preparation of the disaster NP occurs long before the deployment, but the clinical experiences constantly adjust the depth of knowledge about the injuries that occur as well as the variety of clinical challenges within each situation of the disaster environment. Due to the advanced training, the disaster NP has the freedom to exercise judgment with clinical decision-making skills to determine the best choice of care. However, a best practice would arise from clinical decisions that were based on skill competency, founded on a scope of practice based on evidence, and influenced by the professionals who are in practice in these austere environments.

The development of standards of NP disaster services offers NPs an opportunity for optimal contribution in skillfully caring for the variety of disaster victims they might encounter. In keeping true to the individual needs of each victim and the training of each healthcare professional, the disaster NP can look inside the discipline of nursing for

direction regarding the standards of individual members and how each should act, behave, and practice. Within the American Nurses Association (ANA) *Nursing: Scope and Standards of Practice*, Standard 10 addresses that the registered nurse "interacts and contributes to the professional development of peers and colleagues" (American Nurses Association [ANA], 2004, p. 37). One area where these disaster professionals could contribute to their own practice by determining the standards and defining the duties is to participate in the formulation of a disaster practice document.

Bringing Disaster NP Role Clarity to the Disaster/EMS System

The decision to pursue research to shape development of a scope of practice for the disaster NP follows the discovery that the role of the disaster NP does not have clearly defined duties and training. Without a defined scope of practice and without proper disaster training congruent with this scope of practice, any NP who deploys runs the risk of providing emergency and chronic services to victims without proper training. This action has potential to place already vulnerable persons at risk, and leaves the NP open for litigation since skill competence has not been established. Health services, provided by an NP, are not defined by a setting or situation, but rather by the needs of the patient. Being accountable to the patient, the nursing profession, and the licensing board from the state of origin, the NP must recognize their own limits of knowledge and experience, plan for the management of each changing situation and consult other disciplines when the skills required exceed those of the NP (APRN & NCSBN, 2008, p. 8).

Clarifying the scope of practice for NPs in disasters, points to a health systems issue that will be addressed through this study. To put this study into the perspective of health systems research, Donabedian's contribution to a model for assessing health

systems quality is a useful conceptual framework for linking clarification of NP scope of practice with improved patient outcomes. Donabedian (2003) takes a systems approach to frame quality indicators into the dimensions of structure, process, and outcomes. This approach is consistent with general systems theory developed by Von Bertalanffy in the mid-20th century, where systems were composed of inputs (structure), throughputs (process), and outputs (outcomes) (Von Bertalanffy, 1972). Contemporary leaders in the science of healthcare improvement have adapted systems theory to organizational processes for improvement, most notably the work of Nelson, Batalden, and Godfrey (2007) from The Health Care Improvement Leadership Development Program at Dartmouth-Hitchcock Medical Center and Dartmouth Medical School.

Viewing the health system as comprised of three interactive levels of systems, the point of care, where the patient receives direct care is referred to as the micro system. The quality of this care is partially determined by the patient/provider encounter and immediate environment as addressed in Parse's humanbecoming model. However, structure, process, and outcome dimensions of the meso system, which is comprised of multiple disciplines, jurisdictions and agencies, is influenced by the ability of the various stakeholders to communicate and coordinate efforts, towards one unified response. Indirect influences on the quality of the health care encounter arise from the macro system derived from societal influences including government systems, cultural subsystems, sociopolitical and economic factors (Hoffman & Kruczek, 2011).

A scope of practice standard is a structural aspect of the macro system. The premise of this study is that by introducing a clear standard of practice for nurse practitioners in disaster settings, these APNs will have a clearly defined role that is congruent with the

NPs full capacity to contribute to the care and management of disaster victims. Congruent with Parse's philosophy is the American Association of Critical-Care Nurses *Synergy Model for Patient Care* (2013) a patient focused paradigm that drives the decisions and characteristics of care delivered by the nurse. Driven by the needs of patients and families, the *Synergy Model* describes patient characteristics across the life span and nursing practice competencies that reflect integration of patient's needs and nurse's knowledge to optimize patient outcomes (American Association of Critical-Care Nurses, 2013; Kaplow & Reed, 2008).

Merging the Delphi Technique with Theoretical Understanding

Aligning the Delphi technique with the theory of humanbecoming, experienced disaster healthcare professionals are utilized in the process of developing the disaster NP scope of practice. These responders will be invited to participate in the survey, must freely choose by consent and will be provided the opportunity to contribute opinions. Disaster personnel who have deployed to such events will be queried to discover understanding about the NP role, types of services and duties that are expected to be rendered by NPs. Defined experts to be queried are NPs and multidisciplinary health care personnel from services and organizations who have deployed within a coordinated systems response.

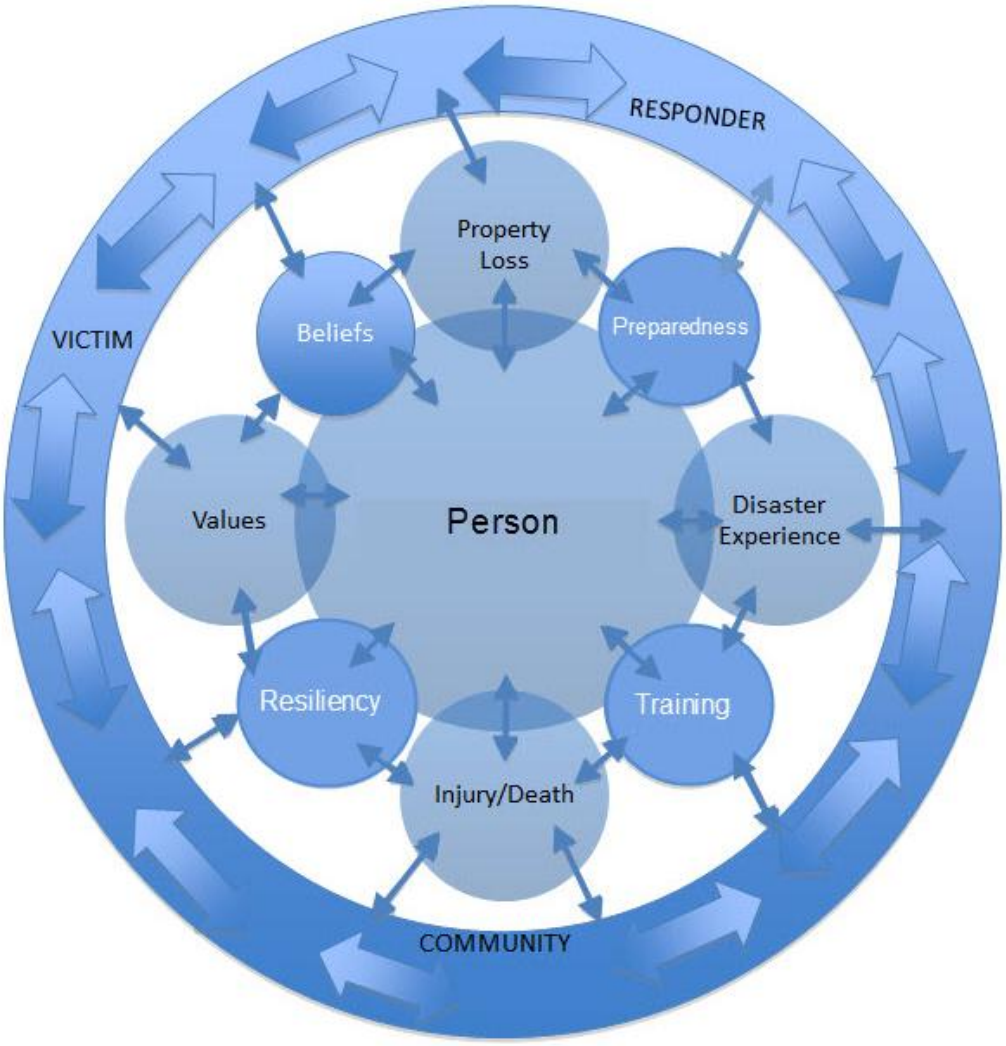
The Delphi technique in this study targets the disaster responders, gathering current understanding and values of disaster NP services. Assessing the individuals knowledge about the NP role during disaster training experiences, can offer information towards developing beneficial training opportunities. The scope of practice and required competencies can be achieved by a group of health care experts using the Delphi

technique (Baker, Lovell & Harris, 2006). These expert clinicians are provided the opportunity to contribute to the development of NP standards for disaster care services, thus improving patient outcomes.

A Humanbecoming Perspective of Care in Disaster Situations

Persons with lived experiences from a disaster event will often elicit some form of reflective change towards their personal, emotional, professional, or societal relationships. Without knowing what these changes might be, discoveries and first time encounters with every person offers the possibility of new outcomes, situations, experiences and responses. Every encounter with new persons, who are also experiencing their own first moments in the changing disaster environment, provide innumerable possibilities for conversations and relationship building. Understanding the illimitable possibles of inevitable relationships, which forge new meanings in ever-changing situations and are created during the unknown, a humanbecoming perspective (Parse, 1998) describes the essence of disaster nursing.

Humanbecoming Model: One Perspective from a Disaster NP



"There I was, a nurse in the middle of the night who participated in his world, fully engaged to his pain, listening with intention to help him find meaning, to help him transcend past this hurt. He had prepared but was unable to prevent the unreal and unfolding events."

Micro-systems: *Inputs*
Structure-Point of care contact.
Meso-system: *Throughputs*
Process-Unified response of multiple disciplines, jurisdictions and agencies.
Macro-System: *Outputs*
Outcomes-Societal influences, government agencies, cultural subsystems, economic and sociopolitical factors.

Figure 1. A Humanbecoming Disaster Model-One Nurse's Lived Reality

This personal and representative humanbecoming theoretical model combines the disaster events and variables within each person, which are continuously unfolding before, during, and after an event (represented by the many arrows in all directions). How each person chooses to understand the disaster event is unique and individual. As a disaster NP applying the theory of humanbecoming, having the perspective to understand the meaning for each victim or person, is to value the disaster event through constant paradoxical relationships. Illuminating meaning by moving through the disaster in synchronizing rhythms as life was, is, and will be after the disaster, the person, who is always in the center of the humanbecoming theory, will experience emerging meanings, going with the flow, and moving beyond to what is not yet (Parse, 1999).

Summary and Conclusion

Preparing a workforce of competent nurse practitioners (NP) to respond to disaster events requires interdisciplinary systems coordination, specific disaster training, and multi-casualty incident planning and practice. Disaster NPs should insist upon a valid scope of practice with identified skills and competencies that are required in disaster situations.

Combining a humanbecoming perspective with a Delphi research study will solicit understanding about the NP role from health care professionals identifying values and important skills required to optimize the health of victims during a disaster. Developing standards based upon the usefulness of the past, present, and future experiences, to determine the best scope of practice and competencies, is the ultimate goal of collecting data from multidisciplinary disaster professionals.

This chapter has discussed the value of nursing care rendered to disaster victims using a nursing theoretical view within a larger system. In the literature review of Chapter 3, support will be provided towards the importance of establishing a guideline standard for the disaster NP role.

CHAPTER III:

LITERATURE REVIEW

"So while it is all but certain we will continue to have disasters, and probably even more and worst ones, our sociological understanding and knowledge of them will also undoubtedly increase" (Quarantelli & Wenger, 1985, p. 26). Dr. Quarantelli is a renowned international expert regarding disasters and catastrophic events, and the effects that these events have on society. His numerous writings suggest that over the last several decades international knowledge about disasters has substantially increased. But as Quarantelli and Wenger (1985) suggest and report in the literature, the worst events are yet to occur as populations inhabit more vulnerable geographical regions and as there is an increase in technological capabilities, dangerous chemical availabilities and intentional acts of terrorism.

These predictions made over two decades ago, take a new appreciation with heightened understanding as we witness the devastating disaster events of recent years and demonstrates the urgency to educate and prepare properly for disaster management. This chapter will discuss the literature findings surrounding the nurse practitioner role as a disaster responder, and provide a foundation of importance regarding disaster preparation through a clearly defined role description.

Support of Designing a Disaster Nurse Practitioner Standardized Scope of Practice

Philips and Knebel (2007) describe the steps necessary for preparing for disaster events in *Providing Mass Medical Care with Scare Resources* Executive Summary for the Agency for Healthcare Research and Quality (AHRQ). Catastrophic and complex events require systematic responses where personnel are equipped with knowledge and

skills to provide primary services to as many victims as possible when resources are limited and surge capacity is exceeded (Philips & Knebel, 2007). Dr. Richard Carmona, US Surgeon General supports that to meet the needs of the disaster victims and especially the vulnerable populations, nurse practitioners (NPs) need to be able to provide services within their scope of practice and be able to cross state lines (Goolsby, 2006). Describing himself as an advocate for nursing, Dr. Carmona states the time is now for NPs to fulfill the gaps in healthcare, and NPs should become familiar in disaster preparedness to meet the critical needs during such events (Goolsby, 2006).

As a pediatric consultant to the Surgeon General, Colonel John Murray (2006) calls for disaster preparedness to include the specialty needs of children in catastrophic events. As pediatricians are the health care experts for children, *Pediatric Terrorism and Disaster Preparedness: A Resource for Pediatricians* (Foltin, Schonfeld, & Shannon, 2006) is one educational resource the AHRQ offers to encourage education and training for Disaster Medical Assistance Teams (DMATs). Calling for multiple agencies to coordinate and organize, the *Resource* challenges first responders and healthcare professionals to be proficient in assessment and emergency resuscitation during delivery of specialty care to children (Foltin et al., 2006). When the disaster limits adequate resources and qualified staff, the NP may be the professional called upon to provide the necessary and emergent services (Klein, 2006).

Health Professions Education: A Bridge to Quality is an Institute of Medicine (IOM) report focusing on the integration of core set of competencies into professional education, accreditation, and credentialing (Griener & Knebel, 2003). Calling for clinicians to be educationally prepared and able to respond to "varying patient

expectations and values" (p. 2), the report calls for interdisciplinary teams to promote patient safety. Furthermore through consensus across health care disciplines and a common language, a core set of competencies could result in maximizing the ability of practitioners to function to the full extent of training (Griener & Knebel, 2003).

Completing the Literature Review

A detailed literature review assessing the competency and understanding about the nurse practitioner role during disasters was completed using Academic Search Premier, CINAHL, CINAHL Plus, Cochrane, EBSCOHost, Eric, Health Source Nursing/Academic Editions, MEDLINE, Military & Government Collection, Nursing@OVID and ProQuest Dissertation Databases. Additionally Federal websites were also queried: AHRQ, FEMA, IOM, NDMS, NIH, and DHHS. The literature review search terms and phrases queried were: nurse practitioners and scope of practice; nurse practitioners, competence and disasters; nurse practitioners, competence and scope of practice; nurse practitioners and disasters; nurse practitioners and validating competence; defining nurse practitioner scope of practice; nurse practitioners and emergency response; nurse practitioners, disasters and scope of practice; nurse practitioners and multidisciplinary disaster response; disasters and systems; nurse practitioners, disasters and first responders; nurse practitioners and disaster response; nurse practitioners and Parse research; Parse methodology and disasters; Parse and qualitative research; qualitative research, nursing values and disasters; Parse, surveys and questions; qualitative, survey and values; nurse practitioners, disasters and Delphi research; Delphi and nursing; Delphi and nurse practitioners; and Delphi and Parse research methods.

To reduce from the thousands of hits using these search terms, the articles,

studies, trials, websites and dissertation inclusion criteria was limited to the nurse or NP as a disaster first responder; nurses and Delphi research for disasters and Parse's humanbecoming theory in disasters; nurse practitioner competencies and scope of practice; disaster response and systems theory and models for nurses.

So as the previous two chapters offer educational and theoretical support for the nurse practitioner during disaster response, this chapter will show evidence in the literature where the lacking scope of practice for the disaster NP can lead to confusion about the NP role during a coordinated systems response.

The literature is filled with information about registered nurses on the frontline of disaster events. Nurses are described as key players, full participants, ready and willing to stop and volunteer (Allgeyer, 2009; Stokowski, 2008; Wynd, 2006), to serve the population in crisis (Murray, 2006), from any culture, using nursing's unique and holistic educational preparation (Carlson, 2010; Clemens, 2006). As a member of an organized response team such as the Disaster Medical Assistance Team and with additional education preparation, the nurse practitioner (NP) provides comprehensive assessment skills and problem solving while discriminating between normal and abnormal patient findings to the seriously injured in a disaster or major emergency (National Disaster Medical System [NDMS] n.d.). As cited in Lowes (2010) once licensed to diagnose illness and prescribe medications, a certified NP can perform about 80% of the services provided by physicians, with comparable quality, within the scope of the practitioner's expertise.

Nurse Practitioners as an Underutilized Resource

"More than four decades of research concludes that nurse practitioners provide

safe, cost-effective, high-quality health care" (American Academy of Nurse Practitioners, 2013, p. 1) yet in 2010, Bauer describe these health care professionals as an under-utilized resource. Continuing today, variety exists across states regarding statutory and regulatory requirements for physician supervised delivery of services and this increases the confusion within health care. In some states, the NP is allowed to practice without direct physician oversight and can deliver primary and preventative services for 20% less expense than physician colleagues (Asch et al., 2004; Lowes, 2010).

The cost benefit of utilizing the NP for primary services was again represented in 2008 by Dr. Jean Yan to the World Health Organization (WHO), who presented that alongside physician colleagues, NPs and nurse midwives can deliver approximately 80% of primary care services and 90% of pediatric services at "equal or better quality and lower costs" and that full utilization of these advanced practice nursing (APN) roles might demonstrate a global health burden disease reduction by 70% (Yan, 2008, slide 14).

Fletcher et al. (2007) report a descriptive study of primary care services across seven Midwestern Veteran's Healthcare Administration (VHA) facilities where NP use increased 200%. Assessing the perceptions of the NP role and how well the respondents perceive the quality of primary care delivered by NPs, the report supports the misunderstanding about the NP role and the concern about NPs providing services outside of training and educational experience (Fletcher et al., 2007). Further, this study describes concern about NPs being pushed beyond their scope of practice in the need to provide services to complex patients.

A systematic review of 4253 articles to assess the quality of primary care services

rendered between physician and nurse practitioners, compared 25 articles relating to 16 studies and demonstrated support that NP care is comparable (Laurant et al., 2004. This Cochrane review reveals that 12 of 19 patient satisfaction outcomes, when measured, were significantly better when nurse-led care was provided (Laurant et al., 2004. This review supports previous findings in Mundinger et al. (2000) and Venning, Durie, Roland, Roberts, & Leese, (2000) that trained NPs can deliver quality primary care services with equivalent patient health outcomes when compared with primary care physicians. The authors report that limiting these results is the absence of specific research assessing the equivalence of care between these two provider groups (Laurant et al., 2004.

Evaluating the quality of care when NPs substitute for physicians, in 2009 Dierick-van Daele et al. published a randomized controlled trial (RCT) of 1501 participants. Supporting previous reports that patients' cite equality of care rendered with similar satisfaction between NP and physician provided services, this RCT supports the utilization of trained NPs in primary care services (Dierick-van Daele et al., 2009). Limitations to generalizing the results of the RCT, is the location outside of the United States from a single region of the Netherlands. As this research collected data from previously established patient and provider relationships, the sample also could not be blind to the interventions, making bias a concern. Furthermore this RCT compared new graduate NPs with experienced physicians. NPs were provided 15 minutes per patient appointment and physicians 10 minutes. The NP having additional time spent with each patient might account for the increased satisfaction by the patient feeling heard, rather than any relevance to care rendered (Dierick-van Daele et al., 2009).

Finally, to the Congressional committee *Addressing Healthcare Workforce Issues for the Future,* Jennifer Laurent FNP-BC describes the underutilization of the expertise in the NP role due to imposed barriers and that when fully utilized, the NP is a valuable, untapped resource who is professionally educated and trained to answer the primary care needs of the people by providing holistic, high quality, health care (U.S. Congress, 2008). During a disaster when financial burdens as well as access to quality primary care services can be a concern to the vulnerable population affected by the event, clearly there are benefits to utilizing NPs for urgent, primary, chronic, and preventative services.

In the *Medicare Quality Improvement Organization Program* Report to Congress (2006), Michael Leavitt, Secretary of Health and Human Services (HHS) summarizes governmental support towards removing barriers for practitioners to improve quality of care to patients, avoiding unnecessary costs. When comparing the NP role required in a disaster setting, where many complex patients may require emergency services with the same urgency, and potentially may not have available physician oversight, NPs will benefit from a well-written scope of practice to offer these clear guidelines (Leavitt, 2006).

Barriers of Nurse Practitioner Practice

Throughout the IOM report *Guidance for Establishing Crisis Standards of Care for use in Disaster Situations: A letter Report* in order to improve the nurse practitioner (NP) role as a primary care provider, barriers to practice must be removed (National Research Council, 2009). Laurent (2008) suggests that to remove the barriers the NP should perform to one's educational potential. Removing barriers and performing to NP training level is further supported in the IOM report edited by Greiner and Knebel (2003)

who also suggest that a clear NP role understanding by disciplines outside of nursing must be achieved.

One NP role example that lacks a clear understanding and is without delineated practice guidelines is the NP who responds to a disaster. As a family nurse practitioner involved in disaster response for the National Disaster Medical System (NDMS) where one witnesses incomprehensible loss of life and property, the role of the disaster responding NP must be flexible, adaptable, practical, yet specific. Bergman (2008) and Wynd (2006) suggest that unique management of each person's needs, whether injured or not, should be assessed and the disaster NP should be prepared to adapt to these differences.

As described by Preheim, Armstrong and Barton (2009) and further supported by Wynd (2006), the disaster NP must incorporate his or her professional core competencies and understand specific disaster knowledge, skills, and attitudes, which are supported and indicated by evidence-based practice as being beneficial to the disaster response. The disaster NP must be able to work in any setting or surrounding, and follow the clinical practice guidelines.

In 1998, the Health Resources and Services Administration (HRSA) and the Agency for Health Care Policy and Research Administration (AHCPR) responding to concerns about availability of primary health care services and to improve healthcare access and quality to the vulnerable, developed *Curriculum Guidelines & Regulatory Criteria for Family Nurse Practitioners Seeking Prescriptive Authority to Manage Pharmocotherapeutics in Primary Care*. With the goal of the guidelines to standardize prescriptive authority for NPs across the US, the authors chose a consensus model to

promote acceptance across education and regulatory communities. Supporting one less practice barrier, these guidelines strive to facilitate interstate mobility by the NP (Health Resources and Services Administration [HRSA] & the Agency for Health Care Policy and Research Administration [AHCPR], 1998). The summary report by representatives from the National Council of State Boards of Nursing (NCSBN) and National Organization of Nurse Practitioner Faculties (NONPF) describe the improvements in quality and consistency of care that "uniform regulatory criteria would promote" (HRSA & AHCPR, 1998, p. 6). These commonly agreed upon criteria, using a consensus of experts offers potential for a wide acceptance by stakeholders and demonstrates that greater utilization of NPs for primary care would ultimately maximize access and benefits for the underserved populations (HRSA & AHCPR, 1998).

Established through standardized procedures, the IOM report of 2009 describes developing guidelines that are collaboratively authorized by medical and disaster practitioners at the local, state, tribal and Federal disaster response agencies. Despite these recommendations, after several inquiries to state and government emergency management officials, informal interviews with NPs who have responded to disasters, as well as to the local disaster team management, this author discovered, that currently no written standardized guideline exists which define the scope of practice for an NP who responds to a disaster.

Disasters: A Multiagency and Multidisciplinary Response

Demonstrating that a consensus of experts can overcome the challenges and barriers within a large health care system (HRSA & AHCPR, 1998), literature cites that institutional, community, local, state, tribal and Federal planning and training is

necessary for collaboration and functional response when an event is occurring (National Research Council, 2009; Wynd, 2006). When communities are involved and have an interest in the role of disaster responders, community leaders, Emergency Medical Service (EMS) personnel, emergency management agencies, Red Cross nurses, public health, and DMAT members become stakeholders and should collaborate in disaster planning activities. These community stakeholders will best serve the public when a coordinated effort is achieved through effective communication with the requested state and Federal teams who respond to manage and assist at a mass casualty or large-scale event.

Improving interdisciplinary communication during disasters, the Incident Command System (ICS) is one model for standardizing the emergency management response and meets the demands of any size event. Organizing resources and operations, ICS crosses disciplines and is utilized as a model of improving collaboration and coordination within a large system, especially during escalating events when response needs are unpredictable and changing by the moment (FEMA, 2008).

Another model used by the Institute for Healthcare Improvement that can be implemented for positive changes is the Plan-Do-Study-Act (PDSA). Congruent with the changing environment during disaster response, frequent PDSAs can accomplish quality improvement in relationships or behaviors that might affect processes within a system. These two models for improvement rely upon the disaster responder's participation and are congruent with the humanbecoming theory where the effects of the improvement depends on the relationship of the individuals during the collaborative response.

A disaster incident requires immediate organizational action to ensure effective management and control of the situation, to reduce the loss of life and property to communities (FEMA, 2008). Murray (2006) describes that disaster events such as Hurricanes Katrina and Rita in 2005, taught providers there is much work to be accomplished to achieve interdisciplinary, collaborative disaster planning, and improve health care services during such catastrophic events. Despite caring for over 200,000 displaced persons in the aftermath of these events, the NDMS Response Team Commanders *Report on the National Disaster Medical System 2005 Hurricane Response* describe the organizational and systematic challenges that overshadowed the many positive actions of the disaster response teams (2006).

A Multidisciplinary Design for an NP Scope of Practice

Using a coalition of emergency service representatives from local and state agencies, as well as nurses from Department of Health and Human Services, Public Health, American Red Cross, DMAT, BRN, and professional NP organizations, the development of a standard guideline to articulate the disaster NP scope of practice would communicate the role of the NP responder in caring for disaster victims. Utilizing a multiagency and multidisciplinary team to help in the design of the standardized procedure will eliminate the potential for resisters ("Kotter's 8-step," n.d).

The vision from one understood set of practice guidelines for disaster NPs would be to eliminate role confusion and communicate this role to Incident Commanders and emergency responders. Furthermore, guidelines will minimize duplicity of roles between providers, enabling the NP to utilize training and experiences to provide disaster specialty and primary care services to all vulnerable persons across the lifespan. Rath and Strong

(2003) describe that Kotter's Positive Deviance approach identifies best practices, focuses the details on the design, and includes behaviors from within the profession of nursing that are implemented in a non-traditional setting of the disaster community, and may encourage cooperation between multiple agencies.

Since initiating Homeland Security Presidential Directive-5 (HSPD-5) that mandates National Incident Management Systems (NIMS) training to coordinate all levels of government and non-government organizations towards working efficiently and effectively together during major emergencies (National Incident Management Systems [NIMS], 2006), Federal funding for NIMS and ICS training has been supported and provided to the DMAT's. Removing the obstacles that once hindered the efforts to communicate and collaborate through the development of one common incident language, ICS disaster drills now include practice between the various community, local, state, tribal, and Federal agencies.

During these training drills, practicing with a well-written NP disaster scope of practice and standardized procedure, would familiarize the NP role to all disaster and EMS first responders, DMAT and Red Cross personnel, and may facilitate support and respect between disciplines. Once the role of the disaster NP is understood, and the team experiences the patient care that could be provided, the possibility of defining more disaster role descriptions would be encouraged, furthering the camaraderie and cooperation between all agencies of disaster personnel.

De Chesnay and Bongiorno define stakeholders as "nonprofit organizations or political entities that can help establish and sustain the program or individuals who will be affected by the program or are the target of the program" (2008, p. 389). During a

large-scale disaster event, stakeholders may be described as the responding agencies, licensed and non-licensed personnel, patients' and families, and the political representatives appointed or nominated to represent all of the aforementioned. As the understanding and importance of the scope of practice and standardized procedures is a collaborative nursing and physician responsibility, the stakeholders need to be informed and solicited for input. "By including end-users in the design and planning phases, there is greater likelihood of developing recommendations or guidelines that will be adopted and acceptable by those responsible for day-to-day implementation" (Chan & Rubino, 2010, p. 73). However as political and agency officials may not understand the scope of practice and role of the disaster NP, the ultimate responsibility for drafting the NP proposal, which is supported by professional NP organizations, must remain with the NPs and physician personnel within these disaster responding agencies.

Proposing the disaster NP scope of practice and developing standardized procedures involves a collaborative medical direction, basic emergency and disaster knowledge, and understanding of nursing practice. Within the state of California, when the NP procedures overlap medical functions and functions exceed the usual scope of the RN practice, there is clear legal directive for the NP to use standardized procedures for authority to practice in California (CA-BRN, 2011). "Process-oriented standardized procedures, utilize written policies and protocols to describe and define the functions of advanced practice nurses" (Zettler, 2001, p. 1). When a medical procedure is to be standardized to cover NP practice, the NPs and associate physicians, collaboratively define the functions, reaching agreement on what guidelines or protocols will be in place when performing those functions.

The foresight to define and communicate a clear set of NP functions in the event of a disaster enables emergency officials to call upon needed resources and prevent the delay of care to victims. California Emergency Medical Services Authority (www.healthcarevolunteers.ca.gov) maintains a list of preregistered health care professionals and will validate electronically credentials and skills that are needed to serve the disaster event. If a Federal activation as an NDMS/DMAT responder is necessary, the NP scope of practice from California is recognized through reciprocity laws and in some states through Emergency Management Assistance Compact (EMAC) agreements, that along with licensure and certification by all states (Emergency Management Assistance Compact [EMAC], n.d) allow the NP to function to the level of training (Peterson, 2006).

Disaster Research and Standards of Care

Literature, news reports, and images covering the World Trade Center attack and multiple hurricane events, has increased the public‘s awareness regarding the devastation and vulnerability (LaFuente, Eichaker, Chee, & Chapital, 2007) from both manmade and natural disasters. Mass media, governmental, private and academic responder groups to these disasters demonstrated coordinated response deficiencies, and led to the production and design of several disaster preparedness courses, training sessions, and community outreach programs.

The Institute of Medicine report *Guidance for Establishing Crisis Standards of Care for use in Disaster Situations: A Letter Report* (National Research Council, 2009) suggests the need for consistency to all victims during catastrophic events. Delineation of roles, clear scope of practice for healthcare professionals, and the maintenance of

personal dignity, cultures and values while providing primary care suggest immediate changes are needed for surge capacity and mass casualty incidents.

Further supporting the dignity of the individual person during a disaster situation Foltin et al. (2006) describe the specific vulnerability about the children in their resource *Pediatric Terrorism and Disaster Preparedness: A Resource for Pediatricians*. The need for competence and knowledge by the providers of emergency services, Foltin et al. (2006) encourage specialty disaster training and preparation towards the rising possibility of bioterrorism and the incomprehensible effects on the children. With nursing based on scientific and theoretical foundations to promote healing, Wynd (2006) supports that nurses using a systematic application of learned knowledge and skills, could apply, physical, spiritual, physiological, or psychological disaster care services to victims. To anticipate the emotional and physical needs and responses of catastrophic events from victims and responders Wynd suggests that nurses be at the planning table of disaster preparedness training.

Vulnerable Populations in a Disaster

The most vulnerable patients during a disaster are the children, poor, homeless, elderly in nursing homes and hospitalized patients when the building sustains damage (Foltin et al., 2006). The disaster NP is educated and qualified to respond to these needs of the various populations and if trained in disaster response, could be among the first to assist the community victims. Research studies and many in depth analyses describe in the disaster literature ways to combat the potential loss to life or property, address the concerns and health issues created by the catastrophic events, and made plans to improve interagency services for the vulnerable and affected populations (Adams & Cancini,

2008; Akeam, 2009; Brandon, 2008; Veenema, 2006).

Preparing a workforce of competent nurses in emergency response for mass casualty incidents requires planning. Work by the International Nursing Curriculum for Mass Casualty Education (INCMCE) is one suggestion for changing the educational curriculum (Weiner, 2005). Further committee work and consensus designed collaborative documents have emerged throughout the literature demonstrating a need for multidisciplinary coordination to communicate disaster roles effectively (Everly, Beaton, Pfefferbaum, & Parker, 2008; Silenas, Akins, Parrish & Edwards, 2008).

Adams (2008) describes that nurses can improve how they help in times of disasters through more understanding of the vulnerability of individuals and communities using a *Comprehensive Vulnerability Management Model*. This understanding about vulnerability from the perspective of the person affected compliments the theory of nursing from the humanbecoming perspective. Choosing how to be with individuals in times of crisis, the disaster NP can now participate in this research and have the ability to determine the skills, knowledge and competencies required for deployment using the consensus expertise such as a Delphi technique.

Disaster research has much to say about preparing personnel before deployment. In 2007, Nygaard's disquisition reveals the volunteer organization and preparation of Operation Minnesota Lifeline prior to medical response teams arriving in Lafayette, Louisiana to supplement emergency and public health resources for Hurricane Katrina victims. Despite the leadership roles coming from the nursing discipline, ambiguity and role misperceptions "caused dissention" (Nygaard, 2007, p. 28). Furthermore, with disaster response and planning largely theoretical, the lack of real experience and written

guidelines to prepare for large number of victims created insufficient care to the masses. Suggestions from this research encourage disaster planners to address primary care needs for the various chronic health conditions and make available prescription medications to prevent worsening of illnesses for the victims (Nygaard, 2007).

Valuing the Nurse Practitioner as a Disaster Responder

The credentialing literature by Magdic, Hravnak and McCartney (2005) describe the NPs obligation to protect the public and can be further demonstrated through the process of peer reviewed privileging and NP national certification (APRN & NCSBN, 2008). The NP is educated and qualified to treat chronic illnesses and medical urgencies. One professional benefit of credentialing and pre-registration with a disaster team, the NP could receive necessary disaster training, deploy to an event, and provide timely emergency and chronic services to victims (Magdic et al., 2005). Furthermore, there is a great deal of literature support for a defined skill set to accompany training that may decrease the risk to already vulnerable persons by establishing skill competence and mitigating much of the NP litigation potential (APRN & NCSBN, 2008; Jorgensen, Mendoza, & Henderson, 2010; Klein, 2006; Kouzoukas, 2008; Polivka et al., 2008; Sorrel, 2008).

If trained in disaster response, the NP could be among the first responders to assist victims (Everly et al., 2008). Blending basic and advanced practice nursing education with a specialty disaster preparation is one way that NPs in disaster practice can make a collaborative and unique contribution within a team-driven model (Bauer, 2010; Petersen, 2006). Disaster event responses such as Hurricane Katrina demonstrated that there is much work to be accomplished for interdisciplinary, collaborative disaster

planning, and response to such catastrophic events (Murray, 2006).

During a disaster where there are numerous losses to life and property, first responders must be flexible, and adapt collaboratively as a united team for the best outcomes for the most persons (Bergman, 2008; Mace, Jones & Bern, 2007; Saunders, 2007). Unique management of the individual health needs of each person must be assessed, and the disaster NP with proper training will be prepared to fulfill these expectations (Petersen, 2006).

The need for disaster NP role understanding will drive the development of legal practice guidelines prior to a deployment. To meet legislative requirements these guidelines should provide a written description of the independent and interdependent functions of the disaster NP role in a collaborative and collegial relationship with the other professionals who respond to disasters. Following a collaboratively designed scope of practice with clinical and disaster guidelines, the disaster NP would be better prepared to cross local, state, tribal, and federal boundaries to provide holistic care for victims from all cultures and religions.

The impact and devastation from large-scale disasters pose unexpected and sudden threats to persons and Quarantelli (2006) describes the potential for long term social, economic, physical, and mental risks to large populations of the most vulnerable. To provide services to these populations Saunders (2007) describes that NPs are educated to practice as primary health care professionals. However amid a complex and changing disaster environment, Weiner (2006) reports that NPs are limited by the absence of a uniform disaster scope of practice, which would serve to communicate the advanced practice abilities, education, training, and skills.

Individual state regulations such as described in the *Board of Registered Nursing California Nursing Practice Act with Regulations and Related Statutes* where the NP is licensed, guides the practice of an NP who deploys to a disaster (Department of General Services, 2009). Currently, there are no written regulatory standards for professional NP practice at a National level that covers practice outside of the state in which the NP is licensed. Cole (2005) suggests that one defined scope of practice could support a legal practice, eliminate the role confusion to other providers and improve care that the NP could deliver.

Stokowski (2008) along with Whitty and Burnett (2009), describe that the development of one standardized scope of practice could establish a clearly understood set of practice guidelines, which if related to disaster care preparedness could be disseminated nationally or made available to responders and victims. This document could communicate the NPs expert capacity and fully engage the professional abilities of the disaster NP.

As there lacks a clearly defined NP role in disaster response, the use of multidisciplinary health care disaster experts to develop the guidelines and offer opinions is a useful method that offers high content validity (Baker et al., 2006). Fink, Kosecoff, Chassin, and Brook (1984) make the statement that an expert is a representative member of their professional group, whereby Keeney et al. (2006) describe an expert as one who is knowledgeable about a specific subject, or a specialist in the field or discipline. Healthcare needs during a disaster event cannot be predetermined. This research study will use as experts, experienced personnel with field knowledge, to identify NP skills and values necessary to function during a disaster. It can be summarized that those who

demonstrate disaster triage, illness and health management during disaster events in an austere environment and with limited resources can determine what is required by the NP to perform the medical duties necessary to serve the vulnerable population.

Validating Delphi Techniques Across Disciplines

To develop a set of practice guidelines and competencies that is realistic and practical in the austere disaster environment, the literature review demonstrates that use of experts and clinicians in Delphi studies have been used to formulate specialty competencies such as the *Nurse Practitioner and Clinical Nurse Specialist Competencies for Older Adult Care* (AACN, 2004; NONPF, 2012b) and the Emergency Nurses Association (ENA) development of the *Competencies for Nurse Practitioners in Emergency Care* (ENA, 2008). Using the Delphi technique, a multi-step process to facilitate consensus across multidisciplinary experts, this current research will build upon the work of others to encourage development of a disaster NP scope of practice and standardized procedure guideline.

Keeney et al. (2006) describe the value of using a Delphi technique in nursing research as an important method for achieving consensus on issues where previous information is limited. This method is valuable in the study of various topics and can be applied and adapted to meet the needs of the researcher (Keeney et al., 2006). The Emergency Nurses Association gathered NPs to obtain consensus on professional and clinical competencies for NPs in emergency care (Hoyt et al., 2010). Using a Delphi study, Scheffer and Rubenfeld (2000) define a comprehensive understanding of critical thinking components in nursing as essential for professional accountability and quality. Roberts-Davis and Read (2001) describe a 3-round Delphi study to clarify the role

differences between the Clinical Nurse Specialist (CNS) and the NP. Despite similar educational preparation, the CNS is described as a generalist with clinical skills and knowledge, and the NP whose skills and knowledge focuses on assessment, management, and the treatment of illness and disease (Roberts-Davis & Read, 2001).

Outside of nursing's discipline, Ferguson (2008) utilized a non-experimental qualitative Delphi research design to provide the military commanders with information to provide leadership development and training to Navy reserve medical officers as well as to identify training areas of critical health care significance. Identifying patterns of consistencies and responses, Delphi provides for exploration and consensus from the participants (Ferguson, 2008). The dissertation by Dorothy Potter describes a 3-round Delphi study to achieve consensus about the traits, characteristics, and attitudes of servant leaders, with regards to concepts of service and positive relationships (Potter, 2009).

Additional interdisciplinary research, Akeam's dissertation (2009) from the discipline of education titled *Socio-Technical Processes in Interorganizational Emergency Response and Recovery Process at the World Trade Center*, describes the interaction and collaboration between information technology experts using qualitative interviews, which addressed the emotional impact that disasters have on non-healthcare responders. Al-Tahoo (1995) uses a constructivist approach and naturalistic design while studying the relationships of inter-professional teams in the Accident and Emergency Department in Bahrain to determine the inter-professional education and preparation necessary for health care professionals to work collaboratively in complex situations. Use of the Delphi method from the various disciplines even when discussing disaster

response, demonstrates the applicability of the methodology from a variety of perspectives, allowing for exploration when a topic is not well defined or described.

Summary and Conclusion

This chapter has discussed the available literature related to the nurse practitioner (NP) role in disaster response, the preparation and training necessary for competent delivery of health care services by the NP and the use of the multidisciplinary team members to define this role. Furthermore, evidence presented demonstrates the increase quality of disaster services through organizational cooperation, and thus one can surmise that this might lead to improved health outcomes for the vulnerable person affected by the disaster.

Clearly absent from the literature despite the severity of recent National disasters, is a collaborative and contractual agreement between Boards of Nursing defining the role for NPs deploying to disasters. A call to remove NP practice barriers and facilitate the opportunities for NPs to function within their full educational training, as called for by IOM and Advanced Practice Nurse organizations, remains missing from clinical practice, though the conversations have begun. Compiling these misunderstandings are the varying levels of collaborative practice agreements and required physician oversight that occur when crossing state boundaries. This role confusion and misunderstanding by healthcare partners regarding professional requirements and educational standards necessary for the disaster NP to practice unrestricted, remain as practice barriers.

Chapter four will discuss the proposal to study the knowledge and understanding about the NP role in disasters and explain the research method and plan to analyze the data.

CHAPTER IV

METHODS

Previous chapters have presented a case for establishing a scope of practice for nurse practitioners responding to national disasters. The ultimate goal of a written set of guidelines utilized consistently across all disasters enables nurse practitioners (NPs) to practice to their fullest potential and within a scope of practice that is understood by all members of the disaster responding organizations.

The purpose of this study was to begin to build consensus around a single scope of NP practice, by exploring the knowledge and perceptions of disaster team members as they relate to NP practice during a disaster. The purpose of this chapter articulates and delineates the study methods to address this practice goal.

Problem Statement

Currently no single standard exists to guide the practice of the NP when responding to a disaster. Having one scope of practice, along with accepted procedures for practice, disaster NP's from various locations could offer consistent health care services to the disaster victims to the fullest potential of the practitioner's credentials (U.S. Congress, 2008). The ability to provide disaster guidelines could diminish the role confusion for the NP, while also clearly communicating the NP role to other coordinating and responding disciplines and agencies (Altevogt et al., 2009; Greiner & Knebel, 2003). With optimal utilization of NP capabilities and training, physician providers could focus on more emergent injuries, thus improving delivery of healthcare to victims and access to appropriate services (Leavitt, 2006).

Aim of Clinical Project

The ultimate aim of the phenomenon of interest was to build consensus among disaster responders towards the development of one standard scope of practice for the NP who provides services during disasters. The purpose of this dissertation research project was to begin the consensus-building process by first determining current understanding about the disaster NP role.

As a member of professional nursing organizations and a Federal disaster response team, personal contacts, colleagues, conferences, training opportunities, and organizational meetings were utilized to solicit participation, respondents and interest in the study topic. Articulating the perspectives and understanding of the disaster NP role from representatives of the various professional and disaster responding disciplines, findings from this project will inform the need to develop standardized protocols, procedures and guidelines by policy makers. Furthermore, once defined, these guidelines will be made available for distribution and training to all responding personnel.

Study Question

The broad question for this dissertation study was: What are the current perspectives and levels of agreement of disaster team members across the country as they relate to the disaster NP scope of practice?

Specific questions that were answered by this study:

a. Is there a need for one defined NP scope of practice to clarify the NP duties during the provision of disaster services?
b. How knowledgeable are health care professionals regarding the role and duties about disaster Nurse Practitioner capabilities?

Methods

The study consisted of a national survey of disaster team members. Quantitative and qualitative data were gathered to determine current levels of knowledge and current attitudes relating to the NP scope of practice. A purposeful sampling population included multidisciplinary healthcare professionals, co-workers, colleagues and NPs, each of whom had served alongside the disaster NP in at least two disaster response events.

The study was the initial phase of a larger continuing study employing the process of a Delphi research methodology to develop and validate a scope of practice for disaster NP responders. Using the Delphi technique for clinical inquiry, interdisciplinary sampling was accomplished using options of a written or on-line survey of disaster responding professionals.

Institutional Review Board approval was received from Western University of Health Sciences in Pomona, California (Appendix A). Written consent was achieved by informing participants of the study in the introductory section of the survey (Appendix B).

Materials and Pre-survey Process

The first step of the exploratory dissertation study was a preliminary phase to test reliability and validity of the intended survey tool (Salkind, 2009). Two pre-research survey instruments were developed by the primary investigator (PI) after an extensive review of the disaster literature in order to understand the role of the disaster NP. Using open-ended and structured questions and through interviews with state and national disaster respondents, one questionnaire collected data and opinions from nurse practitioners (Appendix C), the second questionnaire assessed opinions from members of

all other healthcare disciplines (Appendix D), allowing for the collection of professional views and agreements (Willis, Inman & Valenti, 2010).

The preliminary data collection using these instruments was completed in May 2009 utilizing 20 multidisciplinary team members from the DMAT CA-2 team and 20 NPs attending the California Association of Nurse Practitioner (CANP) conference. Analysis of this tool revealed that the survey required clarification of items but also validated that the role of the disaster NP was not well understood across healthcare disciplines.

Evaluation and refinement of the two survey instruments occurred in August 2010 in collaboration with a Western University survey design expert during the PI's Summer Research Fellowship. Changes were made to refine descriptors and quantifiable data and to establish consistency and congruency with both the humanbecoming and systems theory that underpin this research. Additional changes were made to the language of the questionnaires in the winter of 2010 to align with the two theories.

Sample/Participants

Sample participants included nurse practitioners and other disaster responders and were the independent variables. The goal was to achieve a minimum sample of 100 participants. Survey participants were solicited by convenience using simple random sampling (Salkind, 2009, p. 90) and included members from any disaster responding agencies (see Table 1). Health care providers and nurse practitioners were not excluded based on gender, race, religion, ethnicity, sexual orientation, or citizen status.

Table 1

Types of Healthcare Professional Participants included in Data Collection

Department of Health and Human Services (DHHS)
Federal Disaster Medical Assistance Team (DMAT)
Federal Emergency management Agency (FEMA)
American Red Cross (ARC)
California Medical Assistance Team (CalMAT)
National Nurse Response Teams (NNRT)
Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP)
Professional nursing organizations (i.e. American Nurses Association, California Association of Nurse Practitioners, American Association of Nurse Practitioners, Emergency Nurses Association)
Non-governmental organizations (NGOs)
Medical Reserve Corps (MRC) units

Design

For this exploratory study, an independent group design was the chosen method for collection of data.

Data Collection

Data collection was solicited in-person and electronically. In person data collection was sought at disaster training venues using face-to-face introduction and solicitation. If a disaster responder informally agreed to participate, U.S. postage with envelope was distributed with the printed survey to facilitate ease and increase return

response. Electronic data collection began by contacting the team administration officers through phone or electronic contact information available on the team web page. A descriptive letter describing the purpose of the research was electronically mailed to each listed disaster team address along with the survey links.

The team contact was responsible for forwarding the survey link directly to all research inquiries and participants for the SurveyMonkey® data collection site. With the team contact person keeping the mailing list of participants unknown to the researcher, anonymity of the respondents was maintained throughout the collection of data. As a Delphi method depends upon a series of surveys using multiple iterations for consensus (Kennedy, 2004), only survey respondents that voluntarily offered contact information will be included for subsequent data collection rounds and further research. Data collection timeline from the time of survey distribution whether in-person or electronic was to be only 30 days. However, 60 days of collection was required to achieve the minimum sampling.

Survey Design

In order to assess the expertise and opinions of practicing professionals, Delphi studies often necessitate the creation of sets of questions for inquiry (Willis et al., 2010). Two surveys designed for query used quantitative and qualitative questions and scales. The survey items were the dependent variables. The healthcare professional questionnaire (See Appendix D) solicited demographic data (12 items), disaster responder or training experience and knowledge (5 items), and values and knowledge about the role and expectations of the disaster NP (12 items). The NP questionnaire (See Appendix C) solicited eight items of demographic data, and 22 items regarding details of disaster

response or training experience and knowledge and values regarding the scope of practice and provision of services as a disaster NP.

Participant Recruitment

Fifty disaster members and NPs on organized response teams requested and were sent the survey links. Additionally, 69 electronic addresses reflecting disaster team lists, disaster response organizations, training officers, nurse educators, universities and professional nursing organizations were solicited to disperse survey links. A National disaster training conference with over 500 responders and a field training exercise with over 200 responders were attended to solicit participants. Though impossible to calculate the exact number of survey links disseminated to individual persons, it is estimated that at least 200 NPs and 1000 HCPs received the survey links. Disciplines of healthcare professionals were the independent variables (IV).

Seventy-five nurse practitioner (NP) surveys and 150 health care professionals (HCPs) received hand-dispersed, printed, self-addressed surveys at the training conference. Two NP surveys (2.67%) and seven HCP surveys (4.67%) were returned via mail and entered manually by the lead investigator into SurveyMonkey®. Concurrently, as electronic links were disseminated to disaster NPs and HCPs across the nation, thirty-nine NPs responded electronically for a total of 41 NP surveys and 125 HCPs responded for a total of 132 HCP surveys. Survey access was available for 60 days.

Of the 41 NP respondents, six surveys were excluded due to no responses on any of the items queried. Another NP survey was removed when the respondent indicated that he or she was not a nurse practitioner, and therefore not eligible as an NP participant, leaving an NP sample size of n=35. From the 132 HCP respondents, seventeen surveys

were excluded due to no responses on queried items, leaving HCP *n*=115. As one condition for Delphi methodology is to utilize experts for query, surveys from respondents without disaster deployment experience were eliminated reducing eligible data from NPs to 20 and from HCPs to 72.

After initial review of data, the labels of IV were clarified defining the group sub-sets of the healthcare professionals to assess descriptive frequencies and determine differences or similarities between discipline specialties. These IV were defined as: Group 1 all nursing personnel (non-NP), Group 2 pre-hospital and ancillary disaster responders (EMTs, Paramedics, RTs, Disaster Responders, Mental Health Professionals), Group 3 primary providers (MD/DOs, PAs, DDSs, Pharmacists) and Group 4 NPs. Note that the total *n* number varied between questions, and only data from respondents who completed the questions were included in analysis.

Pharmacists were included in provider Group 3 as they hold advanced degrees in healthcare with significant understanding of prescriptive authority and provider privileges. Within the survey when HCP respondents identified themselves within two or more healthcare disciplines, national certifications and licenses were reviewed to determine appropriate grouping, placing the highest level of training or education as the final determination for group inclusion.

Analysis of Data

Quantitative data was analyzed using both descriptive and inferential statistics. Descriptive statistics were used to determine frequency distributions for nominal and ordinal data and inferential statistics were used to determine relationships within the data and between groups (Salkind, 2009). Qualitative data and open ended responses were

analyzed for recurrent themes and assessed multidisciplinary understanding of the NP role.

During data analysis all data responses were reviewed with insignificant responses defined as responses performed or reported by less than 20% of survey responders. An 80% value for consensus was chosen as the standard response value by the researcher to guide future questions for inquiry.

Inferential Statistics: Factor Analysis

Nonparametric statistics analyzed the two scaled items (DV) which were compared between independent variables (IV) using factor analysis. Scale one queried respondents regarding values towards types of disaster training using Likert responses on numbered item 27 in HCP questionnaire and item 26 in NP questionnaire where 1 =”Not Valuable”, 2 = “Of Some Value”, 3 = “Helpful and Valuable”, 4 = “Very Valuable”, 5 = “Most Valuable-Could not have understood role without training”. Survey item numbered 28 in HCP questionnaire and 31 in NP questionnaire analyzed values of importance of statements regarding services to victims delivered by NPs where Likert responses were, 1 =”Not at all Important”, 2 = “Somewhat Important”, 3 =”Important”, 4 =”Very Important”, 5 =”Of Most Importance”.

Factor analysis explored the self-reported data to determine if a relationship existed between the participant groups and the value of common factors (Salkind, 2009). Principal component analysis was used to account for the variability between measures and reduce the data to component factors. The minimum amount of data for factor analysis was satisfied, with a final sample size of 50 (using listwise deletion), providing over 11 cases per each of the four independent variables. With the small sample,

Kruskall-Wallis H test was performed to determine what differences of values, if any, were present between the IV (McDonald, 2009).

Summary and Conclusion

A survey of disaster responders was conducted to determine need for and knowledge about NP scope of practice during disasters. A pilot survey was conducted, from which items were refined. Revised surveys were distributed by hand and electronically. Both paper and electronic formats were used. Survey data from 20 NPs and 72 HCPs were analyzed. Factor analysis was conducted to determine if a relationship existed between participant groups and reported value of common factors. Principal component analysis was examined to determine variability between measures and to identify component factors. Chapter V will review the findings.

CHAPTER V

OUTCOME ANALYSIS

Previous chapters have presented background information describing the value of the nurse practitioner (NP) role while providing disaster services during a mass casualty event and also presented barriers to disaster NPs practice. This chapter provides a discussion of the findings of the study and addressed the problem statement "Could the role of the NP as a disaster responder be more clearly understood by disaster victims, non-medical disciplines (i.e. politicians or news reporters), and other disaster health care responders if there was one standardized disaster NP scope of practice (SOP)?" A survey was conducted seeking knowledge, understanding and personal values from health care professionals (HCP) regarding the role understanding of disaster NPs.

The specific question that was addressed by this survey:

> How knowledgeable are health care professionals regarding the role and duties about disaster Nurse Practitioner capabilities?

Results

Descriptive Statistics: Demographics

Seven states were represented in the 20 NP respondents with 55% from California (see Table 2). 55.4% of NPs reported specialty practice areas of Primary Care and Family Practice with another 18.2% from emergency settings. Drug Enforcement Agency (DEA) privileges were held by 100% of NPs and 75% reported holding national certifications within their specialty field.

Fifteen states were represented in the HCP data with 48.6% from California (see Table 2). Of the 72 HCP respondents, 13 healthcare disciplines were represented (see Table 3). Further defined by three sub-sets, 100% of providers in Group 3 held DEA privileges and national certification was reported by 55% Group 1, 44% by Group 2, and 100% Group 3.

Table 2
Self-Reported Demographic by State of Practice (n=92)

Group	1. Nursing Non-NPs	2. Pre-hospital & Ancillary Responders	3. Providers	4. NPs	Total
AK	1	0	1	0	2
AZ	1	0	0	1	2
CA	16	14	5	11	46
FL	1	1	0	1	3
GA	1	0	1	0	2
IA	1	0	0	0	1
KS	1	0	0	0	1
MD	0	1	1	0	2
MA	2	0	0	2	4
MO	0	0	1	0	1
NY	0	1	0	0	1
OH	1	1	1	1	4
TN	3	9	3	3	18
TX	1	0	1	1	3
WA	0	0	2	0	2
Total	29	27	16	20	92

Table 3

Groups (n=4) and Specialty of Respondents (n=92).

Group	Respondent Specialty	n
1. Nursing, non-NPs	Clinical nurse specialist	2
	Registered Nurse	26
	Licensed Vocational Nurse	1
2. Pre-hospital & ancillary disaster responders	Paramedic	13
	Emergency Medical Technician	6
	Respiratory Therapist	2
	Dental Hygienist	1
	Disaster Responder/Academia	2
	Mental Health Professional	2
	Information Technology	1
3. Provider	Pharmacist	2
	Physician Assistant	10
	Physician (MD/DO)	4
4. Nurse Practitioner	Nurse Practitioner	20

Note. Group Labels Represent Independent Variables

Inferential Statistics: Factor Analysis

Eight questionnaire items within scale 1 measured how well respondents valued various disaster trainings towards their own understanding of the disaster NP scope of practice. Responses were subjected to initial principal component analysis (PCA), followed by a Varimax rotation with Kaiser normalization with the value of training towards understanding the disaster NP scope of practice demonstrated in Table 4.

Table 4

Value towards your own understanding about the Disaster NP scope of practice.

	Mean	SD	*n=*
Value of NDMS conference	2.2766	1.17403	47
Value of e-responder	2.0426	1.12206	47
Value of DMAT Team training	**3.1277**	**1.32889**	**47**
Value of NIMS training	2.1277	1.31243	47
Value of Rough n Ready	2.1489	1.17914	47
Value of Field Training Exercise	**3.3191**	**1.14410**	**47**
Value of Continuing Education Conferences	2.6596	1.20283	47
Value of Incident Command System (Any)	2.3830	1.37609	47

Note. Likert 1=Least , 5=Most valuable training to understand NP scope of practice.

Corresponding factor loading are presented in Table 5. Five items loaded on the first component (C1), subsequently labeled "Value Training as Individual" with a Cronbach's Alpha 0.88 and an initial Eigenvalue of 53.53% of variance. Three items loaded on the second component (C2) and was labeled "Value Training with Groups" with a Cronbach's Alpha 0.73 and initial Eigenvalue of 16.51% of variance.

These components suggest that respondents are more likely to understand the disaster NP role during multidisciplinary simulated exercises with patient care scenarios when compared with individual training that is more directed towards understanding the various functions of the macro system of disaster response within the Incident Command System.

Table 5

Factor Loadings for Exploratory Factor Analysis with Varimax Rotation of Values of Training Towards Understand NP Role.

Titles of Disaster Training	Component	
	1	2
Value of Incident Command System courses towards your own understanding about the Disaster NP scope of practice	**.888**	-.013
Value of NIMS training towards your own understanding about the Disaster NP scope of practice	**.862**	.179
Value of e-responder towards your own understanding about the Disaster NP scope of practice	**.765**	.412
Value of continuing education conferences towards your own understanding about the Disaster NP scope of practice	**.666**	.434
Value of NDMS conference towards your own understanding about the Disaster NP scope of practice.	**.587**	.576
Value of DMAT Team training towards your own understanding about the Disaster NP scope of practice	.074	**.911**
Value of Field Training Exercises towards your own understanding about the Disaster NP scope of practice	.152	**.797**
Value of Rough n Ready towards your own understanding about the Disaster NP scope of practice	.303	**.623**

Note. Bold items highlight component loading

Analysis completed on the second questionnaire scale (Table 6) included 14 items and assessed value of importance with statements about services to victims by the NP.

Table 6

Factor Loadings for Exploratory Factor Analysis with Varimax Rotation Statements Valuing Importance of Disaster Services Provided by NPs

Types of NP Provided Disaster Services	Component		
	1	2	3
NP's are able to utilize full educational training when providing care	**.804**	.064	.251
The NP can provide primary care services	**.799**	.384	.051
The NP is the right provider to treat illness/injury of person	**.792**	.073	.150
The NP participates as a valuable member of a disaster care team	**.710**	.474	.102
Disaster NP services rendered align with scope of practice	**.667**	-.220	.440
The NP can perform urgent services with competence and skill	**.648**	.639	.177
The NP is satisfied with disaster services they render	**.628**	.177	.498
NPs demonstrate appropriate triage to higher level of care if needed	**.586**	.443	.377
Person's receiving care are satisfied with the disaster services rendered by the NP	**.554**	.119	.525
The NP can perform emergent services with competence and skill	.436	**.700**	.166
NPs utilize assistance and consultation with MD/DO for every person receiving care	.139	-.606	-.111
NPs acknowledge professional limitations and utilize most appropriate provider for disaster care services	.375	**.605**	.410
Persons are honored and valued when receiving care by NPs	.094	.152	**.808**
NPs can communicate and interact respectfully with all persons	.244	.419	**.777**

Note. Bold items highlight component loading

Questionnaire items presented in Table 6 revealed three meaningful components. Nine items were found to load on the first component (C3), subsequently labeled "Disaster NP Skill Competence" with a Cronbach's Alpha 0.917. Two items loaded on the second component (C4) and was labeled "Emergent NP Skill Limits" with a Cronbach's Alpha 0.657. Two items loaded on the third component (C5) and was subsequently labeled "NPs Honor Victims" with a Cronbach's Alpha 0.791. One item was discarded from the second component as it did not conceptually fit any logical factor structure and reduced the overall alpha from 0.657 to 0.545 as well as increased reliability for the scale.

Kruskal-Wallis Test revealed that the groups do not differ on Value Training as Individual ($H(3) = 1.933$, $p = 0.586$), Disaster NP Skill Competence ($H(3) = 6.418$, $p = 0.093$), and Emergent NP Skill Limits ($H(3) = 5.802$, $p = 0.122$) between the 4 groups. However, Kruskal-Wallis Test revealed that the groups are statistically different on Value Training with Groups ($H(3) = 8.015$, $p = 0.046$) and NPs Honor Victims ($H(3) = 10.283$, $p = 0.016$).

To determine which groups had differences reported in the Kruskal-Wallis, a Mann-Whitney U test was carried out between two groups at a time.

Table 4 demonstrates that e-responder training was least valuable to help disaster responders understand the NP scope of practice M=2.04, SD=1.12 and simulated disaster training with groups of responders during field training exercises were the most valuable M=3.319, SD 1.14. The most important value describing services were reported that NPs could demonstrate appropriate triage to higher level of care if needed M=4.16,

SD=0.722 and NPs could provide urgent services with competence and skill M=4.13, SD=0.706 (Table 7).

Table 7

Descriptive Statistics Rating Value of Importance of Statements Regarding Disaster Services Provided to Victims by NP

	Mean	SD	N
NP utilizing full educational training when providing care	3.8136	.89970	59
NP providing Primary Services	3.9153	.72607	59
NP as right provider to treat illness/injury	3.4915	.91676	59
NP being valuable member of Disaster Team	4.1186	.78969	59
Disaster NP services rendered align with SOP	3.8475	.86729	59
NP providing Urgent Services c Competence and Skill	**4.1356**	.70607	59
NP being satisfied with disaster services rendered	3.6949	1.00437	59
NPs demonstrate appropriate triage to higher level of care if needed	**4.1695**	.72284	59
Person's receiving care are satisfied with disaster services rendered by NP	3.7797	.96611	59

Note. Likert 1=Not at all Important, 5=Most Important

Summary and Conclusion

Lacking specific literature about the disaster NP role, this exploratory research focused on disaster respondents understanding, perceptions and values about the disaster NP role. Asking specific questions regarding knowledge and expectations of the NP role when responding to a disaster event, it was determined that across the disciplines there lacks understanding. However, changes in government regulations and organizational procedures prohibited query from many disaster members as survey links could not be disseminated, making these results not generalizable.

This study supported the need for further research towards defining a clear role for the disaster NP. Although 173 health care professionals consented and started the research survey, lack of disaster experience and not having worked with a disaster NP were reported by respondents making some data not eligible for inclusion. Reliability of the questionnaire tool was established between the IV groups as no differences in values were present.

Results demonstrated the disaster NP role lacks understanding but credibility of the research will be supported through a larger sampling and through peer comparison in future rounds. As 29 respondents consented to participate in another phase of the research, this chapter has supported the need to develop and disseminate guidelines for a disaster NP scope of practice.

CHAPTER VI

DISCUSSION AND IMPLICATIONS

"How does one know whether the disaster Nurse Practitioner (NP) has stayed within their scope of practice (SOP) if one does not understand the role of the NP in the community during normal day activities? You are asking us to evaluate if we think the NP should have one national SOP yet I do not know what the NP can do every day!" (K. Palmer, personal communications, August 3, 2011). This question and statement from an experienced disaster medical assistance team member reflects a concern about the role of the disaster NP, which corresponds to the data analysis and survey responses, requesting team training and in-services about what the NP can do when deployed. Furthermore, this raises questions about the expectation from the disaster system community, responders and victims, regarding what is the NP role during a disaster, whether trained in disasters or not?

Without written guidelines or scope of practice for an NP who responds to a disaster, it was the intent of this study to explore the knowledge, perceptions and multidisciplinary understanding from disaster team members, as it relates to NP practice during a disaster. Having supported the dissertation question that there lacks understanding about the disaster NP role from a multidisciplinary perspective, data findings presented here offer support that can inform the development of collaborative standardized protocols, procedures and guidelines by disaster system administrators and policy makers. Ultimately and consistent with the literature, this study raises questions about the need for a universal scope of practice for the disaster NP.

Review of Study Purpose and Process

Previous chapters have presented background information, theoretical underpinning, literature support, survey data and statistical analysis, making a case for the need to establish a single and well-understood scope of practice for NPs responding to national disasters. The goal for NPs to practice to their fullest potential (National Research Council, 2011), following guidelines within a written scope of practice, understood by all members of the disaster response team and utilized consistently across all disasters, is one recommendation to improve the consistency of services by the NP within a disaster system's response. Such services understood and delivered by the NP within a coordinated disaster response, aligns with the *Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response* recommending "specific roles and responsibilities and incident-driven resource requirements in all settings … should be identified, defined, and provided" (IOM, 2012, p. I-80).

Summation of Survey Findings

The broad question for this dissertation was to determine the current perspectives and levels of agreement of disaster team members across the country as they relate to the disaster NP scope of practice. The survey questionnaires included qualitative, quantitative and narrative items, as well as open responses (Salkind, 2009). The demographic information gathered from participants included the type and state of professional discipline training, current state of employment or licensure to practice and whether persons had national certification in the discipline.

Survey items determining disaster deployment experience, knowledge, clarity and understanding of the disaster NP role and if persons had experience working alongside an

NP during a disaster were analyzed using descriptive frequencies seeking common themes for consensus (Salkind, 2009). Mandatory disaster training courses and field training opportunities were assessed to determine personal values towards understanding the NP role and were analyzed using comparative analysis between survey respondent groups (McDonald, 2009). Comparative analysis between the disciplines of healthcare professionals was also utilized to determine personal values of importance towards the provision of specific NP services during a disaster event.

Preparing to Serve as a Disaster NP

Preparing a workforce of nurses to respond to disaster events, Stokowski (2012) reports that competency requires interdisciplinary coordination, advanced registration with response teams, simulated team disaster training, and multi-casualty incident (MCI) planning and practice. Interagency and interdisciplinary coordination involves communication between activated response systems of Federal, State, local, tribal and non-governmental organizations (NGO), which have systems in place for pre-validation of credentials and licenses (Coyle, Sapnas, & Ward-Presson, 2007).

As the largest sector of health care workforce, nurses will be called upon to respond to a mass casualty emergency and must be equipped with skills necessary to provide disaster services (Veenema, 2006). Basic disaster and team training is essential to assist victims and prevent the problems that occur when untrained personnel self-deploy to offer assistance (Stokowski, 2012).

Implication for DNP-Prepared Nurse Practitioners

The impact and devastation from national disasters that pose imminent risk to large populations of vulnerable persons is well understood. Doctorally prepared nurse

practitioners have the opportunity to lead a national agenda for enhancing the contributions of the disaster-prepared NP, while making a unique, flexible and adaptable contribution towards chronic and acute emergencies amid the changing disaster environment. Disaster events such as Hurricane Katrina demonstrated that there is much work to be accomplished for the interdisciplinary, collaborative disaster planning, and NPs response to such catastrophic events. One response to this need could be the NP who is clinically prepared within the Essentials of Doctor of Nursing Practice (DNP).

This clinical doctorate provides a foundation of knowledge that through the utilization of nursing research, can communicate changes that can be implemented to change health outcomes for large populations. The DNP graduate is able to collect, analyze, interpret and apply into practice the data findings of nurse researchers, while "functioning as a practice specialist/consultant in collaborative knowledge-generating research" (AACN, 2006, p. 11). The research presented here represents the integration of the *Essentials of Doctoral Education for Advanced Practice Nursing* (AACN, 2006) with the potential outcome for influencing policy makers, to decrease practice barriers, utilize the disaster NP to their full scope of practice and ultimately improve the health of disaster victims.

During a disaster where there are numerous losses of life and property, individual needs of each person must be assessed and appropriately managed. The disaster NP with appropriate disaster training following evidence-based practices, should be able to work in any setting or surrounding, demonstrate flexibility, competence, and knowledge of appropriate protocols and be prepared to adapt to the differences utilizing their full educational training (Wynd, 2006).

Currently individual state regulations where the NP is licensed, guides the practice of an NP who deploys to a disaster and there are no written guidelines for NPs to manage the various disaster clinical conditions outside of the home state boundaries. Nationally during deployments, disaster NPs may be limited by the absence of a guide that would serve to communicate the advanced practice abilities, education, training, and skills across these state boundaries. Having one defined disaster NP scope of practice would support a legal practice, reduce litigation potentials and eliminate the disaster NP role confusion for all disaster responders and health care professionals. Understanding the capabilities of the NP with verified credentialing and validation of competency and scope of practice limitations prior to a disaster will reduce delays and improve delivery of disaster services to all victims (HRSA & AHCPR, 1998).

Once a defined scope of practice (SOP) has been written for the disaster responding NP, every NP within each state will have the opportunity if desired, to provide disaster care to victims and be able to participate within established guidelines to their own level of competency during a disaster event (Altevogt et al., 2009). Utilizing multidisciplinary disaster experts and trained responders to participate in the formulations of such a guideline, will enable multidisciplinary understanding about the NP role from the perspective of all NPs and their healthcare professional partners (De Chesnay & Bongiorno, 2008; “Kotter, 8-step”, n. d.). For the physician responders, such a guideline would enable better understanding and collaboration in the disaster setting, as the physicians would acknowledge the limitations of the NP SOP.

Having one defined NP role with established guidelines would enable the NP to work to their full level of training fulfilling the needs for primary services. A delineation

of such duties affords the benefit for physician responders to focus on the sickest victims, who need emergent physician services (Altevogt et al, 2009). Additionally, with one collaboratively written disaster NP guideline, the NP will have a clear definition of the role expectations within a coordinated disaster system response, where chaos is the norm. Once leaders get clear role expectations, staff can practice to their full potential, optimizing clinical outcomes in a health system (Huber et.al, 2007). This system-wide healthcare professional collaboration, with the elimination of disaster NP role confusion, will enable access of appropriate and timely services for all victims.

Translating Results into Practice

The results of this exploratory research discovered many healthcare disciplines unclear about the role of the disaster NP and unclear about what services the NP is trained to administer in a time of heavy casualties. A written request to individual states to assess the expectations of the NP during a catastrophic event revealed that even in recent years, the role of the disaster NP is still not clearly defined and remains dependent upon the licensing state. Barriers from imposed state legislations and the inability to cross state boundaries with licensure restrictions, might contribute to loss of life and health care disparities if the NP who is skilled and trained in disaster response, willing to participate, is not permitted to act and serve the vulnerable disaster victims during an urgent need (Stokowski, 2012). In states where provisions for emergency response are written, the broad definitions without clear legal guidance, could potentially lead to legal concerns for the provider of these disaster services.

Though the survey analysis of individual data from the various discipline respondents did not provide data to draw any generalizable conclusions, there is evidence

that healthcare professionals do not fully understand the disaster NP roles or capabilities. While these factors limit the use of conclusions from this dissertation study, the knowledge gained from this exploratory research informs the importance regarding further studies to identify a single scope of practice to improve the disaster NP role understanding and capability of the NP to provide disaster services to the vulnerable.

Supporting Doctoral Education Nursing Research

Essential III of the *Doctoral Education for Advanced Practice Nursing* describes that one role for the Doctor in Nursing Practice (DNP) is to disseminate and integrate nursing theory and new knowledge, from "diverse sources and across disciplines, and the application of knowledge to solve practice problems and improve health outcomes" (AACN, 2006, p. 11). The blending of DNP education with this disaster NP scope of practice research, is a unique opportunity to demonstrate a collaborative process improvement incentive through participatory action research in a multidisciplinary, team-work, non-traditional setting, which can provide quality medical services to the vulnerable patient.

Leading the recommendations for the DNP graduate to contribute evidence-based research for clinical practice improvements to the vulnerable populations, the American Nurses Association (ANA) issued the 2010 practice statement. The *ANA Position Statement* supports that front line nurses demonstrate expert caregiver skills (2010). As highly educated providers, the ANA challenges these nurses to lead the profession in health policy formulation, while increasing quality to all patients through multidisciplinary collaboration and the education of future generations of nurses (ANA, 2010). As the number of nurse researchers with doctoral degrees continues to rise,

advanced practice nurses are making significant contributions and improving the health of vulnerable persons through participatory research and changes to clinical practice and policies (ANA, 2010).

Changes to the practice barriers are being strongly influenced by professional organizations. Evidence from military partners where the NP has demonstrated competence and quality outcomes during disasters and times of evolving situational crisis, data is being generated to support the removal of practice barriers in the care of civilians (Dargis, Horne, Tillman-Ortiz, Scherr, & Yackel, 2006). Furthermore, the *Consensus Model for APRN regulation: Licensure, Accreditation, Certification and Education* also known as *LACE* (APRN & NCSBN, 2008), has been supported by nursing organizations in the call to remove restrictive regulations while standardizing training and educational requirements to include national certification to cross state lines to practice (NONPF, 2012a).

Additional changes of significance were revealed in 2012 when the American Academy of Nurse Practitioners (AANP) and American College of Nurse Practitioners (ACNP) merged to unify the 160, 000 APNs into one body, one voice. Giving political strength to go forward and support scope of practice changes and offer information to the American Medical Association and physician partners, Dr. Loretta Ford reflects that this merger will provide "unity of messages, goals, strategies and resources" (Ford, 2012).

During a catastrophic disaster, a disaster NP with a doctoral education could serve as a role model to other nurses and health care professionals from other disciplines, in the development of improvements and delivery of quality care to the vulnerable population. A practice-focused doctoral degree, DNP training can uniquely apply translational and

participatory research for the vulnerable population to be served (ANA, 2010). With expert disaster training and preparation, a DNP graduate is prepared "for multiple roles including health policy development, leadership, advanced clinical practice, or information technology in an environment of transdisciplinary collaboration" (ANA, 2010, p. 1).

Where to Go and What to Expect

This Delphi study presents opportunities for further uses in defining specialty advanced nursing practice roles using a multidisciplinary understanding. Consensus opinions can serve to inform disciplines outside of healthcare about how one nurse practitioner scope of practice will reduce role confusion in the management of disaster victims. Combining disaster experience and academic training, guidelines for care can be modified by the disaster professionals, who are the witnesses of the devastation from the front lines. NPs are specially trained to care for acute and chronic health conditions for all ages, and with a scope of practice permitting prescription replacement services during times of disasters, essential medications and treatments will be more readily available for displaced persons.

Having one defined scope of practice would support a legal practice, eliminate the role confusion for other health care providers and improve care that the NPs could deliver. Using the Delphi technique for exploring multidisciplinary understanding about the disaster NP role, data was gathered which provided many voices. The exploratory first round Delphi study investigated the multidisciplinary understanding about the disaster NP clinical roles and assessed the interest towards a single disaster NP scope of practice. Communicating the disaster NPs professional abilities in a collaborative and

collegial relationship with other health care disciplines, these results could inform legislative guidelines and provide a description of services available by trained, disaster NPs.

Prior to a disaster deployment a clear scope of practice with standardized guidelines could be disseminated to other disaster responders, which could eliminate duplicity of planned resources, as well as utilizing NP services towards the full potential of training. Furthermore, a defined NP scope of practice would maximize care services to victims with the elimination of delays and practice barriers across local, state, tribal, and federal boundaries.

A Call for Further Research

Further research questions arise such as: What actions do the licensing and credentialing bodies expect from deployed NPs during a mass casualty event, whether a formal disaster team member or self-deployed? What regulations govern practice when the NP crosses state boundaries to render disaster healthcare services during a mass casualty event? What does the average citizen expect from the disaster healthcare team? What are the legal, moral, ethical and professional expectations and limitations of the NP within an organized disaster response? This project serves to advance nursing research and knowledge, regarding a humanbecoming perspective towards understanding the nurse-person relationship in the clinical practice about the disaster NP role. Finally, the project introduces further research opportunities through the completion of additional Delphi survey rounds towards achieving consensus, which could inform policy development and inspire changes towards a national scope of practice for the disaster NP.

Summary and Conclusion

This exploratory research study described evidence to support that a lack of understanding the disaster NP role does exist. Despite reporting statistically significant conclusions from the various disciplines who deployed alongside the disaster NP, the lack of one single, standardized scope of practice for the deployed disaster NP, was demonstrated in this dissertation.

Further research is needed to explore each of the specific disciplines who are deployed within the disaster response system to understand who and where the disaster NP role is most misunderstood. Once a defined scope of practice has been established, field training exercises and educational conferences should be designed and implemented to facilitate the interdisciplinary understanding with simulated demonstration and capabilities of the clearly defined NP role.

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APPENDICES

APPENDIX A - IRB Approval

Western University
OF HEALTH SCIENCES
The discipline of learning. The art of caring.

Institutional Review Board

(909) 469-5636 • FAX (909) 620-5456 • IRBAdmin@westernu.edu

August 13, 2010

Frances Dunniway
Primary Investigator

Re: Western University's Protocol #10/IRB/047
"The Development and Validation of a Disaster Nurse Practitioner Scope of Practice as First Responders Using the Delphi Technique "

Dear Ms. Dunniway:

The above referenced protocol was reviewed on August 13, 2010. At this time, it is the opinion of the Institutional Review Board that this project qualifies for Exemption Status under the Western University of Health Sciences' IRB Manual, Section 5, Page 5 of 15, *criteria for exempt status certification,* Category 2, in accordance with federal regulations 45 CFR 46.101 (b).

> *Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.*

Having met the above-referenced criteria, your protocol is exempt from further IRB review. If you have any questions, please contact the IRB office at (909) 469-5636.

Sincerely

Beverly Carter
IRB Secretary

cc: M. Katz – Funding Agency: N/A

309 E. Second Street • Pomona, California 91766-1854 • www.westernu.edu

APPENDIX B - Consent for Participation

Informed Consent Form for Data Gathering about Disaster Nurse Practitioner Scope of Practice from Healthcare Professionals (HCP)

You have been asked to participate in a research project conducted by Frances Dunniway, MSN, RN, FNP from the College of Graduate Nursing at Western University of Health Sciences, Pomona, California. The Principal Investigator (PI) (Frances Dunniway) is a Doctor of Nursing Practice (DNP) student pursuing dissertation research. You are being asked to participate because you are a Health Care Professional (HCP) who may have deployed to a disaster situation or assisted at a disaster relief station.

PURPOSE: The purpose of this study is to investigate the knowledge about the Scope of Practice for the Nurse Practitioner (NP) who responds to a natural or man-made disaster and the barriers that might influence such response.

PARTICIPATION: You will be asked to complete a series of 24 questions on the attached questionnaire. Each survey should take about 15 minutes to complete. If you choose to participate and complete the optional name and address information, you may request a synopsis of the dissertation findings. At no time will third parties receive any personal or identifiable information collected from this survey.

RISKS AND BENEFITS: The potential risks associated with this study are limited to the researcher team's access to the personally identifiable information on the survey forms. However, no personally identifiable information will be disclosed to any third party.

COMPENSATION: Survey Respondents will receive no compensation for participation.

VOLUNTARY PARTICIPATION: Your individual participation in this collection of data and subsequent research or discussion is completely voluntary.

CONFIDENTIALITY: Your individual privacy will be maintained in all publications or presentations resulting from this study. In order to make sure that confidentiality is maintained with your surveys, PLEASE sign the consent form and mail the consent and survey in the pre-stamped, self-addressed envelope. The PI will be the only recipient of the information. All data will be entered into a data analysis database and there is no personally identifiable information included in the data. The PI will be will input the data into the database with help from an IT technician. The PI will complete all data analysis with consultation from a statistician/dissertation committee. Please keep any copies of this consent form or Round 1 survey for your records.

I (Name) _____ voluntarily agree to participate in the Round 1 dissertation data collection for Disaster NP Scope of Practice

Signature_____

Should you be interested in participating further in data collections or a discussion forum, please add your contact information or e-mail me at fdunniway@westernu.edu

Please include me for future rounds or data collection. I have included my e-mail address and consent to receive further survey information

Informed Consent Form for Data Gathering about Disaster Nurse Practitioner Scope of Practice from Nurse Practitioners

You have been asked to participate in a research project conducted by Frances Dunniway, MSN, RN, FNP from the College of Graduate Nursing at Western University of Health Sciences, Pomona, California. The Principal Investigator (Frances Dunniway) is a Doctor of Nursing Practice (DNP) student pursuing dissertation research. You are being asked to participate because you are a Nurse Practitioner (NP) who may have deployed to a disaster situation or assisted at a disaster relief station.

PURPOSE: The purpose of this study is to investigate the knowledge about the Scope of Practice for the NP who responds to a natural or man-made disaster and the barriers that might influence such response.

PARTICIPATION: You will be asked to complete a series of 30 questions on the attached questionnaire. Each survey should take about 15 minutes to complete. If you choose to participate and complete the optional name and address information, you may request a synopsis of the dissertation findings. At no time will third parties receive any personal or identifiable information collected from this survey.

RISKS AND BENEFITS: The potential risks associated with this study are limited to the research team's access to the personally identifiable information on the survey forms. However, no personally identifiable information will be disclosed to any third party.

COMPENSATION: Survey Respondents will receive no compensation for participation.

VOLUNTARY PARTICIPATION: Your individual participation in this collection of data and subsequent research or discussion is completely voluntary.

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Please keep any copies of this consent form or Round 1 survey for your records.

I (Name) _____voluntarily agree to participate in the Round 1 dissertation data collection for Disaster NP Scope of Practice

Signature_____

Should you be interested in participating in subsequent data collections or discussion forums, please add your contact information or e-mail me at fdunniway@westernu.edu

Please include me for future rounds or data collection. I have included my e-mail address and consent to receive further survey information

APPENDIX C - NP Questionnaire

INTRODUCTION: My name is Frances Dunniway and I have been an RN, FNP member of the Disaster Medical Assistance Team (DMAT) CA-2 since 1998. I am collecting data from across the nation for my doctoral dissertation study and would appreciate a timely return on this initial survey, Round 1. The purpose of this study is to gain perspectives from multidisciplinary professionals and providers of disaster care on the role of disaster responding nurse practitioners. The survey below is for nurse practitioners only. A separate survey is being collected from other members of the disaster health care team. Your assistance in the collection of these results is not only appreciated, but is mutually beneficial, as the ultimate goal of this project is to contribute to the quality of care for disaster victims by optimizing the contributions of the Disaster NP.

Please feel free to reproduce and share this questionnaire with your NP colleagues and return to fdunniway@westernu.edu or mail in the self-addressed stamped envelope provided to: Frances Dunniway 2188 Turnberry Lane, Corona, California 92881

GOAL: The goal of this study is to inform the development of a single scope of practice for nurse practitioners who respond to disasters. All information, e-mail addresses, and participant names will be held in strict confidence. Institutional Review Board Protocol #10/IRB/047 has been received from Western University of Health Sciences, Pomona, California.
THANK YOU for your willingness to participate. A completed and returned survey will signify your consent for voluntary participation.

Please feel free to reproduce the survey or forward this e-mail to any NP colleagues such as those affiliated with Disaster Medical Assistance Teams (DMAT), Public Health Departments, Military Personnel, American Nurses Associations (ANA), American Academy of Nurse Practitioners (AANP), American Red Cross (ARC), National Nurse Response Teams (NNRT), or Community Emergency Response Teams (CERT).

Disaster Nurse Practitioner Questionnaire:

Please complete all entries as appropriate to the best of your recollection and ability.

1. In which state did you complete your formal Nurse Practitioner (NP) training? _____

2. Do you currently work as an NP in provider practice? Yes No
If YES Please answer question # 3

3. In what specialty of health care do you currently work to provide patient care services?

Pediatrics Geriatrics OB Gyn Internal Medicine Emergency Orthopedics Hematology Oncology Mental Health Dermatology Corrections Cardiovascular Pulmonary Nephrology Pre-Anesthesia College Health Retail Clinics **Military:** Army Navy Air Force Marines Natl. Guard Active Duty or Reserve Other-Please List _____

4. In which state do you practice? _____

5. Do you hold a national NP certification? Yes No

6. If YES to Question # 5, please list all NP certifications_____

7. Do you have DEA privileges? Yes No

8. If YES to Question # 7, please specify Class: A) I B) II C) III D) IV E) V

9. Are you a member of a team or organization that has formally deployed to a disaster incident? YES NO If YES please skip to question # 11

10. If NO to # 9, **you have not deployed as an NP to a disaster incident**, please circle all the barriers that have prevented your participation.
A) Financial-need income, cannot volunteer

B) Do not understand disaster NP scope of practice

C) Unable to leave job-no other provider to cover duties

D) No time off available

E) No Defined NP Role

F) Family Responsibilities-No one to care for children, household, etc.

G) New Graduate: No experience

H) No Disaster Knowledge/ No Formal Training

I) No previous interest in disasters

K) Religious Beliefs

L) Other-Please List_____

11. If YES to question # 9
With which disaster team (s) or organization(s) have you deployed with? _____

12. Had you deployed to a disaster event/situation/setting as an RN or as another health care professional role (EMT, Paramedic, RT, etc.) before completing your NP training?
YES NO

13. If YES to question # 12, approximately how many deployments/disaster trainings had you completed as an RN or other health care professional? _____

14. How many deployments/disaster trainings have you completed as a Disaster NP_____

15. Do you feel that your NP education prepared you to serve during disaster situations? Yes No

16. If NO to question # 15, in what way(s) have you felt not prepared?
_____

17. Please select all the **types of disasters** that you have participated as a NP disaster provider:
A) Bridge Collapse B) Chemical Attack C) Hazardous Material Spill D) Fire Storm E) Hurricane F) Flood G) Terrorist Attack H) Pandemic I) Earthquake J) Tornado K) Plane/Train Crash L) Biological outbreak: (i.e. bird flu) M) Refugee Care N) Olympics P) Political Events-(i.e. conventions) Q) Preventative Services: mass vaccinations R) Preventative: medical screenings S) Other_____

18. When deployed as an NP to a disaster setting, select all other disciplines that you had direct working relationships for more than 25% of your service time? (Who comprised the disaster response team?)
A) RN B) EMT C) Paramedic D) NP E) PA F) MD G) RT H) Mental Health Volunteers I) Chaplain J) DMORTS K) DO L) Fire personnel M) Coroner N) Communications O) VMATS P) Logistics Q) FEMA Staff R) Police S) Dentists T) American Red Cross U) Disaster Patients/Victims V) Administrative personnel W) Pharmacist/Pharmacy Staff X) Other (please list) _____

19. When deployed, do you feel that the NP scope of practice is fully understood by each of the disaster responders circled above? Yes No If NO please answer question # 20.

20. If NO to question # 19, select all the other disciplines that you felt were not familiar with the NP scope of practice? (With whom did you need to explain your NP role, capabilities, or scope of practice?)
A) RN B) EMT C) Paramedic D) NP E) PA F) MD G) RT H) Mental Health Volunteers I) Chaplain J) DMORTS K) DO L) Fire personnel M) Coroner

N) Communications O) VMATS P) Logistics Q) FEMA Staff R) Police S) Dentists T) American Red Cross U) Disaster Patients/Victims V) Administrative personnel W) Pharmacist/Pharmacy Staff X) Other (please list) _____

21. Have you ever been denied the opportunity to provide primary or first responder care for persons affected by a disaster because someone was unclear about your NP role or scope of practice? Yes No

22. Please rate the value of your NP training towards your own understanding about the disaster NP scope of practice. 1=not of value 5=most valuable

e-responder	1	2	3	4	5
NDMS conference	1	2	3	4	5
DMAT team training	1	2	3	4	5
NIMS	1	2	3	4	5
Rough n Ready	1	2	3	4	5
Field Training Exercises	1	2	3	4	5
Continuing Education Conferences:	1	2	3	4	5
Incident Command System (100, 200, 700, 800)	1	2	3	4	5
Other: (please list)_____	1	2	3	4	5

23. When on deployment, have you always been clear about the NP scope of practice and patient services you were expected to provide? Yes No

24. When deployed, do you feel that your scope of practice as a Disaster NP is **(circle one)** A) limited B) not limited as compared to your level of NP training?

25. If you answered A 'limited' to question # 24 above, please explain in detail what or why you have felt that your Disaster NP role was limited or what was unclear about the expectations of your disaster NP scope: (ex: limited knowledge of the NP role by others, no scope of practice identified, limited opportunities to complete necessary disaster training before deploying, etc)

_____

_____

26. During deployments, rate your value of the statements regarding disaster NP role towards delivery of care to victims: 1=not at all important 5= of great importance

The NP can deliver primary care services	1	2	3	4	5
The NP can perform urgent services with competence and skill	1	2	3	4	5
The NP can perform emergent services with competence and skill	1	2	3	4	5
The NP participates as a valuable member of a disaster care team	1	2	3	4	5
Disaster NP services rendered align with scope of practice	1	2	3	4	5

NPs are able to use full educational training when providing care 1 2 3 4 5
NP is the right provider to treat the illness/injury of person 1 2 3 4 5
The NP is satisfied with the disaster services they render 1 2 3 4 5
NPs utilize assistance and consultation with MD/DO if needed 1 2 3 4 5
NPs demonstrate appropriate triage to higher level of care 1 2 3 4 5
Person's are honored and valued when receiving care by NP 1 2 3 4 5
NPs can communicate and interact respectfully with all persons 1 2 3 4 5
NPs acknowledge professional limitations and utilize most appropriate provider for disaster care services 1 2 3 4 5

Other (please list using a 1-5 value) _____

27. Identify suggestions for how to assist other health care disciplines in understanding the disaster NP role and scope of practice? (Select all that apply)
A) Utilizing one Disaster NP scope of practice that crosses state boundaries.
B) Team training-discussions and organized in-services.
C) Hand-outs for disaster workers explaining NP role and limitations.
D) Field training exercises demonstrating the NP role.
E) On-line e-learning course with NP role description and practice examples.
F) On-line power point presentation as education about NP role.
G) Education about disaster NP role at professional conferences for all health care disciplines.
H) Other (please specify)_____

28. During a disaster deployment, has it been necessary for any NP to perform a skill or procedure that was beyond comfort, knowledge or competence but within the legal NP scope of practice? Yes No

29. If YES to question # 28, identify the skill or procedure performed or observed?
_____
_____

30, Why was this skill or procedure in question # 29 performed? (Please select all that apply) *NOTE: This question has been included to assess the unknown but possible real issues during disaster deployment and to support the need for NP skill training/procedure competence in austere environments*
A) The NP had read about the procedure and wanted to try the skill but was never given an opportunity.
B) The NP had performed the skill/procedure in school/formal training, but never on a 'real' patient.
C) The procedure was performed only at the request of the MD who was too busy or was nearby.
D) The NP performed the procedure or skill as an emergency/life or death patient situation only.
F) There was no threat to lawsuit trying something unfamiliar during a disaster/mass casualty incident.

G) The NP needed to complete procedure/skill before patient could be stabilized for transport to higher level of care and was only provider available to perform procedure/skill.
H) The NP had previous comfort, knowledge and competence but only performs procedure/skill during disaster responses/deployments.
I) The NP had previous comfort, knowledge and competence but no performance in last 2 or more years.
J) Other _____

Thank you for your voluntary participation in this questionnaire. IRB procedures will be strictly maintained and enforced. All information will be held confidential and is solely to be used for this research project for the purpose of data gathering. Feel free to contact me to discuss any results or concerns that have not been addressed in this Round 1 survey. Thank you for your participation in this research project.

Frances Dunniway MSN, RN, CNS, FNP-BC DMAT CA-2

APPENDIX D - HCP Questionnaire

INTRODUCTION: My name is Frances Dunniway and I have been an RN, FNP member of the Disaster Medical Assistance Team (DMAT) CA-2 since 1998. I am collecting data from across the nation for my doctoral dissertation study and would appreciate a timely return on this initial survey, Round 1. The purpose of this study is to gain perspectives from multidisciplinary professionals and providers of disaster care on the role of disaster responding nurse practitioners (NP). The survey below is for all but NP members of the disaster health care team. A separate survey is being collected from nurse practitioners. Your assistance in the collection of these results is not only appreciated, but is mutually beneficial, as the ultimate goal of this project is to contribute to the quality of care for disaster victims by optimizing the contributions of the Disaster NP.

Please feel free to reproduce and share this questionnaire with your disaster colleagues and return to fdunniway@westernu.edu or mail in the self-addressed stamped envelope provided to:

Frances Dunniway 2188 Turnberry Lane, Corona, California 92881

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THANK YOU for your willingness to participate. A completed and returned survey will signify your consent for voluntary participation.

Please feel free to reproduce the survey or forward this e-mail to any colleagues such as those affiliated with Disaster Medical Assistance Teams (DMAT), Public Health Departments, Military Personnel, Search and Rescue Personnel, American Red Cross (ARC), National Nurse Response Teams (NNRT), or Community Emergency Response Teams (CERT).

Health Care Professional (HCP) Questionnaire:

Please complete all entries as appropriate to the best of your recollection and ability.

1. In which state did you complete your formal Health Care Professional (HCP) training?

_____

2. Do you currently work as Health Care Professional (HCP)? Yes No If YES Please answer question # 3

3. In what line of health care do you provide patient care services?

Paramedic EMT-1 Physicians Assistant Pharmacist Respiratory Therapist Nursing RN/LVN MD/DO: Internal Medicine Emergency Dermatology OB Gyn Orthopedics Pediatrics Geriatrics Hematology Oncology Dentistry Mental Health Pharmacist Pharmacy Technician Medical Records Communications Information Technicians Other MD-Please List _____ Military: Army Navy Air Force Marines National Guard Active Duty / Reserve/ Retired Other Discipline-Please List _____

4. In which state do you practice? _____

5. Do you hold any national certifications? Yes No

6. If YES to Question # 5, please list all certifications_____

7. Do you have DEA privileges? Yes No

8. If YES to Question # 7, please specify Class: A) I B) II C) III D) IV E) V

9. Are you a member of a team or organization that has formally deployed to a disaster incident? YES NO If NO please skip to question # 13

10. With which disaster team(s) or organization(s) have you deployed? _____

11. Approximately how many team deployments have you responded to as a disaster HCP?_____

12. Have you attended organizational disaster trainings that included Nurse Practitioners? Yes No

13. If NO to # 9, **you have not deployed to any disaster incident with an organized team or organization**, please circle all the barriers that have prevented your participation.

A) Financial-need income, cannot volunteer

B) Do not understand disaster scope of practice

C) Unable to leave job

D) No time off available

E) Don't know how I could help in disasters

F) Family Responsibilities-No one to care for children, household, etc.

G) New Graduate: No experience

H) No Disaster Knowledge/ No Formal Training

I) No previous interest in disasters

K) Religious Beliefs

L) Other-Please List_____

14. During a disaster response, have you worked with a Nurse Practitioner (NP) who was the primary provider of disaster services to the persons/victims? YES NO

15. If YES to question # 14, describe your understanding about the scope of practice and role of the NP?

A) Absolutely Clear B) Moderately Clear C) Somewhat Clear D) Not at all Clear

16. If NO to question # 14, what about the NP scope of practice or role was unclear? Please explain in detail what or why you have felt that the NP role in the disaster setting/event was unclear: (select all)

A) Limited knowledge of the NP role.

B) No written NP scope of practice identified.

C) What is a Nurse Practitioner?

D) Limited opportunities to complete disaster training with NPs before deploying.

E) This was the first time working with an NP provider.

F). In the state NPs/Mid-levels are not permitted to work outside their primary job site.

G) With previous limited exposure to the NP, working with the NP did not provide insight to the full abilities and role expectation. I was left confused about the role of NP.

H) Other (please describe) _____

_____

17. During a disaster deployment have you ever observed any NP perform a skill or procedure that you felt was clearly beyond their comfort, knowledge or competence?
Yes No

18. What was the skill or procedure?

_____

19. Please select the **types of disasters** that you have responded to as a Health Care Professional where a Nurse Practitioner was providing disaster services to persons/victims:
A) Bridge Collapse B) Chemical Attack C) Hazardous Material Spill D) Fire Storm E) Hurricane F) FloodG) Terrorist Attack H) Pandemic I) Earthquake J) Tornado K) Plane/Train Crash L) Biological outbreak: (i.e. bird flu) M) Refugee Care N) Olympics P) Political Events-(i.e. conventions) Q) Preventative Services: mass vaccinations R) Preventative: medical screenings S) Other_____

20. When deployed to a disaster setting, select all disciplines that comprised the disaster response team? A) Registered Nurse B) Emergency Medical Technician C) Paramedic D) Nurse Practitioners E) Physician Assistants F) Physicians (MD) G) Respiratory Therapists H) Mental Health Professionals I) Chaplain J) Disaster Mortuary Teams K) Doctor of Osteopathy (DO) L) Fire personnel M) Coroner N) Communications O) Veterinary Medical Teams P) Logistics Q) FEMA Staff R) Police S) Dentists T) American Red Cross U) Disaster Persons/Victims V) Administrative personnel W) Pharmacist X) Pharmacy Technicians Y) Information Technicians Z) Other (please list) _____

21. When deployed, do you feel that the NP scope of practice was fully understood by each of the disaster responders circled above in question #20? Yes No If NO please answer question # 22.

22. If NO to question # 21, select all the other disciplines that you felt were not familiar with the NP scope of practice? (With whom did the NP need to explain their role, capabilities, or scope of practice?)
A) RN B) EMT C) Paramedic D) NP E) PA F) MD G) RT H) Mental Health Volunteers I) Chaplain J) DMORTS K) DO L) Fire personnel M) Coroner N) Communications O) VMATS P) Logistics Q) FEMA Staff R) Police S) Dentists T) American Red Cross U) Disaster Patients/Victims V) Administrative personnel W) Pharmacist/Pharmacy Staff X) Other (please list) _____

23. Identify suggestions for how to assist other health care disciplines in understanding the disaster NP role and scope of practice? (Select all that apply)
A) Utilizing one Disaster NP scope of practice that crosses state boundaries.
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C) Hand-outs for disaster workers explaining NP role and limitations.

D) Field training exercises demonstrating the NP role.
E) On-line e-learning course with NP role description and practice examples.
F) On-line power point presentation as education about NP role.
G) Education about disaster NP role at professional conferences for all health care disciplines.
H) Other (please specify)_____
_____

24. During deployments, rate your value of the statements regarding the delivery of services by an NP when caring for disaster victims: 1=not at all important 5= of great importance

The NP can deliver primary care services 1 2 3 4 5
The NP can perform urgent services with competence and skill 1 2 3 4 5
The NP can perform emergent services with competence and skill 1 2 3 4 5
The NP participates as a valuable member of a disaster care team 1 2 3 4 5
Disaster NP services rendered align with scope of practice 1 2 3 4 5
NPs are able to use full educational training when providing care 1 2 3 4 5
NP is the right provider to treat the illness/injury of person 1 2 3 4 5
The NP is satisfied with the disaster services they render 1 2 3 4 5
NPs utilize assistance and consultation with MD/DO if needed 1 2 3 4 5
NPs demonstrate appropriate triage to higher level of care 1 2 3 4 5
Person's are honored and valued when receiving care by NP 1 2 3 4 5
NPs can communicate and interact respectfully with all persons 1 2 3 4 5
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Other (please list using a 1-5 value) _____

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