2016

Flight Nurses' Narratives of Traumatic Patient Care Events: Why Do They Stay?

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FLIGHT NURSES' NARRATIVES OF TRAUMATIC PATIENT CARE EVENTS: WHY DO THEY STAY?

A Dissertation

Presented to

The Faculty of Lynchburg College

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education (Ed.D.)

by

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May 2016

Lynchburg College
Lynchburg, Virginia

APPROVAL OF THE DISSERTATION

This dissertation - Flight Nurses' Narratives of Traumatic Patient Care Events: Why Do They Stay? - has been approved by the Ed.D. Faculty of Lynchburg College in partial fulfillment of the requirements for the Ed.D. degree.

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DEDICATION

This manuscript is dedicated, in loving memory, to my parents, Billy and Mildred Booth, who showed me the way.

ACKNOWLEDGMENTS

A dissertation's completion is a joy, a true and essential collaborative achievement. I would like to express sincere gratitude to my 'dream team' -

- Deanna Cash, PhD (committee chair)
- Sandra Gossler, PhD, RN, APHN-BC (committee member)
- Mary Ann Mayhew, MEd, EdD (committee member)
- Ellen Deluca, PhD, RN (data reviewer)

Thank you each for the gifts of your valuable time and exceptional talents. It was my great privilege to receive your guidance and support during this dissertation journey.

And to my study participants -

Thank you for trusting me with your stories. Thank you, most of all, for your extraordinary courage and integrity and for your unmitigated devotion to best nursing practice. You are my heroes, every one...

The golden moments in the stream of life rush past us,

and we see nothing but sand;

the angels come to visit us,

and we only know them when they are gone.

- George Eliot

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CHAPTER ONE

INTRODUCTION

Society has entrusted the nursing profession with the care of the body, mind, and spirit in order to preserve human health. This charge is an exceptional privilege and a vast obligation. Frequent exposure to the trauma and resultant suffering of individuals can have cumulative, long-lasting effects on caregivers' personal and professional quality of life (Figley, 1995; van Dernoot Lipsky & Burk, 2009). Flight nurses (FN) are nurses who uniformly witness the hardship and struggle of persons in their care and are stewards of trauma. Stewardship involves intentional choice of one's work, cultivating a philosophy of what it means to help others with whom one shares the human experience, ways of care giving, and daily decisions about how to live one's life. Stewards honor the suffering of others but do not assume their pain (van Dernoot Lipsky & Burk, 2009).

With every lift off, flight nurses wittingly risk their lives to assist those in crisis. Their 'courage to care' is ubiquitous. The Wall Street Journal lists the air ambulance as the most dangerous job in America (www.salient-news.com/2010/06/air-ambulance-helicopter-crash/). According to a recent news report, 78 persons, including pilots, nurses, paramedics, and patients, have been killed in medical helicopter crashes over the last decade (Muir, D., 2016). Seven of these crashes occurred in the year 2015 in California (4), Arizona (2), and Colorado (1). The most recent crash occurred in Alabama in March 2016 – all five persons aboard the medical helicopter were killed (www.cnn.com/2016/03/27/us/alabama-helicopter-medical-crash/).

Accepting the risk of harm and confronting traumatic events on a daily basis in order to tend to the crises of others are choices that are implicit within the flight nurse role. Even the bravest and most committed individuals, however, may need assistance coping with trauma. "Trauma always creates a ripple effect" (van Dernoot Lipsky & Burk, 2009, p. 17). This dissertation will examine trauma exposure response in flight nursing practice, including both the gratification (compassion satisfaction) and defeat (compassion fatigue) that are its reality, and will seek to determine, through the lens of research and reflection, necessary strategies that flight nurses have devised to thrive in its wake.

Background

Flight nursing is an exclusive nursing specialty in which highly trained registered nurses provide comprehensive pre-hospital, emergency, and critical care to patients with urgent or life-threatening conditions aboard helicopter or fixed wing aircraft or, when necessary due to unfavorable weather conditions, by ground ambulance. Delivery of this advanced life support and nursing care takes place in the field at the scenes of injury or medical distress or during inter-facility transports when critically ill or injured patients are transferred from one institution to an institution or trauma center that is equipped to provide a higher level of care (http://www.rchsd.org/ourcare/programsservices/c-d/chet/index.htm).

Characteristics of FN practice include a distinguished and advanced level of nursing knowledge and skill, an unstructured and unfamiliar work environment, autonomy/professional isolation, self-efficacy, strong leadership skills, and a broad scope of accountability that encompasses accurate triage and assessment, excellent clinical

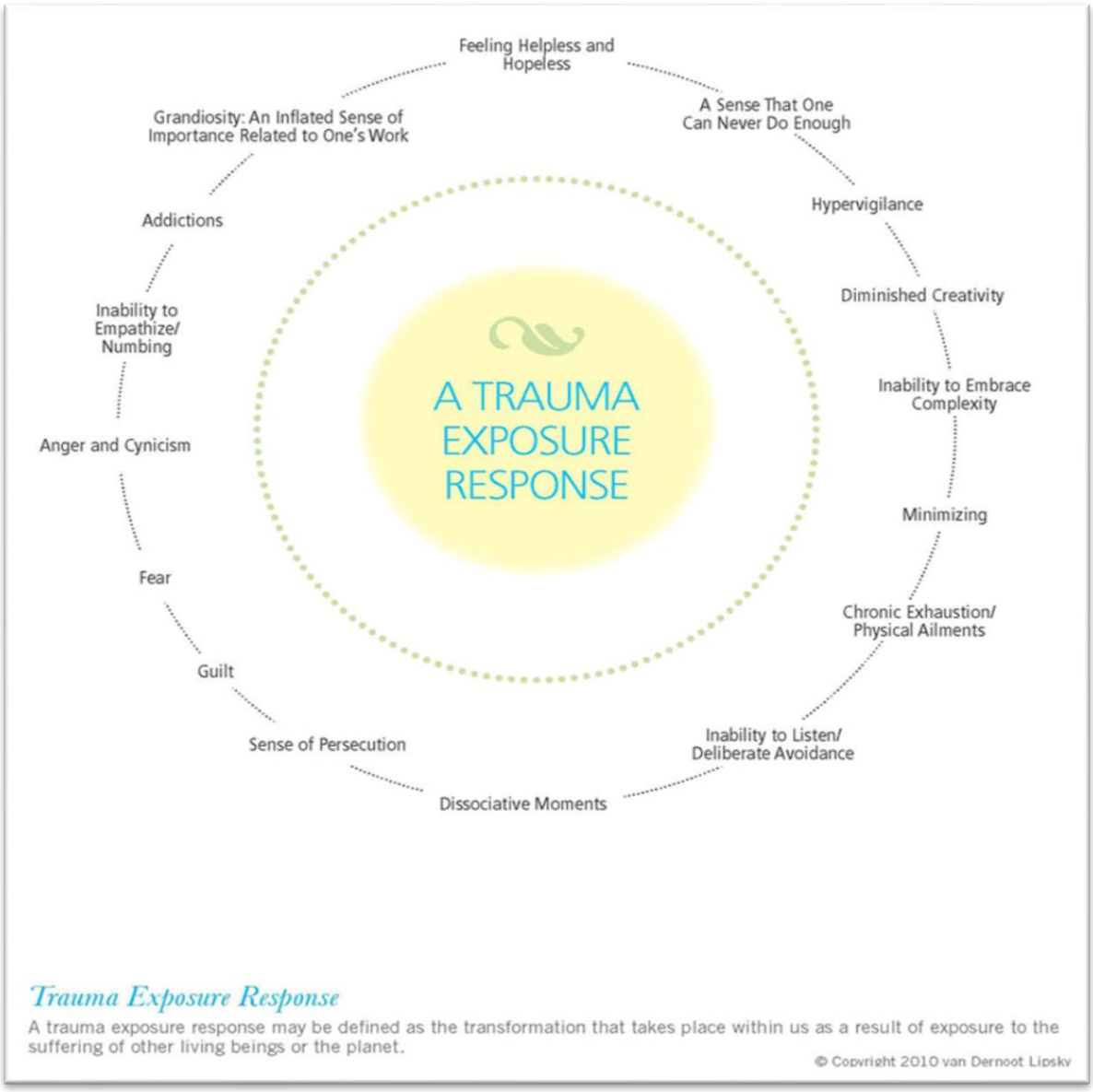
decision-making, and the ability to implement appropriate interventions based on patient data. Flight nurses receive ongoing competency training in mechanical ventilation, hemodynamic support, vasoactive medications, and other intensive care. Most flight nurses have an extensive background in emergency nursing and/or intensive care nursing practice. Flight nursing is considered a functional extension of a hospital's emergency and critical care services; however, responsibilities of flight nurses extend well beyond those they previously encountered as critical care or emergency nurses in the hospital setting. The increased level of illness or injury of transported patients, the intensive care that these patients require, and the challenges faced while transporting them by air require that flight nurses practice at an expert level (Pugh, 2002; Reimer & Moore, 2010; Topley, Schmelz, Henkenius-Kirschbaum & Horvath, 2003).

Flight nurses are continuously exposed to traumatic patient events. A traumatic event is an unexpected and uncontrollable occurrence that overwhelms a person's sense of safety and security and his or her usual coping mechanisms (Meichenbaum, 1994). Traumatic events witnessed by flight nurses may be directly related to physical trauma, for example injuries from motor vehicle crashes, major burns, drownings, or malicious woundings, or they may be medical in nature, for example myocardial infarctions (heart attacks), cerebrovascular accidents (strokes), overdoses, shock, or critical pediatric cases. Traumatic events leave patients physiologically vulnerable and unstable, and they are at risk for rapid deterioration or even death.

Trauma exposure response is the transformation that takes place within an individual as a result of exposure to the suffering of other living beings. One's worldview is established as a result of performing trauma work (van Dernoot Lipsky & Burk, 2009).

The multifarious manifestations of trauma exposure are illustrated in Figure 1 (used with permission of The Trauma Stewardship Institute, personal communication, January 29, 2015).

Figure 1: Trauma Exposure Response



(van Dernoot Lipsky & Burk, 2009, p.1)

Nursing as a profession is equated with compassion and care. Empathy and engagement are fundamental components of nursing practice (Sabo, 2011; Watson, 1979, 1988, 2008). The cost of such caring is high. Dr. Charles Figley, an expert in the field of traumatology and author of *The Compassion Stress and Fatigue Model* (1995) states:

> The very act of being compassionate and empathetic extracts a cost under most circumstances. In our effort to view the world from the perspective of the suffering, we suffer. The meaning of 'compassion fatigue' is to bear suffering. Compassion fatigue, like any other kind of fatigue, reduces our capacity or our interest in bearing the suffering of others (Figley, 2002, p. 1434).

Stamm (Stamm & Figley, 2002) found that not everyone who witnesses suffering when caring for others develops compassion fatigue (CF), also known as Secondary Traumatic Stress (STS). Stamm theorized that doing caring work can manifest itself as happiness or contentment in the workplace and called this alternate reaction 'compassion satisfaction' (CS) (Stamm & Figley, 2002). When we appreciate our work as meaningful, we have purpose; we feel 'heartful' (Todaro-Franceschi, 2013). While the bulk of empirical research about stress among nurses emphasizes the negative effects of providing care to traumatized patients, it is anticipated that flight nurses will describe positive and meaningful aspects of their practice that fulfill their desire to excel as nurses and to serve others in a hurting world. Understanding both the positive and negative responses to trauma exposure can provide life balance and help flight nurses embrace their unique connection with others.

Scope of Literature

A growing body of literature is examining the impact of exposure to patients' pain, suffering and trauma on the health and well-being of nursing professionals (Abendroth & Flannery, 2006; Adeb-Saeedi, 2002; Adriaenssnes, de Gucht, & Maes, 2012; Bechtel, 2009; Chase, 2005; Dominguez-Gomez & Rutledge, 2009; Figley, 1995-2014; Gunther & Thomas, 2006; Hays, All, Manahan, Cuaderes, & Wallace, 2006; Henderson, 2001; Hinderer, Von Rueden, Friedman, McQuillan, Gilmore, Kramer, & Murray, 2014; Jenkins, 2012; Kornhaber, 2009; Kornhaber & Wilson, 2011a; Laposa, Alden, & Fullerton, 2003; O'Connor & Jeavons, 2003; Sabo, 2011; Von Rueden, K., Hinderer, K., McQuillan, K., Murray, M., Logan, T., Kramer, B., Gilmore, R., & Friedmann, E., 2010; Walsh, 2011). Empathy (the ability to notice the pain of others) and engagement, which comprise the therapeutic response of nurses, are central to the development of compassion fatigue (CF) and secondary traumatic stress (STS) (Figley, 1995; Sabo, 2011). Due to the intense and complex nature of their work, emergency and critical care nurses, including flight nurses, are especially vulnerable to compassion fatigue (Figley, 2003). Compassion fatigue alters nurses' ability to nurture patients and assist in their healing process. Nurses who are not able to provide compassionate care become hardened, dispassionate, oblivious, and worn-down (Watson & Foster, 2003).

The term 'compassion fatigue', as related to the harmful effects of stress in health care, was first used in a study about burnout among emergency department (ED) nurses (Joinson, 1992 as cited in Sabo, 2011). Compassion fatigue is the residual emotional stress that results from working with persons who are traumatized or suffering (Dominguez-Gomez & Rutledge, 2009). Burnout involves feelings of failure and

exhaustion as the result of "expending too much effort at work while having too little recovery" (Embriaco, Papazian, Kentish-Barnes, Pochard, & Azoulay, 2007, p. 482). ED nurses are frontline caregivers who play a crucial part in providing quality patient care at the point of entry into the health care system. Studies of work-related stress among ED nurses highlight the prevalence of CF and STS, which coincide with other factors such as overcrowding and increasing patient acuity (Chase, 2005; Dominguez-Gomez & Rutledge, 2008; Hinderer et al., 2014; Laposa et al., 2003; Lavoie, Talbot, & Mathieu, 2010). Known for their unflappability and mental toughness, ED nurses nonetheless frequently report signs and symptoms of secondary stress including intrusive thoughts of patients, avoidance of patients, reduced activity level, and emotional numbing (Dominguez-Gomez & Rutledge, 2009). The high level of stress in the ED environment leads to lost work hours and increased turnover of nurses (Laposa et al., 2003). In a survey of 263 emergency nurses (Duffin, 2013), nurses indicated that they were "reeling under the pressure" (p. 6); one-quarter of them indicated that they might leave emergency services within two years. Witnessing traumatic events in the ED is especially difficult for young nurses, a serious concern as many veteran ED nurses approach retirement and a younger workforce positions itself to carry on their work (Lavoie, et al., 2010).

Intensive Care Unit (ICU) nurses also experience high levels of work-related psychological stress (Embriacio et al., 2007; Gunther & Thomas, 2006; Hays et al., 2006; Kornhaber, 2009; Kornhaber & Wilson, 2011a; McGrath, 2008; Poncet, Toulic, & Papazian, 2007). Bearing witness to the dramatic circumstances of patients and families, along with the suffering and death of patients, leads to consequences of burnout,

exhaustion, and reduced effectiveness among nurses who face critical patients in their daily work (Embriaco et al., 2007; Todaro-Franceschi, 2013).

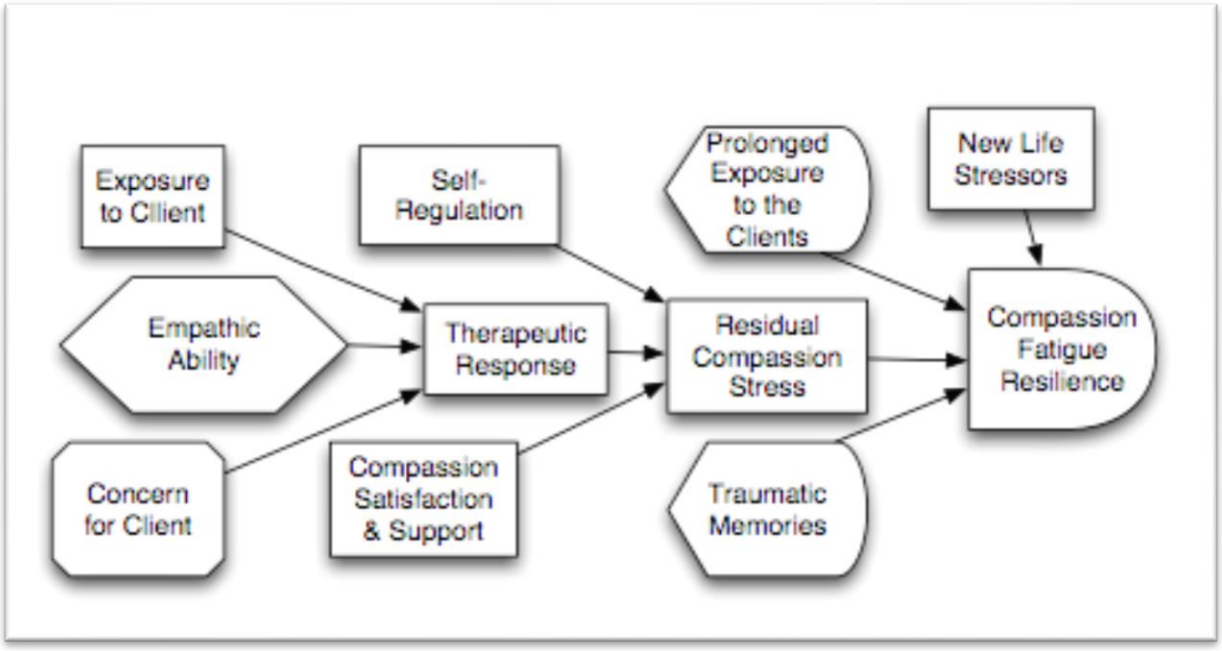
For flight nurses, who systematically witness firsthand the graphic and sorrowful scenes of trauma and major illness, the risk of developing CF and STS is ever present. Currently, however, the extent of this risk is unknown. There is a noteworthy gap in the research related to stress and job satisfaction among flight nurses. Only one previous study (Olsen, 2004) was found that examined the responses of flight nurses to traumatic events. Findings from this quantitative study (n=350) suggested that the majority of flight nurses in the sample were able to cope successfully with stress by using their previously developed techniques of critical thinking/problem solving skills and by seeking social support.

Theoretical support for this study of stress and retention in flight nursing practice is provided by two nursing theories (Watson's *Theory of Transpersonal Caring*, 1979; Benner's *From Novice to Expert Theory*, 1984) and two psychosocial theories (Lazarus & Folkman's *Theory of Stress, Appraisal, and Coping*, 1984; Figley's *Compassion Stress and Fatigue Model*, 1995). Utilizing theories from both nursing and the social sciences will provide a comprehensive foundation for uncovering the multiple factors that determine flight nurses' decision to stay in their clinical roles. These two nursing theories will describe flight nurses' passion and commitment to the well-being of individuals and communities and their trajectory towards advanced practice skills and experiential knowledge. Qualitative nurse researchers also turn to social theories in order to better understand the meaning, nature, and challenges associated with a phenomenon. Insight provided by the dissertation's two social theories will explain flight nurses' vulnerability

to traumatic stress due to the energy and magnitude of their role, along with their ability or inability to cope with stress and achieve work satisfaction and resilience. Together, these four theories will guide the research process and serve to illuminate findings (Reeves, S., Albert, M., Kuper, A., & Hodges, B., 2008; Swanson, 2013).

The conceptual model for this study is *A Model of Compassion Fatigue Resilience* (Figley, 2014). See Figure 2 (used with permission of Dr. Charles Figley, personal communication, February 2, 2015). The researcher seeks to correlate variables within this model to factors that influence flight nurses' decision to stay.

Figure 2: A Model of Compassion Fatigue Resilience (2014)



(http://figley.blogspot.com/2014/04)

Determining flight nurses' capacity for resilience as a coping mechanism for secondary stress and compassion fatigue is a chief consideration in this research study. Figley's *A Model of Compassion Fatigue Resilience* (2014) demonstrates trauma exposure (exposure to a patient's pain, suffering and/or traumatic event) in a linear fashion, flowing from the concepts of empathetic ability, through multiple response possibilities including compassion satisfaction or residual compassion stress (residue of emotional energy), to a goal of compassion fatigue resilience. Prolonged exposure to suffering, emotionally painful memories of patients, or unexpected life stressors will disrupt the progression to resilience (Sabo, 2011). While the concept of resilience has been examined in a limited number of nursing research studies (Hart, Brannan, & De Chesnay, 2014; Kornhaber & Wilson, 2011b; Zander, Hutton, & King, 2012), no studies could be found that address resilience specifically among emergency nurses or flight nurses.

Rationale/Significance

Nurses are the "primary transformers of health care…agents of change for individuals, groups, and community health and healing" (Todaro-Franceschi, 2013, p. 14). The retention of flight nurses and all nursing experts is of paramount importance in the provision of safe patient care and quality patient outcomes. While abundant quantitative and qualitative research has been conducted to evaluate factors such as job satisfaction and perceived stress of nurses, few studies have explored the reality of nursing practice to determine the perceptions of caring, coping, and resilience among nurses who are exposed to multiple traumatic events (Gunther & Thomas, 2006). Research is urgently needed to find specific patterns related to the workplace stress of

flight nurses, to provide direction in order to formulate interventions for their stress, and to identify evidence-based practices for enhancing compassion satisfaction while mitigating factors that lead to compassion fatigue. Understanding the factors that lead to CF and STS, along with effective coping mechanisms to control them, will positively influence flight nurses' decision to stay in their role and help them maintain professional heart and personal health, while promoting best possible patient care (Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010).

Purpose Statement

The purpose of this study is to explore and describe the lived experiences of a sample of flight nurses; to better understand the factors they perceive to be contributors or barriers to compassion fatigue resilience in the medical flight environment.

Research Questions

The study's research questions are provided:

1. What is the nature of flight nurses' lived experience with traumatic caring and compassion fatigue?
2. How does this experience affect flight nurses' personal and professional quality of life?
3. How do flight nurses cope with multiple traumatic patient care events?
4. Why do flight nurses decide to stay in their current clinical roles?

Methods

This will be a descriptive phenomenological study related to the experiences of flight nurses with elements of emancipatory knowledge. The descriptive phenomenology of Husserl (1970) and the methodological interpretation of Colaizzi (1978) will ground

the study. Study data will be collected from five participant interviews and unstructured observation of one participant during one or more 12-hour periods of time.

Discussion

There is a crucial need for flight nurses to provide expert care. Through narrative reflection, this study will explore and describe the lived experiences of flight nurses to determine factors that influence their decision to stay in their clinical roles. Nurses express their values in the context of work (Gunther & Thomas, 2006). They need to tell their work stories in order to explain their convictions, concerns, fears, and hopes (Benner, 1991). This study will give voice to the flight nurse and identify barriers to caring among flight nurses. The study will effectively illustrate nursing praxis: reflection-in-action, the drawing upon knowledge and experience and a repertoire of past patient encounters (Rolfe, 1993). Reflective practice is viewed as an effective tool to reduce the perceived theory-practice gap in nursing and is emerging as a cornerstone in the nursing profession (Teekman, 2000). The study will add significant qualitative description and insight to the limited existing body of research about flight nursing practice; support the proactive recruitment and retention of flight nurses; and honor flight nurses by explicating their value to humanity.

Chapter Summary

The investigation of flight nurses' experiences with traumatic patient care events in order to determine their reasons for staying in their clinical role is the primary purpose of the proposed research study. Chapter One of this dissertation proposal provides an overview of flight nursing practice and trauma exposure response and introduces the concepts of compassion fatigue and compassion satisfaction as related to advanced

nursing practice. The proposed study's research inquiry and use of descriptive phenomenology to provide an abundant description of the lived experiences of five flight nurses is described. The study's theoretical underpinning, conceptual model, research questions, and research methods are presented. The chapter concludes with a discussion of flight nursing praxis and the potential implications of the research findings.

CHAPTER TWO

LITERATURE REVIEW

Trauma exposure response is a universal phenomenon. While the depth, extent, and causes of this response differ for everyone, all individuals are typically affected by the suffering of others (van Dernoot Lipsky & Burk, 2009). Nurses who bear witness to human suffering on a regular basis are at high risk for Secondary Traumatic Stress and Compassion Fatigue (Todaro-Franceschi, 2013). The purpose of this literature review is to present current literature that explores trauma exposure response in nursing practice; investigate the impact of traumatic stress in emergency and critical care nursing practice, including the effects of compassion satisfaction and compassion fatigue; and examine reported coping strategies and the phenomenon of resilience as related to the delivery of advanced nursing care during traumatic patient care events. Goals of the literature review include articulation of care and competency as the essence of expert nursing practice and substantiation of the gap in nursing knowledge regarding the experiences of flight nurses and other nurses who care for traumatized patients.

An online search of literature focused on the Cumulative Index to Nursing and Allied Health Literature (CINAHL) database, as well as PsycINFO, Psychological Behavioral Sciences Collection, and Google Search. Search phrases included the following: compassion fatigue, compassion fatigue and nursing, compassion fatigue and caring, compassion satisfaction, compassion satisfaction and work, compassion fatigue versus compassion satisfaction, flight nursing, Figley, nurse caring, caring theories,

theory and qualitative research, Watson, Benner, nursing competency, nursing praxis, expert nurses, retention of nurses, phenomenology, autonomy in nursing, nurse stress, emergency nurse stress, vicarious traumatization, secondary traumatic stress, nursing resilience, and reflection in nursing.

As the review of literature progressed, studies relative to the experiences of emergency/trauma nurses, Intensive Care Unit (ICU) nurses, and flight nurses narrowed the search. A pattern regarding study methodologies emerged during the initial search process: the majority of studies relative to the dissertation topic were found to be descriptive qualitative studies. Due to the limited amount of research published about flight nursing and in order to capture seminal works related to nursing and social theory, publication time frame was not limited during the literature search.

Following the retrieval of narrative data in the current study, a secondary search of literature was conducted in order to capture the full range of thinking related to the topic of trauma exposure response in advanced nursing practice. Secondary literature search topics included nurses' perceptions of traumatic events, emotional labor among nurses, impact of caring for children and families involved in traumatic events, and the value of administrative support in the nursing profession. Literature reviewed during the secondary search facilitated discussion of the study's thematic results.

Inclusion of an expansive theoretical foundation related to traumatic caring in advanced nursing practice was important to the researcher. "The systematic accumulation of knowledge is essential to progress in any profession … however theory and practice must be constantly interactive. Theory without practice is empty and practice without theory is blind" (Cross, 1981, p. 110 as cited in Alligood, 2010).

Literature within this comprehensive review is organized under two main sections: 'Theoretical Foundation' (Section One) and 'Empirical Studies' (Section Two). Section One presents the study's four supporting theories and its conceptual model. Empirical studies in Section Two are organized under five subsections that explore the following concepts: compassion fatigue in nursing, professional caring in advanced nursing practice, the prevalence and impact of traumatic stress within nursing specialties, resilience/staying power among nurses who care for traumatized patients, and existing studies of flight nursing practice. The literature review concludes with a summary of the study's aim and direction.

Theoretical Foundation

The theoretical foundation of this study consists of (a) two nursing theories regarding 'caring' and 'expertise' that account for nurses' values and actions along the continuum of career nursing experience and (b) two psychosocial theories that explain compassion fatigue and provide a link to coping when caregivers are exposed to traumatic patient events. These four theories and the study's conceptual model, *A Model of Compassion Fatigue Resilience* (Figley, 2014) are described within this section.

Watson - Theory of Transpersonal Caring (1979)

The *Theory of Transpersonal Caring* (1979) defines nursing as a 'caring science': "Caring Science is the essence of nursing and the foundational disciplinary core of the profession" (Watson, 2008, p. 17). Within this quintessential philosophy of the nursing profession, the nurse becomes the mediator of illness, using the human care process to assist others with healing (Chase, 2005). Watson (1988) defined caring as:

> a means of communication and release of human feelings through the co-participation of one's entire self in nursing…The transpersonal caring process is largely art because of the way it touches another person's soul and feels the emotion and union with another, the goal being the movement of the person toward a higher sense of self and a greater sense of harmony within the mind, body, and soul (pp. 70-71).

Two individuals (nurse and patient) in a caring transaction bring to the relationship unique life histories and phenomenal fields. The moment of coming together presents each with an opportunity to decide how to respond (Watson, 1988). When patient and nurse value the importance of each other's feelings and experiences, a common sense of humanity is gained. This therapeutic relationship fosters health and individual growth (Chase, 2005).

Watson (1988) stated that caring for humans requires intention, a will, a relationship, and actions. Interventions related to the human care process occur with full participation of the nurse and patient. Watson (1988) identified ten 'carative factors' that contribute to the caring process: formation of a humanistic-altruistic system of values; instillation of faith-hope; cultivation of sensitivity to self and others; development of a helping-trusting human relationship; promotion and acceptance of expressing positive and negative feelings; use of a creative problem-solving caring process; promotion of transpersonal teaching-learning; provision of a supportive, protective, and/or corrective mental, physical, societal, and spiritual environment; assistance with human needs; and allowance for existential-phenomenological-spiritual forces (Chase, 2005, p. 8; Watson, 1988, p. 75).

Watson's *Theory of Transpersonal Caring* (1979) is an exposition of nursing's 'heart'. Watson identified the heartfelt spirit of nursing as 'caritas' from the Latin word meaning to cherish, to appreciate, and to give special, if not loving, attention. The term translates to caring and represents charity and compassion. Nursing *care* is the core of the nursing profession (Watson, 2008). Watson (1979) also emphasizes the important connection between compassion for others and care of self. When we bear witness to and ease the suffering of others, we realize a sense of contentment and self-actualization. Caring is a commitment that manifests itself in concrete acts (Watson, 2008).

Benner - From Novice to Expert Theory (1984)

The work of nursing theorist Patricia Benner is germane to the exploration of caring and competence within advanced nursing practice. Benner's *From Novice to Expert Theory* (1984) provides a framework for the acquisition of nursing expertise. Expert nurses develop clusters of paradigm cases around different patient care issues that serve to guide their approach and actions in future situations. This level of advanced knowledge is comprehensive and a 'way of knowing', a vital and dynamic transaction between personal experience, critical thinking, and clinical decision-making (Benner, 1984).

The stages of experiential nursing knowledge are delineated as follows (Benner, 1984, pp. 20-34):

- Stage 1: Novice – has no experience in the clinical arena and must rely on rules and guidelines learned from books or mentors; task-oriented.

- Stage 2: Advanced Beginner – has recall of enough real situations ('aspect recognition') to perform most skills appropriately; starts to formulate principles that dictate action.
- Stage 3: Competent – has perspective of patient situations and develops appropriate nursing care plans; develops efficiency and confidence.
- Stage 4: Proficient – perceives the meanings of situations as a whole rather than in terms of aspects and uses maxims as guides; assesses and recognizes changes; develops decision-making.
- Stage 5: Expert – no longer relies on rules or guidelines to connect his or her understanding to an appropriate action; has intuitive 'knowing' and the ability to anticipate, problem-solve, and recommend.

Benner (1984) postulates that an ethic of care is learned experientially. Experience is the adding of nuance or the amending of preconceived notions or perceptions as the result of encountering many actual practical situations. In addition to building knowledge and assessment/technical skills during their career, expert nurses demonstrate "skillful moral comportment" (p. 2) that includes nuances such as stance, touch, and orientation – thoughts and feelings that are connected to physical presence and action (Benner, 1991). Experienced nurses develop transitional understandings across time and know how to assess situations and relate to others (Benner, 1991; Jones, 2007).

Expert nurses also manifest caring by striving for excellence in their practice and serving as patient advocates. They see the 'big picture' and recognize aspects that are most salient to positive patient outcomes. Clinical knowledge is a form of engaged reasoning that encompasses consideration of patients' symptoms of disease, dysfunction,

and response to treatment and recovery trajectories (Benner, 2004 as cited in Jones, 2007). Benner (1984) describes the 'attitude of accountability' of an expert nurse:

> Frequently what happens in our work is that we're dealing with inexperienced physicians who know less than we do about what respirator changes to make on the premature infants. So what I feel is part of my job in critical care is to protect patients … So I will anticipate that the physician is going to make such and such change …if he does *not* make such and such change, I'm going to ask him why. And if he can explain to me something that's logical and based on sound data, then I'll go ahead and do what he wants to do … If he's saying I *don't* know why, I'm going to insist that he go to the next higher person on the line and find out. Or *I will* (Benner, 1984, pp. 137-138).

Lazarus and Folkman – Theory of Stress, Appraisal, and Coping (1984)

Stress takes a significant toll on the physical and mental well-being of individuals. Many different disciplines, including nursing, have identified stress and coping as important variables affecting health (Lyon, 2012; Monsen, Floyd, & Brookman, 1992). Lazarus and Folkman's *Theory of Stress, Appraisal, and Coping* (1984) is very relevant to the examination of traumatic care events within flight nursing practice. "While stress is an inevitable aspect of the human condition, it is coping that makes the difference in adaptational outcome" (Lazarus and Folkman, 1984, p. 6). Lazarus and Folkman (1984) proposed that stress, like caring, is not measureable. "Stress is experienced when the demands of a situation tax or exceed a person's resources and some type of harm or loss is anticipated" (Lyon, 2012, p. 11). Stress is not response-based, but rather a result of a transaction between a person and his or her environment (Lyon, 2012). The theory

identifies two processes that serve as mediators of person-environment transactions – cognitive appraisal and coping:

- *Cognitive appraisal* is a process through which the person evaluates a particular encounter with the environment to determine its threat. What is at stake? Will the encounter compromise values or goals … health … integrity … self-esteem? What can be done to overcome the threat? Cognitive appraisal is a bridge between stress and coping and determines emotions and coping behaviors (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Hays et al., 2006).
- *Coping* is the person's constantly changing cognitive and behavioral efforts to manage stress. Coping is *problem-focused* (direct-action) or *emotion-focused* (palliative) (Folkman et al., 1986). Examples of direct-action coping mechanisms are weighing costs and benefits, generating solutions, taking action to accomplish change, and learning new skills (Lyons, 2012). Examples of palliative coping tactics are distancing, avoiding, selective attention, blaming, wishful thinking, venting emotions, seeking social support, exercising, and meditating (Lyons, 2012).

Short-term health outcomes related to coping as theorized by Lazarus and Folkman (1984) include social functioning in a specific encounter, morale during or after the encounter, and somatic symptoms generated by the stressful encounter. Long-term health outcomes include social functioning, morale, and somatic health (Lyons, 2012).

Figley - Compassion Stress and Fatigue Model (1995)

The extensive research of Dr. Charles Figley relative to the 'cost of caring' among professionals who treat victims of trauma is central to the purpose of this study. Figley

(2002) explained, "In our effort to view the world from the perspective of the suffering, we suffer. The meaning of compassion is to bear suffering" (p. 1434). In introducing his original *Compassion Stress and Fatigue Model* (1995), Figley provided conceptual clarity about commonly used stress terms and diagnoses (Figley, 1995, pp. 3-16; Tabor, 2011, p. 204). See Table 1.

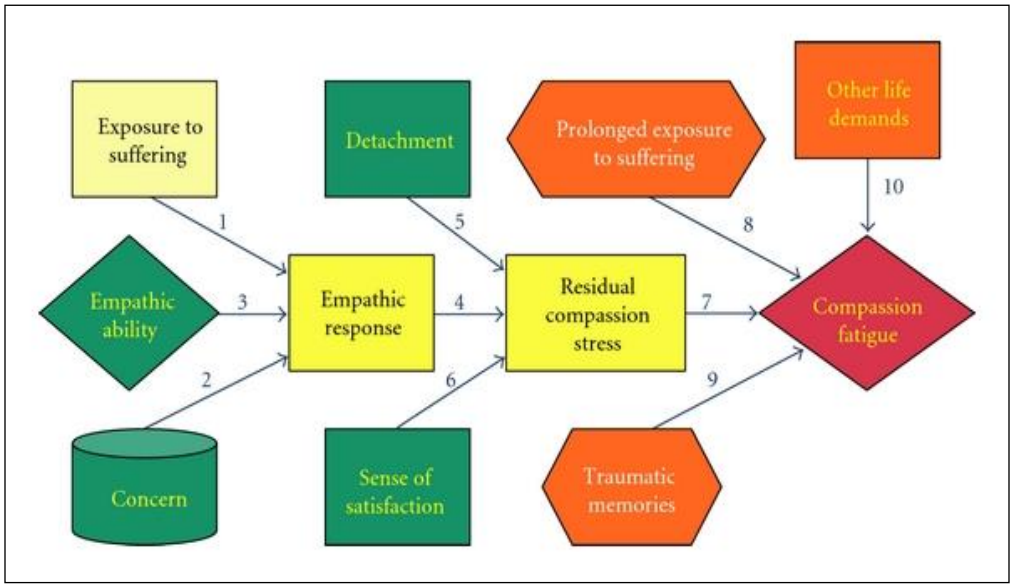
Table 1: Differentiation of Stress Diagnoses

Stress Diagnosis	Characteristics of Disorder
Post-Traumatic Stress Disorder (PTSD)	Exposure to an extreme traumatic stressor involving direct personal experience of an event that involved threatened death, actual or threatened serious injury, or other threat to one's physical integrity. Or witnessing an event that involves death, injury, or a threat to the physical integrity of another.
Vicarious Trauma (VT)	A transformation in one's inner experience resulting from empathetic engagement with survivors of criminal violence or trauma.
Burnout	Long-term exposure to job strain that results in physical, emotional, and mental exhaustion, erosion of idealism, and a void of achievement.
Secondary Traumatic Stress (STS)	Knowledge about a traumatizing event experienced by a significant other. Stress that results from helping or wanting to help a traumatized or suffering person.
Compassion Fatigue (CF)	Deep feelings of suffering, sorrow, or sympathy to the point of exhaustion with associated deep desire to alleviate the pain or suffering of another person. (Synonymous with STS).

(Figley, 1995, pp. 3-16; Tabor, 2011, p. 204).

Figley's *Compassion Stress and Fatigue Model* (1995) is an explanatory multi-factor model that predicts compassion fatigue. The model is based on the assumption that empathy and emotional energy are driving forces in providing effective care to traumatized persons. However, being compassionate and empathetic extracts significant emotional energy from the provider. The model (Figure 3) diagrams eleven variables that either prevent or promote the development of compassion fatigue (Figley, 1995. 2002) (Used with permission of Dr. Charles Figley, personal communication, February 2, 2015).

Figure 3: Compassion Stress and Fatigue Model (1995)



(Figley,1995, 2002)

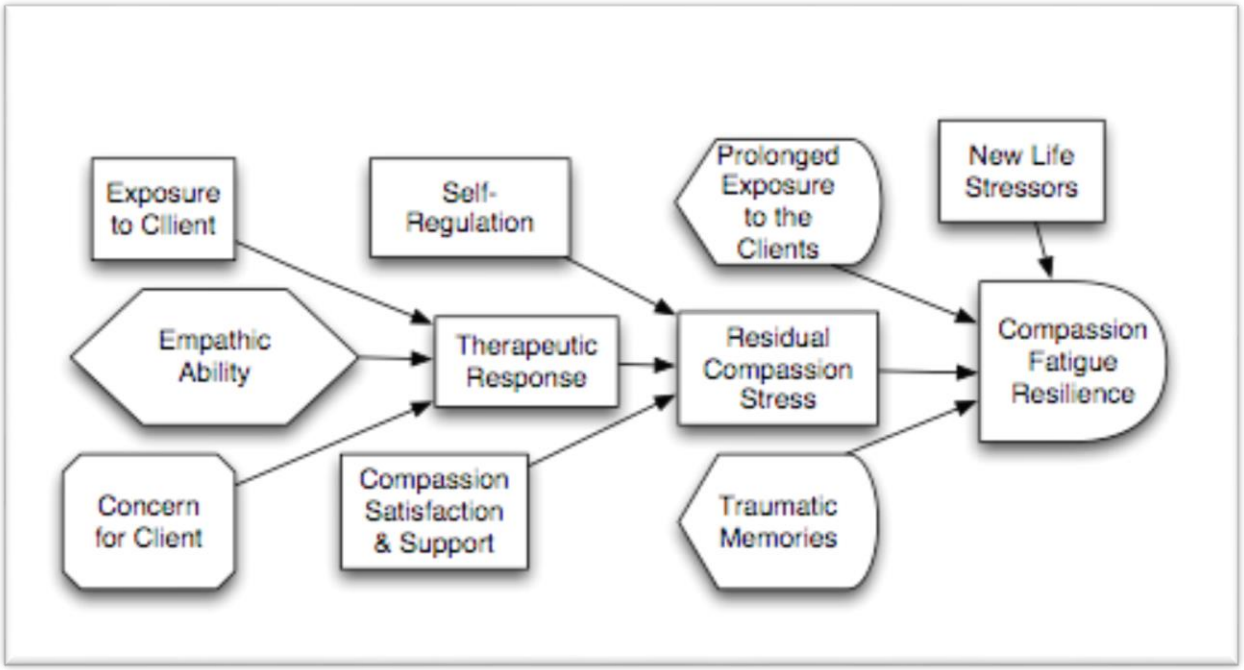
Within this model, Figley (1995, 2002) illustrates the vital link between empathy/engagement and compassion stress and compassion fatigue. Empathy, the ability to recognize the pain and suffering of others, is necessary in order to formulate an empathetic response to the traumatized client. Empathy motivates the caregiver to provide care to the client and, in turn, makes the caregiver vulnerable. As the caregiver continues to expend emotional energy to meet the demands of suffering clients, he or she then responds by developing coping mechanisms in the form of disengagement from situations or enjoying a sense of satisfaction from the work of helping others. Three factors come in to play to increase the risk of developing compassion fatigue: prolonged exposure to suffering, traumatic memories, and life demands. Prolonged exposure can be in the form of long-term exposure to a suffering client or repeated exposures to traumatized clients. Memories of traumatic care events can trigger symptoms of anxiety, self-blame, and depression. Life demands (changes in personal routine and responsibility that demand attention), when combined with the other factors and unsuccessful coping techniques, increase the chances of developing this clinical phenomenon (Abendroth, 2005; Chase, 2005; Figley, 2002).

Conceptual Model

The Compassion Stress and Fatigue Model (Figley, 1995) has been revised over the years as increasing amounts of data about vicarious trauma, secondary trauma, and compassion fatigue have emerged and been incorporated into research (Figley, 2014). *A Model of Compassion Fatigue Resilience* (Figley, 2014) was selected as the conceptual model of the current research study. "This model accounts for the variance in compassion fatigue resilience … by attending to ten key variables found in research on worker

secondary stress reactions and compassion fatigue" (Figley, 2014, p. 1). The model is re-illustrated in Figure 4 (Used with permission of Dr. Charles Figley, personal communication, February 2, 2015).

Figure 4: A Model of Compassion Fatigue Resilience (2014)



(http://figley.blogspot.com/2014/04)

Figley's descriptions of the conceptual model's variables are outlined below (Figley, 2014, pp. 1-3):

- Exposure to Client Suffering is the self-reported number of hours a week on average the worker is exposed to "client material that would make nearly anyone uncomfortable, imagining what it would be like to be in the client's situation." The greater the Exposure to Client Suffering, the greater the empathetic response, the higher the Residual Compassion Stress, the lower the CF Resilience.
- Empathetic Ability is the degree to which the worker can accurately predict the emotion displayed by the client and display emotions to the client that reflect effective services and outcomes.
- Concern for Client is the self-reported interest in the welfare and success of the client.
- Therapeutic Response is one that the helper enables the client to be more (a) willing to change, (b) fear less, (c) optimistic about the clinical outcomes, (d) feel supported. In delivering the appropriate therapeutic response, the worker experiences vicarious distress of the client that weighs on the worker in measurable ways as Residual Compassion Stress.
- Residual Compassion Stress is experienced by workers as stress reactions to the plight of the client and concern about doing all one can to help stem the client's suffering. In addition to Therapeutic Response, Self-Regulation and Compassion Satisfaction and Support also affect the level of Residual Compassion Stress.

- Self-Regulation is the degree to which the worker can effectively manage the cause and impact of stress and separate work from personal life.
- Compassion Satisfaction and Support is the degree to which a worker feels a high level of personal satisfaction from working with clients and feels a high level of support and respect from fellow workers.
- Compassion Fatigue Resilience is an estimate of the tendency to spring back to the original setting following an adversity. The model suggests that the speed and completeness of recovery from an adversity is a function of four separate variables: Residual Compassion Stress, Prolonged Exposure to Clients, Effective Management of Traumatic Memories, and New Life Stressors.
- Prolonged Exposure to Clients is the amount of clients assigned versus time in the day to provide services multiplied by the number of months performing this service. The greater the dosage the worker is exposed to client suffering, the lower the Compassion Fatigue Resilience.
- Effective Management of Traumatic Memories is the self-reported satisfaction with managing the number, if any, and intensity of memories of past trauma. The greater the satisfaction workers have in managing the memories, the greater the Compassion Fatigue Resilience.
- New and Chronic Stressors are the new added to the chronic or acute stressors. These are both personal and professional stressors that result in a set point in the worker's management of stressors.

Four theories within Section One of the dissertation's literature review have provided groundwork for the research of factors that determine flight nurses' decision to stay in their current clinical roles. Two nursing theories, Watson's *Theory of Transpersonal Caring* (1979) and Benner's *From Novice to Expert Theory* (1984), provide conceptual understanding of nurses' characteristics and commitment to caring, both fundamentally and across the spectrum of career experiences. Caring genuinely for others, however, potentially causes emotional pain and exhaustion and decreased professional quality of life (Figley, 1995). Lazarus and Folkman's *Theory of Stress, Appraisal, and Coping* (1984) and Figley's *Compassion Stress and Fatigue Model* (1995) provide a sociological perspective necessary for assessing the impact of traumatic caring and understanding the concepts of compassion fatigue and compassion satisfaction and their bearing on effective nursing care and nurse health and retention.

Empirical Studies

In qualitative research, the literature should be used inductively so that it does not direct the questions asked by the researcher. The qualitative researcher "seeks to listen to informants and to build a picture based on their ideas" (Creswell, 1994, p. 21). Research studies relative to the exploration of trauma exposure response in flight nursing practice are presented in this section and include studies of compassion fatigue and secondary stress, caring, resilience, and flight nursing expertise.

Compassion Fatigue

Figley's *Compassion Stress and Fatigue Model* (1995) has provided a schema in multiple nursing studies about workplace stress. Yoder (2010) described the prevalence of compassion fatigue among 178 nurses in one health care organization who were

employed in home care, emergency department (ED), ICU, progressive care unit (PCU), oncology unit, and medical-surgical units. Participants completed Stamm's Professional Quality of Life Scale (ProQOL) (2005). The study also had a qualitative component - two additional items invited a narrative response as follows: (1) Describe a situation where you experienced either compassion fatigue or burnout and (2) What strategies did you use to deal with the situation and how did you get through it? Yoder pointed out the differences between compassion fatigue and burnout – compassion fatigue arises from a rescue-caretaking response and burnout arises from an assertiveness-goal achievement response (Stamm & Figley, 2002; Valent, 2002 as cited in Yoder, 2010). The participants were younger than the average U.S. population of working nurses -14% versus 8% were younger than 30 years old, and 39% had less than 10 years of nursing experience. Study results included: compassion fatigue = 15.8%, burnout = 7.6%, and compassion satisfaction = 8.6%. Using one-way analysis of variance, CF was significantly higher for nurses who worked 8-hour shifts instead of 12-hours shifts. Using Tukey's method of post hoc analysis, compassion satisfaction was significantly higher in the ICU than the ED. Compassion satisfaction was negatively correlated with numerous items on the CF and burnout subscales (*Pearson's r* = -29 to -.60, $p < .01$). Terms related to compassion satisfaction were "fulfilled", "being me", and "connected to others." Descriptions of compassion fatigue were "feeling trapped", "infected", "exhausted", and "on the edge." Trigger situations related to CF were identified as caring for young dying patients, high patient census, heavy workload, and overtime. One nurse reported "constant juggling, 100 things at a time, emergency life or death situations" (Yoder, 2010, p. 10).

Yoder (2010) presented a thorough overview of CF and CS in a variety of nursing care settings. The study also reported coping strategies utilized by the participants. The most common strategy used by the nurses was changing their personal engagement with the patient or situation. While some nurses disengaged or ignored the situation ("I detached myself … [and went on])" (p. 194), others increased their focus on the situation ("I gave the patient extra attention and sat and talked with him as much as I could)" (p. 194). Other coping strategies were help from colleagues, personal time including prayer, hobbies, relationships, and introspection. This study was robust in terms of sample size, methods, and scope. Findings from the study could be utilized to increase awareness of triggers of CF in nurses' workplace environments and to help nurses and managers better cope with inevitable stressors frequently encountered by nurses.

Abendroth and Flannery (2006) examined the risk of compassion fatigue among hospice (end-of-life) nurses working in Florida (N = 216). This was a non-experimental, correlational (descriptive) design study utilizing cross-sectional data. More than half of the participants provided hospice care in patients' homes or in nursing homes (average weekly caseload = 19.8 patients). One quarter of the nurses in the study worked on hospital in-patient units (average nurse-to-patient ratio = one-to-six per shift). Risk of compassion fatigue was operationalized with the ProQOL survey (Stamm, 2005). Findings revealed that 78% of participants were at moderate-to-high risk for compassion fatigue; 26% were in the highest category for compassion fatigue. Stress, trauma, anxiety, life demands, and excessive empathy were key determinants of risk in the multiple regression model that accounted for 91% ($p = < .001$) of the variance in compassion

fatigue risk. Nurses who ranked as being most selfless (64%) had a greater percentage of smoking behavior, financial stress, headaches, and hypertension.

Abendroth & Flannery (2006) provided substantial findings, as it highlighted crucial nursing care issues relative to the growing aging populace in America. While the hospice census is expected to increase, the nursing workforce is expected to fall 29% below demand by 2020. It is vital to recruit and retain nurses in the hospice specialty in order to maintain quality end-of-life care for terminally ill patients. As in the Yoder (2010) study, the survey effectively detailed the risk factors for CF for nurses working in stressful situations. Importantly, 83% of nurses in this sample who were classified as high risk for CF responded that they self-sacrificed for others' needs. This is an unhealthy level of empathy, which is an essential element of effective patient care.

Professional Caring

The work of flight nurses is fast-paced, focused, and often very technical in nature. The concept of caring as provided by nurses who work in high-acuity, high-tech environments will be examined in this section. High technology does not just refer to monitors and machines but to the human knowledge and skills involved in developing and using them in practice (Ashworth, 1990). Ashworth (1990) described the 'nursing lens': "Through the knowledge, skills, wisdom, experience, intuition, and ethics expressed in practice by nurses, patients can learn to perceive the equipment and techniques as designed to help them" (p. 155). Nursing is 'skilled companionship' that helps the person onward (Campbell, 1984 as cited in Ashworth, 1990).

Beeby (2000) developed a phenomenological study to answer the question, "What is 'caring' for nurses working in intensive care?" Unstructured, in-depth interviews were

conducted to collect data about the experiences of nine ICU nurses who volunteered to participate in the study. Responses were elicited by the opening question "I am interested in the way you demonstrate caring when you come to work. Could you tell me about the last time you truly felt you cared for a patient?" Using Colaizzi's (1978) procedure of inductive reduction, a theoretical model of inductive reasoning that comprehensively reflects the universal features of a phenomenon, three major themes were drawn from the data. Themes and excerpts of participant responses are provided below (Beeby, 2000):

1. Being involved - "…even if you don't know them, you get to know them; you build a picture of them in your own mind…from the relatives and visitors say…how they are. And you can deliver as much as you can for that person... " (p. 156)
2. Sustaining – "your physical caring, that gets better as you get more experienced…you can do all the physical things much more quickly and efficiently and with the least amount of disturbance to the patient…you deal with the emotional aspects, listening, discussing things…that's something that comes along with experience…that's something extra, that's something special." (p. 157)
3. Being frustrated – "…communication barriers prevent you from caring, because you are with people that are seemingly unresponsive and they can't respond to you, they may be able to hear you or whatever, but they can't show it." (p. 158)

For the nurses in this study (Beeby, 2000), caring involved taking responsibility for a totally dependent patient, meeting the patient's needs at the bedside, advocating for

the patient, and providing continuous technical support as part of nursing care. Additionally, caring consisted of physical, technical, and emotional labor. When a rapport and affinity were felt for the patient, physical care was given with emotional warmth. Caring for the family was a component of caring for the patient and was achieved by supporting, teaching, and involving the family in patient care.

While achieving external validity can be difficult in phenomenological studies due to the inability to generalize findings, the strength of this study (Beeby, 2000) was the gathering of rich, generous data that could be transferrable to other ICU nurses. The study served to increase ICU nurses' awareness of expressions of caring and effectively differentiated between emotionally 'being there' for the patient and performing task-oriented, perfunctory care (Beeby, 2000).

McGrath (2008) sought to illuminate the work experiences of experienced critical care nurses and to enter the debate as to whether the concepts of 'high tech' and 'high touch' are reconcilable. Ten cardiothoracic critical care nurses with a minimum of three years of experience were purposively chosen to participate in this phenomenological study. Analysis of unstructured interviews used the Walters Heideggerian method (Heidegger, 1995), which provides a rich textured description of participants' lived experiences. Three main themes were revealed:

1. Alien environment – Caring for patients who are dehumanized and controlled by life-saving technology, who are 'looking at one spot on the wall', along with their anxious families, was challenging, yet did not interfere with caring. Once the patient was settled, technology moved into the background. During extended stays, efforts were made to make the patient and family feel at home.

2. Pulling together – Collaboration and expertise in a high-tech patient care area were essential. The complexity of the patient's circumstances encouraged teamwork and the sharing of expertise. It was vital to have a sufficient number of experienced nurses on the team. Collegial support was embraced, regardless of experience level.
3. Sharing the journey – The gravity of the technology-dependent situation brought nurses very close to patients' families. This true presence could be in the form of shared joy or a hopeless journey. Heroic caring for dying patients, i.e. witnessing an extension of their suffering, was frustrating and painful for nurses. Nurses and families came together to 'let go' of the deceased.

McGrath (2008) demonstrated that experienced critical care nurses have the ability to navigate their technology-filled environment by being present for their patients, families, and colleagues. Nurses shared the suffering and brokenness experienced by patients and families in the critical care unit. Suffering was made more acute by patients' and families' unrealistic expectations and false hope for technologic cures. Nurses became the 'in-between' to coordinate the values of physicians, families, and organizations. Similar to findings in Beeby (2000), nurses sought to create a home for the critically ill patient, in turn helping the nurse feel accepted and valued (McGrath, 2008).

Baldursdottir and Jonsdottir (2002) conducted a study that examined the concept of caring from the perspective of the patient. The purpose of this quantitative study was to determine the perceptions of caring by patients in the emergency department (ED) under the circumstances of short staffing and increased nurse workloads. Rising patient admissions, longer stays in the ED due to lack of inpatient beds, and an emphasis on

patient consumerism have placed significant pressure on ED nurses who must prioritize care to the most seriously ill and injured patients. In general, poor attitudes of healthcare workers and delivery of impersonal care are common patient complaints. Patients are cognizant that nurses are distancing themselves from patients (Baldursdottir & Jonsdottir, 2002).

Baldursdottir and Jonsdottir (2002) utilized Watson's *Theory of Transpersonal Caring* (1979), which recognizes and acknowledges the value of caring in nursing practice before actual caring occurs, as the theoretical framework for the study. The 61-item Caring Behavior Assessment tool (Cronin & Harrison, 1988), based upon Watson's ten 'carative' factors, was mailed to 300 adult ED patients who had been treated and discharged from the ED during a one-month period. The response rate was 60.7%. Participants were requested to rate their perception of each of the nurse caring behavior items on a 5-point Likert scale of relative importance. Patients were also given an opportunity in the questionnaire to make remarks to the open-ended question of whether there was anything else that nurses could say or do to make the patients feel cared for (Baldursdottir & Jonsdottir, 2002).

Participants in Baldursdottir & Jonsdottir (2002) scored the items 'Know what they are doing', 'Know when it is necessary to call the doctor', 'Know how to give shots, IVs, etc.', and 'Know how to handle equipment' as the most important nurse caring behaviors. 'Know what they are doing' was the single most important item perceived by the participants. These results pointed to the need of the patient for competent caring and clearly demonstrated patients' expectations of the nursing profession. The results did not support the notion that more time was necessarily needed in order to care. This study

demonstrated significant outcomes in terms of applicability to care provided by flight nurses and to current trends in healthcare. Time constraints and heavy workloads of nurses can interfere with caring behaviors; however, a caring moment can be created when the nurse is authentically present with a patient meeting his or her clinical needs (Baldursdottir & Jonsdottir, 2002).

Hallgrimsdottir (2000) studied emergency nurses' perceptions of caring for families of critically ill/injured patients and suddenly bereaved families. Crisis situations shock families and leave them little or no opportunity to prepare emotionally. Fifty-four nurses from three emergency departments provided data via questionnaire. The majority of participants felt that a nurse who is responsible for a patient is also responsible for the patient's family; however, 30% of participants did not agree with this sentiment. Few participants felt they had received adequate education to meet families' psychosocial needs. Most participants (72%) found it distressing to deal with traumatized families, and 48% often felt in need of emotional support. Fifty-four percent of respondents had no access to emotional support at work. Talking with colleagues and their own family and friends helped them cope with the emotionally difficult task of communicating with traumatized families. The Hallgrimsdottir study (2000) is very relevant to flight nurses who frequently encounter distressed, overwhelmed family members during traumatic patient care events.

In conclusion, six studies were highlighted that examined the behaviors and attitudes of nurses who provide care to critically ill patients and their families. 'Caring' provided by advanced practice nurses, such as flight nurses, was illustrated as being integral to their role and professional values. Likewise, it was demonstrated that forming

relationships with patients and families, even under intense circumstances, influences both patients' and nurses' satisfaction and well-being.

Traumatic Stress

Stress is a pervasive circumstance in nursing practice (Beck, 2011; Coetzee & Klopper, 2010; Sabo, 2011; Watson & Foster, 2003; Yoder, 2010). The risk of compassion fatigue and secondary stress, caregiver stress that leads to emotional and physical exhaustion, exists in all practice areas but rises exponentially when nurses work in intense environments (Figley, 2003). Flight nurses and other advanced practice nurses work in settings where moments in time are crucial and decisions that are made immediately affect the outcome of the patient (life or death). These nurses continuously witness unstable patients affected by massive disease or traumatic injury (Adriaenssens et al., 2012; Hinderer et al., 2014; Jenkins, 2012; Von Rueden et al., 2010). Figley (2003) asserted that emergency responders, crisis workers, emergency staff, and critical care nurses absorb the traumatic stress of victims they assist, particularly if the outcome of interventions provided do not improve the status of the patient but result in death. Nurses who care for patients with traumatic injuries are at increased risk for developing posttraumatic stress syndromes. Emergency and critical care nurses suffer their own grief after losing a patient, despite having given all of their self to perpetuating and saving life. They then often have to immediately turn their attention to family members who need information and support or to other patients in their care (Crabbe, Bowley, Boffard, Alexander, & Klein, 2004; Jenkins, 2012).

Nurses involved in traumatic patient care events can demonstrate physical and/or emotional signs and symptoms of STS/compassion fatigue following a specific traumatic

event or after experiencing cumulative traumatic events. Physical symptoms of CF include weight loss/gain, fatigue, diminished performance, loss of endurance, intrusive thoughts, and complaints of headache, abdominal pain, and insomnia. Emotionally, the caregiver experiencing CF may become anxious, irritable, angry, overwhelmed, or lethargic, and may exhibit poor judgment and dispassionate care. The nurse with CF may also start avoiding and depersonalizing patients and making clinical mistakes due to inability to focus (Jenkins, 2012; Sabo, 2011; Walsh, 2011).

Von Rueden et al. (2010) studied the incidence of STS in nurses who care for patients with traumatic injuries (N = 128). Relationships between STS and years of experience, coping strategies, and personal and environmental characteristics were reported. The study took place in an urban 100-bed all-trauma hospital. Only nurses who provided direct beside care were eligible to participate. The Penn Inventory Scale (Hammarberg, 1992) was used to measure PTSD symptoms, previously defined as STS reactions. Participants' years in trauma nursing averaged 8.7 years. Support systems were found to be strong (family 90.6%, friends 82%, co-workers 71.1%). The most frequently reported coping strategies were hobbies (65.5%) and exercise (60.9%). Penn Inventory scores ranged from 1 to 54. Nine nurses (7%) scored 35 or more, indicating the presence of STS. Sixteen others (11%) had scores of 30 or more, near diagnostic of STS. The only personal/environmental characteristic that was significant for STS was years in nursing. Nurses experiencing STS had fewer years in nursing than those without STS (8.06 +/- 3.99 vs 12.24 +/- 10.99; P = .029). This result was contrary to conventional thought that nurses who had many years of exposure to traumatically injured patients would have

increased STS. The nurses with the highest score for STS averaged eight years in nursing and five years in trauma nursing.

In a follow up report about the same sample of trauma nurses, Hinderer et al. (2014) examined how burnout (BO), compassion fatigue (CF), and compassion satisfaction (CS) related to the development of STS. Results indicated that 35.9% of participants had scores consistent with BO, 27.3% with CF, and 9% with STS. Characteristics of BO and CF were negative coworker relationships, use of medication, and higher number of hours worked per shift. In the coping category, older age, lower levels of education, the use of support systems, the use of exercise and meditation, and positive coworker relationships related to CS. The majority of the sample (78.9%) had above average CS scores. The high prevalence of CS within this sample was a significant finding indicating that caring for trauma patients in the hospital setting on a daily basis was rewarding (Hinderer et al., 2014). Research results reported by Von Rueden et al. (2010) and Hinderer et al. (2014), which focused on nurses caring for patients with traumatic injuries, are highly relevant for flight nurses who are frequently exposed to patients experiencing major physical trauma.

Other studies have explored the prevalence and impact of stress among emergency department (ED) nurses. ED nurses, like flight nurses, are nurses who are routinely confronted with work-related traumatic events, such as severe injuries, suffering, and sudden patient death. Laposa, Alden, and Fullerton (2003) analyzed responses from 51 ED staff members in a large Canadian urban hospital. Respondents were primarily nurses 23 to 51 years of age with an average of 7.4 years of ED experience. The 30-item Health Professionals Stress Inventory (Wolfgang, 1998) was used to measure Post Traumatic

Stress Disorder (PTSD) responses related to work-related stress or trauma. While PTSD is not the same disorder as compassion fatigue, both disorders are triggered by witnessing others' traumatic events. The average stress score was 57.19 out of a possible 90. The average PTSD symptom severity score was 6.85 out of a possible 51. Twelve percent of participants met full criteria for a diagnosis of PTSD. Three sets of factors that contributed to ED stress – organizational characteristics, patient care, and interpersonal environment – were rated as equally stressful by analysis of variance (F [1,49] = 0.73, p > .1). The top six most upsetting events were providing care to a patient who is a relative or close friend in serious condition, threatened physical assault of self, multiple trauma with massive bleeding or dismemberment, death of a child, providing care to a traumatized patient who resembles yourself or family members in age or appearance, and caring for a severely burned patient. Most participants felt they had received inadequate administrative support following traumatic incidents; one fifth considered changing jobs as a result of the traumatic event.

Lavoie, Talbot, and Mathieu (2010) developed and completed a qualitative study to identify support activities for ED nurses who have been exposed to traumatic events in order to prevent post-traumatic stress. Semi-structured interviews and a focus group followed the Guba and Lincoln evaluation model (1989), which allowed the researchers to participate in discovery and verification activities with the participants. This model takes the position that evaluation outcomes are not descriptions of the 'way things really are' but, rather, meaningful constructs that 'make sense' to participants (Guba & Lincoln, 1989). Average age of the twelve nurse participants was 37 years; average employment in the ED was seven years. The interview guide was developed around three questions: (1)

For you, what is a stressful event in the ED?, (2) What feelings and thoughts do you have, during or after a stressful event?, and (3) How do you know that a particular event in the ED has been stressful? Three broad categories of events where PTSD symptoms were reported emerged from the data analysis. Participant comments underscore category meanings:

1. Exposure as a witness – "Well, something happened last year, a child who died in a car accident … The other nurse and I looked after her because we were the most experienced. We massaged her, resuscitated her over and over. The poor girl, every bone in her body was broken …I can still see that little girl. I dreamed about her for a month. The other nurse and I cried and cried, we couldn't get over it. We kept saying, 'It doesn't make sense, it can't be'." (p. 1517)
2. Exposure as a victim – "The night I had a gun in my face, I'll tell you, I hope I never have another night like that!" (p. 1517)
3. Contextual exposure – "It's sad, really, I didn't used to be so easily frightened …It's annoying, I can't control it. If I had a choice, I'd go back to the way I used to be." (p. 1517)

Lavoie et al. (2010) reported that PTSD symptoms were greater among the younger participating nurses. Activities such as peer support, psycho-education, and ED simulations were identified as potential avenues for assistance. Using narrative data, this study called attention to the dramatic accounts of nurses who provide emergent care during traumatic events.

Dominguez-Gomez and Rutledge (2009) investigated the prevalence of STS in 67 emergency nurses from three hospitals in California. Actively employed nurses with a minimum of six months ED experience were recruited to participate in this exploratory comparative study. The instrument used in the study to analyze the prevalence of STS was the Secondary Traumatic Stress Scale (STSS) (Bride, Robinson, Yegidis, & Figley, 2004), which uses 17 items to evaluate the frequency of stress symptoms among three subscales (intrusion symptoms, avoidance symptoms, and arousal symptoms). Forty-six percent of participants reported having intrusive thoughts about patients; 27% reported that reminders of work were upsetting; 52% avoided patients; 43% experienced diminished activity level and emotional numbing. Overall, 85% of participants reported at least one STS symptom within the past week, and 33% of the sample met the criterion for a diagnosis of STS. When these results were compared to those of social workers, nurses were found to be at higher risk for STS (33% compared to 15%).

Stress among emergency department nurses is a significant concern. Increasing the awareness of STS in the workplace is necessary in order to promote intervention measures that can prevent emotional exhaustion and potential job separation of ED nurses. The use of the STSS survey tool within this study (Lavoie et al., 2010) provided valuable information regarding comprehensive stress symptoms applicable to nurses who experience workplace stress.

Adriaenssens et al. (2012) examined the experiences of emergency nurses who were routinely exposed to traumatic events and hectic work conditions. The cross-sectional study was conducted in 15 Belgian emergency departments by means of a self-administered structured survey (P = 248). Emergency nurses with at least six months'

experience were eligible to participate; head nurses and nursing managers were excluded from the sample. Topping the ten most traumatic events reported by ED nurses were dealing with the death of young persons, dealing with the death or resuscitation of a baby or young child, handling victims of car and train crashes, and confrontation with physical trauma and burns patients.

Adriaenssens et al. (2012) showed that ED nurses are regularly exposed to traumatic events, with significant negative effects on psychological and physical well-being including anxiety, depression, and somatic complaints. Nearly one third of respondents exceeded a sub-clinical level for these variables. One in seven ED nurses reached clinical levels for PTSD. Fatigue levels of ED nurses were high but not directly related to the frequency of exposure to traumatic events. Adequate social support from the supervisor (head nurse) and colleagues was available and important for the ED nurse. Problem-focused coping (trying to solve or restructure the problem or alter the situation) and social support were found to have a protective effect on post-traumatic stress reactions. Coping was found to be strongly associated with the response of the ED nurse following exposure to traumatic events. Problem-focused coping was related to decreased psychological distress and fatigue.

Like emergency departments, intensive care units are characterized by high levels of work-related stress. Burnout syndrome, psychological stress resulting from long-term exhaustion and diminished interest (depersonalization or cynicism), is very prevalent among nurses in the ICU setting. Embriaco, Papazian, Kentish-Barnes, Pochard, and Azoulay (2007) found that severe burnout syndrome is present in approximately 50% of critical care physicians and in one third of critical care nurses. Consequences of burnout

in the ICU are reduced effectiveness, decreased job satisfaction, reduced commitment to the organization, and intention to leave one's job. In a study of ICU nursing staff (N=2,392) by Poncet, Toulic, and Papazian (2007), sixty percent of ICU nurses who exhibited a high level of burnout wished to leave their jobs. Twelve percent of the participants showed signs of depression, and 32.8 percent of the participants suffered from severe burnout syndrome. Evidence of burnout among the participants included poor quality of life, increased absenteeism, and patient dissatisfaction. Factors that were identified to improve the rate of burnout were collaboration between physicians and nurses about end-of-life decisions, collegial support and social contact, and appreciation from senior staff. Providers may be able to tolerate greater workloads if they value their work and consider it important.

Gunther and Thomas (2006) examined nurses' narratives of unforgettable patient care events. A purposive sample of 46 nurses employed in acute care hospitals in the southeastern United States participated in this phenomenological study. The sample included representation from multiple clinical specialties – medical-surgical, ED, ICU, oncology, pediatrics, and obstetrics. Individual, in-depth, non-directive interviews began with the question: "Tell me about a time that you provided nursing care to a patient" (Gunther & Thomas, 2006, p. 371). Most participants immediately recalled a certain patient they would never forget and began to relate very detailed and intense facts and feelings about the experience. While some extraordinary events were being witness to graphic physical injuries, others events caught the nurses emotionally unprepared. Excerpts from Gunther and Thomas (2006) data are provided:

- Death of a young child - "We were all very, very, very, very traumatized, like I mean, it was just horrendous because we really felt like we had done everything. You know, we were just kind of desperate to save him … You know, we had had him his entire course of his illness. And then we still hadn't saved him." (p. 372)
- Sudden patient death - "You sort of relive the experience and you think, "What should I have done different?'…Guilty, guilty! I mean what did I do? But I did not do anything. I just went to lunch. He was fine, he was just sitting up in the bed talking, and he just bled out, just in no time." (p. 373)
- Patient resuscitation - "You know, if I had called the ER doctor and said, 'Look, I'm about to have a code, could you come intubate my patient?' that lady may have made it …I don't know." (p. 373)
- Fighting death – "I walked in that night and he looked at me and said, 'You know I'm going to die tonight.' And I said, 'Not on my watch, you're not.' I stayed with him in that room most of the night and talked him into living." (p. 374)

Grounded in the routines of daily work experiences, four themes were identified as common across clinical specialties: (a) extraordinary events disrupted the routine, (b) these events were incomprehensible in nature or led to post-event questioning, (c) participants sought to understand what could have been done differently, and (d) participants described both being alone in the situation and working closely together with either patient or colleagues. Unforgettable patient care events were burned into these nurses' memories by unanswered questions (Gunther & Thomas, 2006). As stated, phenomenological studies are generally considered unsuitable to generalize to large populations; however, any practicing nurse would recognize data within this study as

relatable to his or her work experiences. Stories of unforgettable patient care events are powerful and illustrate the moral and emotional burden of caring borne by nurses.

Walsh and Buchanan (2011) conducted a phenomenological study to investigate nurses' experiences of witnessing patients' trauma and suffering on an acute care hospital unit. Five female registered nurses who had at least one year of acute care nursing experience were asked, "Can you describe for me your experience of witnessing patient's trauma and suffering on the acute care ward where you work?" Five main themes emerged from the Colaizzi method of data analysis (1978). Themes and select excerpts are provided below:

1. Shock and Prolonged Witnessing of Suffering –
    a. "I open up the curtain and just boom, he's dead! I can see his face, even to this day…I was just in shock and I just closed the curtain and was like 'Oh my God, he's dead'." (p. 356)
    b. "There are so many demands and you're pulled in so many directions…quite often I walk out of there thinking I've done the bare minimum. I've kept them alive." (p. 357)
2. Long-term Effects –
    a. "I would quite often be distracted…because my mind would keep going back to that. I couldn't detach myself from it even when I was at home…it's almost like it consumes you in a way." (p. 357)
    b. "I could not sleep for three weeks [after the event]. I was feeling extremely depressed and not really eating…I felt so bad for that family

and their situation that it was just extremely overwhelming for me and I didn't know how to cope at the time." (pp. 357-358)

3. Distancing as a Coping Strategy –
    a. "I just kind of withdrew. I started not getting as attached…I was afraid that if I got to know them better that I would witness something else that was traumatic and have the same sort of problem [effects]." (p. 358)
    b. "After a while there is no way to effectively cope with it except detaching yourself, and when you detach yourself it makes you feel like a bad person." (p. 359)
    c. "It's just too much to handle…if I ask all of my five patients [about psychosocial information] I would just have the heaviest heart…I wouldn't be able to function." (p. 359)
4. Feelings of Guilt and Helplessness –
    a. "If somebody happens to catch me on an off day where I'm feeling overwhelmed, I feel terrible because I'm probably not doing all that I could for them." (p. 359)
5. Dissonance in Core Beliefs About Self –
    a. "I think I've become hardened. I don't think I'm as empathetic as I was before and I think I was becoming like them [other nurses]. I was changing…you see the same thing over and over again and it's like you don't want to feel that." (p. 360)

Guided by Lazarus and Folkman's *Theory of Stress, Appraisal, and Coping (*1984), Walsh and Buchanan (2011) determined that acute care nurses' inability to cope due to unmanageable patient workloads, lack of resources, and lack of control over their work environment created significant stress in the participants' lives. They exhibited major features of burnout including emotional and physical exhaustion, detachment from their job, and feelings of lack of accomplishment. Furthermore, the participants met the criteria for compassion fatigue as manifested by the sudden re-experiencing or dreams of distressing events; avoidance of thoughts, feelings, and activities that were reminders of distressing events; difficulty sleeping and concentrating; and irritability (Stamm, 2005). Nurses who provide empathetic care and frequently witness the trauma and suffering of others clearly pay a personal price. The researchers recommended individual counseling, group interventions, and critical incident stress debriefing for acute care nurses and called for increased understanding of the unique context of acute care nursing across health delivery settings.

Kornhaber (2009) and Kornhaber and Wilson (2011a) examined the lived experiences and psychosocial needs of nurses caring for patients with severe burn injuries. These phenomenological studies illustrated that caring for patients receiving treatment for major burns was emotionally challenging. Burn nurses are trauma nurses who are vulnerable to the effects of occupational stress including emotional exhaustion, patient depersonalization, and reduced self-esteem (Kornhaber & Wilson, 2011a). Kornhaber (2009) interviewed seven participants with a minimum of three years' full-time burn nursing experience and currently working in an adult burn unit. In-depth semi-structured interviews began with the opening question "What is it like to care for a

severely burnt patient? Can you describe your experience?" Colaizzi's method of data analysis (1978) was utilized to extrapolate cluster and emergent themes from significant participant statements. The nine emergent themes were: virtues of burns nurses, powerlessness, unique bonds, resilience, the necessity for support and unity, burnout, traumatic caring, making meaning, and job satisfaction.

Examples of participant responses that described the emotional impact of nursing burn patients are provided (Kornhaber, 2009, pp. 51-72):

- "It's just this horrible inadequacy that I can't do my job properly, that this patient is showing this emotion and this level of pain, that you're angry at them, that you're sad for them …it kind of goes against everything in nursing…" (p. 51)
- … the hardest thing was the learning to find a way to detach because otherwise you were taking it home with you, you were thinking of it 24/7, you were getting angry at him (the patient), you were getting angry at yourself that you couldn't stop thinking about it." (p. 61)
- "You're scared that, you know, you're doing the wrong thing, that you're causing this patient all this pain …And it's a lot of self-doubt…you feel like you can't do your job properly, you know that you're going to cause this person pain and it's just horrible." (p. 72)

Kornhaber and Wilson (2011a) conducted a follow-up study to explore the psychosocial needs of these same nurse participants. Seven interviews were conducted, and five themes capturing the essence of the lived experiences of the participants emerged from the analysis of data: (1) Peer Nursing Support, (2) Informal Support, (3)

Lack of Support, (4) Multidisciplinary Team Collaboration, and (5) Professional Support. Participants expressed the significant need of peer support that could occur on or off the unit. They shared that their personal lives were affected by job stress; their difficulty leaving work behind created tension in their relationships at home. Additionally, these nurses expressed the need for professional counseling support as a means for discussing issues and feelings and developing effective coping strategies.

Like Laopsa et al. (2003) and Gunther and Thomas (2006), other studies have explored nurses' perceptions of critical incidents. O'Connor and Jeavons (2003) conducted a quantitative study among 227 full-time registered nurses to determine the types of clinical events nurses perceived as 'critical'. Within this study, a critical event was defined as "an extraordinary clinical event that has the potential to cause unusually strong emotional reactions" (Mitchell & Everly, 1995 in O'Connor & Jeavons, 2003, p. 53). Participants in the study had a mean age of 33.8 years and had practiced nursing for an average of 11 years on various hospital units. A questionnaire regarding exposure to clinical events was distributed. The survey had 29 questions and was developed principally from Burns and Harm's (1993) study of critical events among emergency nurses. Thirteen groups of critical incidents were found. The highest group comprised two items concerning children: sexual abuse of a child and death of a child. The most frequently experienced critical event was respiratory or cardiac arrest. The high frequency of violence (verbal abuse, threats, and physical abuse by patient, family member, or staff member) was also rated as a significant cause of concern. Male respondents were less stressed than female respondents on three scales: Grief, Emergency, and Risk.

A study was carried out by Adeb-Saeedi (2002) to identify sources of stress for emergency nurses working in Tehran teaching hospitals. A sample of 120 nurses participated in the study, and data was collected via a two-part questionnaire. The first part of the questionnaire related to demographic characteristics; the second part consisted of a list of 25 previously identified work stressors. The highest scoring stress items for emergency nurses were: 1) dealing with patients' pain and suffering (52.45%), 2) family presence in the emergency department (37.70%), and 3) heavy workload (31.14%). There was no significant correlation between stress scores and age, shift work, or educational background. Female nurses reported higher level of stress than male nurses ($P = 0.02$). Difficulty dealing with families was due largely to the Iranian culture in which multiple relatives accompany patients to the hospital. While relatives offer support, they can also be disruptive and contribute to a chaotic environment. Study participants also reported high rates of verbal and physical aggression. Heavy workload was related to staff shortages and lack of resources, which led to exhaustion and poor work performance.

Henderson (2001) explored the concept of emotional labor in nursing. 'Caring' is a central component of nurses' values and actions; emotional caring/feeling is, however, to some extent a choice, mediated by the degree of emotional engagement or detachment an individual chooses. The term 'emotional labor' captures the notion of personal reward and personal costs to members of a profession who are required, by job definition, to provide nursing care (Henderson, 2001).

The majority of nurses in this qualitative study (Henderson, 2001) viewed emotional engagement as a requirement of excellence in nursing practice. They also recognized that nurses needed to balance engagement with an appropriate amount of

detachment in order to accomplish important tasks. Eight focus group interviews were conducted with groups of six to nine nurses. Interview narratives generated the following data examples:

- "That sort of dancing between you and a patient or client where you're feeding off each other and it's backwards and forwards and you're picking up cues from each other. You know it's that real, almost like a tango or something, you learn each other's moves – that can't occur [if you're not emotionally engaged]." (p. 132)
- I think I'm pretty good at detaching myself to a degree, I mean I'm not saying I don't have empathy or sympathy for them, but I've learned that that's not always helpful, that you have to stay objective and reflect things back to them." (p. 133)
- "Who you are when you step behind that curtain is really going to turn the tide. You can't separate the woman from the nurse and I think some nurses are able to deal with it and some aren't because of their lives…and I think it's important for nurses themselves to recognize how comfortable they are with the whole issue…To be a good nurse you have to keep looking at yourself." (p. 134)
- "The effect of having those emotions is that it makes you a much more informed practitioner, sensitive and more help to the patients and clients…in the end I think it makes you a more effective practitioner." (p. 134)

In discussion, Henderson (2001) pointed out the extraordinarily complex nature of nurses' caring work. A clearer understanding of emotional labor and emotional engagement and detachment would lead to positive results for patients and improved morale and retention of nurses.

To summarize, nurses practicing within all nursing specialties are at risk for secondary stress. Secondary stress is a constant and confronting component of trauma nursing (Adeb-Saeedi, 2002; Adriaenssens et al., 2012; Bechtel, 2009; Beck, 2011; Chase, 2005; Dominguez-Gomez, 2009; Hinderer et al., 2014; Kornhaber, 2009; Kornhaber & Wilson, 2011a; Laposa et al., 2003; Lavoie et al., 2010; Walsh & Buchanan, 2011). The psychosocial needs of nurses who provide care to traumatized patients is of paramount consideration. Examining research data about nurse stress is necessary to increase awareness and provide support as a fundamental element for those nurses most vulnerable to workplace stress (Kornhaber & Wilson, 2011a). The purpose of this study will be to gather narrative qualitative data from a sample of flight nurses in order to determine their lived experiences with traumatic caring and secondary stress/compassion fatigue that may influence their decision to stay in their clinical roles.

Nursing Resilience

The concept of resilience is emerging as an important coping strategy for nurses working in onerous environments. Resilience is the ability to 'bounce back' or recover from stressful or traumatic experiences, to cope successfully, and to transcend adversity into an opportunity for personal growth (Gillespie, Chaboyer, & Wallis, 2007a; Hart et al., 2014; Polk, 1997; van Dernoot Lipsky & Burk, 2009). McGee (2006) described resilience as an optimistic view of life as well as the ability to endure change enabling the individual to thrive and survive the negative experience. "Precursors to the concept of resilience are identified as a sense of mastery and effective coping skills" (McGee in Kornhaber & Wilson, 2011b, p. 481).

Kornhaber and Wilson (2011b) continued to refine their 2009 phenomenological study of burn nurses as they looked at the participants' ability to endure the emotional trauma of nursing patients with severe burn injuries. Data analysis revealed six themes related to resilience. Themes, with selected participant excerpts, are presented below:

1. Toughening up – "I think I'm probably more hardened to it because I've seen so much of it and I have quite a good idea of how things are going to play out and move on." (p. 484)
2. Natural selection – "I think if you're a burns nurse, you're a burns nurse, and if you can't find that level of compassion and detachment, then you're not going to make it, and you're going to reach burnout." (p. 484)
3. Emotional toughness – "I'm probably a lot harder now in mentality … you know, 'This isn't forever, suck it up, deal with it, come on, let's get through it.' I am still, I hope, well, I feel I am compassionate." (p. 484)
4. Coping with the challenges – "I don't think you get used to it, I think when you get used to it it's probably time to give up." (p. 485)
5. Regrouping and recharging – "Having a life really helps … Just having that escape from…work… It's not a cruise-y easy job …I just think you need other things in your life." (p. 485)
6. Emotional detachment – "You know you cannot avoid the pain, but the only thing you can do is just do it very quickly…"; "The hardest thing was the learning to find a way to detach because otherwise you were taking it home with you, you were thinking of it 24/7… (p. 486)

Kornhaber and Wilson (2011b) concluded that knowledge about building resilience could be incorporated into nursing education for both students and experienced nurses. The development of unit-based resilience programs would help detect secondary stress and provide support for nurses working in stressful areas. In general, creating a safe environment where nurses feel valued as part of a cohesive team could lead to participation in resilience activities and retention (Kornhaber & Wilson, 2011b).

Zander et al. (2013) explored resilience among pediatric oncology nurses (nurses who care for children with cancer). Five pediatric oncology nurses were interviewed to determine their work experiences, understanding of the concept of resilience, and usual coping strategies. The researchers chose case study as the methodological approach. Seven major aspects of forming resilience were identified: the individual conceptualization of resilience, the issues and challenges faced, actions and strategies, the need for support, insight, processing situations through reflection, and personal and professional experience. Based upon the study findings, strategies that could be implemented at an organizational level to promote resilience among the pediatric nursing staff were suggested as follows: (1) institute a flexible and equitable schedule to help cope with shift work, (2) create a structured orientation program that focuses on supporting new nurses as they arrive on the unit, (3) provide more support for experienced nurses who serve as mentors to new staff, (4) provide greater structure to collegial support activities, (5) recognize the contributions of friends and family on nurses' resilience by offering education sessions or a hotline, and (6) offer more time and resources for reflective practice. This study made a crucial point about nurses' stoicism in difficult patient care situations. If these participants had only been stoic, they would not

'approach situations differently next time'; by being resilient, however, they were able to learn and reflect on their experiences, developing insight to better know themselves.

Hart et al. (2014) conducted an integrative review of nursing research regarding resilience (1990 to 2011) using the key terms of 'nurse', 'resilience', 'resiliency', and 'resilient'. While a total of 462 articles were identified in the initial literature search, 455 articles were eliminated because the research about resiliency was conducted on populations other than nurses. Only seven abstracts met inclusion criteria, highlighting the paucity of current research about resilience in the nursing profession. Factors diminishing nurse resilience were found to be challenging workplaces, dissonance in the workplace, psychological emptiness, and diminished inner balance (Glass, 2009; Hodges, Keeley, & Troyan, 2008; Kornhaber & Wilson, 2011b). Psychological emptiness was identified as nurses feeling 'stripped down' and unable to reconcile their feelings and beliefs. Nurses who were unable to balance the demands of work and their personal lives experienced diminished inner balance (Glass, 2009). Overall, resilience was not dependent on nurses' age, experience, or education (Gillespie, Chaboyer, Wallis, & Grimbeck, 2007b). Personal attributes related to resilience were hope, self-efficacy, coping, control, competence, flexibility, adaptability, hardiness, sense of coherence, skill recognition, and non-deficiency focusing (Ablett & Jones, 2007; Gillespie et al., 2007b; Hodges et al., 2008; Simoni, Larrabee, Birkhimer, Mott, & Gladder, 2004).

The Hart et al. (2014) review revealed that understanding resilience as an active process and innate resource to offset the impact of inevitable traumatic stress is vital to nurses, nurse leaders, and health care organizations. Resilience can be individual or professional. Well-developed resilience enables nurses to thrive as efficacious

professionals (Grafton, Gillespie, & Henderson, 2010). Promoting resilience within today's work environment is an important consideration in constructing an effective nursing workforce professional development plan and in achieving optimal patient outcomes in the clinical arena. Developing nurses must be educated to seek resilience resources in an ever-changing health care landscape (Zander et al. 2013).

Taking Flight

As this chapter approaches completion, it is important to present a review of previous studies about flight nursing practice. Flight nursing is a uniquely dynamic context of practice that requires an equally dynamic approach to knowledge development that links theory, research, and practice (Reimer, Clochesy, & Moore, 2013). There is a glaring dearth of current research about flight nursing. Only six studies related to flight nursing practice were found in the literature search – four qualitative studies, one quantitative study, and one grounded theory.

Pugh (2002) conducted a phenomenological study of Australian flight nurses' clinical decision-making in emergency situations. In-depth interviews of six nurses with at least two years' flight nursing experience occurred and were analyzed using the Colaizzi (1978) method. As the interviews began, the nurses recounted an emergent incident in which they had made an important clinical decision. The participants provided narratives about the experience, and three themes emerged: (1) ways of knowing the patient, (2) context of knowing, and (3) reflective practice. Subthemes included components of intuition, clinical experience, skilled patient assessment, isolation and accountability in aviation practice, and self-critique. One participant spoke of the physical aircraft environment: "The main aspect of working in an aviation environment is

the isolation … isolation from other medical staff. The space is extremely limiting; it is like intensive care nursing in a telephone box" (p. 32). Another participant referred to accountability in the flight nurse role:

> You have a greater responsibility if you are out there by yourself, and you certainly feel the weight of that responsibility when a situation is not quite as you were led to believe…and I think that, if you are out there by yourself, you tend to shoulder that responsibility more because you can't lighten the load by having a colleague around. (Pugh, 2002, p. 33)

Pugh (2002) discussed the importance of reflective practice in flight nursing. Reflecting on their past decision-making allowed the participants to change their practice in order to achieve better clinical outcomes for patients. For example:

- "As far as the decision-making, the sort of decisions I have been making now as opposed to then are 'is this person stable enough to be moved onto an aircraft'?" (p. 35)
- "I never take an assessment as 'they will be all right…'." (p. 35)

Throughout the study, concepts related to nursing expertise as theorized by Benner (*From Novice to Expert Theory,* 1984) were apparent. These nurses demonstrated clinical proficiency and professional growth typical of advanced practice nurses - experiential knowledge, intuitive decision-making, and advanced clinical nursing judgment (Benner, 1984).

Topley et al. (2003) conducted a phenomenological study with the purpose of describing the practical knowledge possessed by nurses that were part of the United States Air Force Critical Care Air Transport Team (CCATT). Twelve nurses participated

in the study. Data were collected using individual written narratives, group interviews, and individual interviews. Four major themes developed from the data: preflight preparation, in-flight patient care and environment, characteristics of a CCATT nurse, and hospital versus in-flight nursing practice. As in the Pugh (2002) study, participant comments were very reflective of Benner's (1984) conceptualization of nursing expertise. Excerpts from Topley et al. (2003) follow:

- "My head started to spin as I tried to recalled every burn patient that I might have taken care of in the past six or seven years as an emergency nurse. What did I do? How did I take care of them?" (p. 823)
- "You do this as a critical care nurse, you run through these scenarios in your brain of how am I going to stock my body like an intensive care unit, you know, needles, syringes, blood gases …" (p. 823)
- "No, [assessment is] more [important] in the air because you can't hear, a lot of times you couldn't hear the [patient's] breath sounds, so you have to observe the patient and watch him closely. In the unit, it's quiet and you can listen, you have more sophisticated monitoring…" (p. 823)
- "I think you have to be able to do what we do in the environment we do it in. You have to be very secure in your skills and your knowledge…so yeah, we believe in ourselves and we believe in our ability and we carry a certain body of knowledge with us." (p. 824)
- "…it definitely changes the way you take care of the patient. It is different. It is enhanced…you can use your visual cues more when you are in the back of an aircraft…" (p. 824)

Together, the Pugh (2002) study and the Topley et al. (2003) study established a foundation for describing the unique practice of flight nurses. Reimer and Moore (2010) developed a middle-range *Theory of Flight Nursing Expertise*. The theory is based upon three qualitative studies – the aforementioned studies by Pugh (2002) and Topley et al. (2003) and by a third, earlier study by Stohler (1998) in which six flight nurses were interviewed regarding elements of quality performance. Themes identified in the Stohler (1998) study were: (a) collaboration, (b) mutual respect and trust, (c) fitness standards, and (d) synergy.

Reimer and Moore (2010) used theory synthesis to develop the *Theory of Flight Nursing Expertise*. Available literature and the first author's clinical experiences were used to construct the theory, and both inductive and deductive reasoning were employed. The theory is explanatory and predictive and consists of nine concepts: experience, training, transport environment of care, psychomotor skills, flight nursing knowledge, cue recognition, pattern recognition, decision-making, and action. The theory serves to conceptualize flight nursing practice and provides support for the development of effective training and educational programs for flight nurses. Additionally, it provides a framework for curricula development and research within the flight nursing specialty.

Two published theses have contributed to the body of knowledge of flight nursing practice. Olsen (2004) examined the responses of a sample of flight nurses to catastrophic events, which correlates with the current focus of study regarding flight nurses' responses to traumatic patient care events. Olsen sought to determine the presence of symptoms associated with PTSD and the coping mechanisms used to ameliorate stress by flight nurses. It was found that flight nurses operate in an environment similar to that of other

emergency personnel such as firefighters, police officers, and members of the military. The framework of Lazarus and Folkman (1984) was selected to provide conceptual guidance to the Olsen study. The study's population included all flight nurses that were members of the Air and Surface Transport Nurses Association. Using a table of random numbers and a sampling interval of five, 350 flight nurses were selected from the 1,655 flight nurses in the association's database. From the 350 questionnaire packets that were sent, there was an initial response rate of 42% (n = 147). This number was reduced to an eligible sample of 101 (male = 33, female = 68) due to failure of 36 respondents to meet the study's inclusion criteria. Three data collection tools were utilized: (a) a self-designed, demographic questionnaire, (b) the Impact of Events Scale (Weiss & Marmar, 1997), and (c) the Ways of Coping Scale (Folkman & Lazarus, 1988). Findings of the study suggested that flight nurses were experiencing PTSD symptoms, but not at alarming rates. The flight nurses in the study used 'planful problem solving' and 'seeking social support' as their primary coping mechanisms. One-fifth of participants indicated that they had intrusive thoughts about critical events in moderate to extreme amounts while only five percent experienced hyper-arousal or avoidance.

Bee (2012) examined flight nurse turnover in a private air medical transport company. This cross-sectional qualitative study of ex-flight nurses utilized snowball sampling. Ten ex-flight nurses were interviewed and asked to discuss their experiences as flight nurses. Participants were 25-55 years old, and all had critical care experience in either Adult/Pediatric ICU, ED, or a combination of both. Prior to becoming flight nurses, participants described the job as "exciting", "cool", "adrenaline", and "adventurous". While they realized the job entailed significant personal risk, they

assumed they would receive higher pay than other nurses. The top three reasons for leaving their flight nursing positions were lack of pay, work/family balance, and organizational concerns. Other reasons for leaving were peer conflict, safety, personal reasons, and professional development. Implications of the study pointed to improving retention of flight nurses by addressing the pay disparity, promoting a positive work environment and blame-free work culture, recognizing employee excellence, improving leadership training, fostering a positive mentoring process, and improving the training and development process.

In conclusion, there is an immense gap in research related to the lived experiences and perceptions of flight nurses. This has been emphasized by the lack of existing data pertaining to factors that predict stress and resilience within this exclusive nursing specialty.

Chapter Summary

The current study's research design will be informed by the examination of 30 empirical research studies within this Literature Review. Two of the studies reviewed – Gunther and Thomas (2006) and Kornhaber (2009) – were particularly influential in terms of focus, purpose, and methodology and in capturing the essence of nursing in intense and extraordinary conditions.

The research presented within this literature review suggests that significant challenges exist for nurses who treat traumatized patients. By definition, nurses 'care' for others in need. Their heartfelt and empathetic response to patients who are seriously ill and injured makes them vulnerable to the pernicious effects of compassion fatigue, also known as secondary traumatic stress. There is an urgent need to examine the experiences

of acute care and advanced care nurses in order to better understand the effects of secondary stress on nurse retention and, subsequently, patient outcomes. Patients who are vulnerable and suffering depend upon competent, compassionate nurses to achieve optimum health.

The results of this study will add to the body of nursing knowledge about compassion fatigue, coping, and resilience and will potentially benefit flight nurses and patients in their care. The study will investigate the phenomenon of traumatic caring by describing the lived experiences of five flight nurses and the factors that determine their decision to stay in their clinical roles. The following chapter is a discussion of the study's research methodology - phenomenology - that is the framework that supports the study's collection of data and of the study's instrumentation, sample/setting, data collection procedures, data analysis, and methodological limitations.

CHAPTER THREE

RESEARCH METHODOLOGY

The purpose of this study is to explore the lived experiences of flight nurses in order to determine the factors that influence their decision to stay in their clinical roles. Knowledge concerning the elements of traumatic caring would enable nurses and nurse leaders to increase their awareness of compassion fatigue, also known as secondary traumatic stress, and to assuage its adverse impact upon nurses, patients, and organizations. Retention of clinical nurse experts is a vital societal need (Sawatsky & Enns, 2012). Chapter Three introduces the qualitative research method of descriptive phenomenology as the study's methodological approach to explore the lived experiences of flight nurses. The chapter also reveals the study's research questions and discusses the study's instrumentation, sample selection, setting, and data collection procedure. Special attention is given to the study's researcher-participant relationship. Planned strategies to ensure ethical integrity and trustworthiness are presented. These points are followed by an explanation of the study's data analysis technique, Collaizi's method of data analysis (1978). The chapter concludes with a discussion of methodological rigor and a dissertation timeline.

Phenomenology

Per Albert Einstein, "Not everything that counts can be counted, and not everything that can be counted counts" (Nursing Planet, 2013). Phenomenology is the

chosen method to conduct this qualitative study. This qualitative method will allow flight nurses to share their stories so that crucial issues in flight nursing practice can be comprehended on an integral level (Tavallaei & Abu Talib, 2010). Reflective practice, such as the critical examination of a traumatic incident, can serve as a means of articulating and developing knowledge, embedded within practice (McBrien, 2007). Denzin and Lincoln (2005) define qualitative research as follows:

> Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meaning people bring to them (Denzin & Lincoln, 2005, p.3).

Qualitative inquiry is often favored in nursing because it emphasizes a person-centered and holistic approach (Holloway & Fulbrook, 2001). Like nursing, qualitative research is fluid and ever changing (Lichtman, 2013). Qualitative research defies clear definition; it is used to describe and direct, to delve deeper into issues of interest and explore important issues at hand. It reveals motivations and factors that influence decision-making and opinions. It provides essential information to move forward (Mora, 2010). Qualitative research methods have become increasingly recognized as important ways to link nursing knowledge and evidence-based practice (Miller, 2010). The

qualitative design of descriptive phenomenology is expedient for this study because little is known about the complexity of caring as experienced by flight nurses. In the phenomenological method of inquiry, humanistic understanding is valued and knowledge of individuals' unique experiences is accessible through dialogue; it is a science aimed at manifestation and disclosure (Beeby, 2000; Kim & Kollack, 2005; Sokolowski, 2000; Solomon, 2001).

Phenomenological inquiry is "a rigorous, explicit, self-conscious enterprise" (Sokolowski, 2000, p. 53). Research methods used in this study will consist of participant interviews and participant observation. These methods will serve to illuminate the specific and to identify participants' perspectives. Phenomenology seeks to describe and understand the essence of individuals' everyday lived experiences, to describe their relationship to the environment, to gain insight into their motivations and actions, and to cut through the clutter of assumptions and conventional wisdom (Bechtel, 2009; Lester, 1999; Lichtman, 2013; Shosha, 2012). Phenomenology has been widely used as a research method in a variety of disciplines, especially nursing and education, in order to present reality and assign meaning to shared social phenomena (Reeves et al., 2008; Shosha, 2012). "Phenomenological studies do not attempt to generate wider explanations; rather their focus is on providing research accounts for individuals in a specific setting" (Reeves et al., 2008, p. 631). While phenomenological research can be vigorous in indicating the presence of factors and their effects on individuals, it must be tentative in suggesting generalizations (Lester, 1999).

Phenomenology can be divided into descriptive (edetic) phenomenology, created by the German philosopher Husserl, or interpretive (hermeneutic) phenomenology,

created by Heidegger, who was Husserl's student. While Husserl focused on the experience itself (epistemology, the nature of knowledge), Heidegger sought to develop an understanding of the experience (ontology, the nature of being) (McConnell-Henry, Chapman, & Francis, 2009). The major difference between the approaches of Husserl and Heidegger is their stance on bracketing. Bracketing is a methodological device of phenomenological inquiry that requires the researcher to deliberately put aside his/her personal beliefs and views about the phenomenon being studied prior to and throughout the research process (Carpenter, 2007). Heidegger rejected the notion of bracketing, arguing that the researcher cannot separate description from his or her own interpretation; pre-understanding already exists (Koch, 1995; McConnell-Henry et al., 2009). Husserl believed the researcher must put aside his/her repertoire of knowledge, personal biases, assumptions, presuppositions, values, and beliefs. Only by examining the common features of lived experiences (universal essences) can the true nature of a phenomenon be revealed (Lopez & Willis, 2004; Wojnar & Swanson, 2007; Zenobia, Chan, Fung, & Chien, 2013). Therefore, bracketing becomes a way to ensure validity of data collection and objectivity of the phenomenon (Ahern, 1999; Speziale & Carpenter, 2007).

The research presented in this study will be guided by the Husserlian descriptive methodology in order to allow "direct exploration, analysis, and description of particular phenomena, as free as possible from unexamined presuppositions, aiming at maximum intuitive presentation (Spiegelberg, 1975 as cited in Kornhaber, 2009, p. 23). The selection of a descriptive phenomenology for this study was influenced by the aforementioned qualitative studies of Gunther and Thomas (2006), Kornhaber (2009), and Kornhaber and Wilson (2011a; 2011b). These researchers explored similar

phenomena as the phenomena that will be probed within the current study. Utilizing the Husserlian approach, the researchers described, via nurses' narratives, the lived experiences of nurses who care for traumatized patients and answered questions related to "how do we know it?" (Kornhaber & Wilson, 2011, p. 287). This type of design will best support the discovery and description of factors that determine flight nurses' capacity for compassion fatigue resilience and their intent to stay in their professional roles (Chase, 2005).

Research Questions

In this study, the following questions will be addressed:

1. What is the nature of flight nurses' lived experience with traumatic caring and compassion fatigue?
2. How does this experience affect flight nurses' personal and professional quality of life?
3. How do flight nurses cope with multiple traumatic patient care events?
4. Why do flight nurses stay in their current clinical roles?

Table 2 demonstrates the correlation of these research questions to the 11 variables within the study's conceptual model, *A Model of Compassion Fatigue Resilience* (Figley, 2014).

Table 2: Correlation of Research Questions to Theoretical Model Variables

Research Question	Theoretical Model Variables
1. What is the nature of flight nurses' lived experience with traumatic caring and compassion fatigue?	Exposure to Client Empathetic Ability Concern for Client Therapeutic Response
2. How does this experience affect flight nurses' personal and professional quality of life?	Prolonged Exposure to Clients Residual Compassion Stress Traumatic Memories New Life Stressors
3.How do flight nurses cope with multiple traumatic patient care events?	Self-Regulation Compassion Satisfaction and Support
4. Why do flight nurses stay in their current clinical roles?	Compassion Satisfaction and Support Compassion Fatigue Resilience

(Figley, 2014)

Instrumentation

Qualitative data collection within this study will be accomplished by face-to-face, semi-structured interviews of five flight nurses and by one, or possibly two, twelve-hour participant observation(s) within the work setting/field of practice. The researcher will conduct all interviews, and interviews will be audio-taped in order to fully capture all verbal data. The semi-structured interview is a formal interview in which the researcher develops and uses an interview guide. The guide is a list of questions and topics that need to be covered during the conversation, usually in a specific order. The interviewer follows the guide, but is able to explore participants' responses into areas not anticipated (Robert Wood Johnson Foundation, http://www.quarles.org/Homesemi-3629.html). "Semi-structured interviews are well suited to the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers" (Barriball & While, 1994, p. 330). "It is through the narrative, which is situation specific, that the practical skill that is the hallmark of expert clinical judgment is revealed" (Topley et al., 2003, p. 822-823).

The participant interview will begin with a grand tour question to be followed by more specific/concrete questions that will allow the participants to tell their unique stories and ensure adequate responses to the dissertation's research questions (Lichtman, 2013). Participants will be encouraged to elaborate in their responses via pre-determined prompts. Open-ended questioning permits the researcher to pursue a participant's lead by seeking clarification of responses. Participants have the option to emphasize issues important to them and to share stories they feel are most significant (Streubert &

Carpenter, 2007). The last question will invite participants to express any additional views or concerns before the interview comes to a close.

This study's nine general interview questions are:

1. How long have you been a flight nurse?
2. Why are you a flight nurse?
3. Can you describe your experiences as a flight nurse?
4. How are you affected by caring for traumatized patients?
5. Describe one of the most traumatic patient care events you have encountered.
6. How have encounters with traumatic patient care events affected your ability to care for patients?
7. How do you cope with work-related stress?
8. What brings you back to work each day?
9. Would you like to discuss any other issues related to your role as a flight nurse?

Prompts that will be used to encourage participant responses are:

- Can you tell me more about that?
- Can you describe that in more depth?
- How did that affect you?
- What did that mean to you?

Table 3 illustrates the links between interview questions 1-8 and the study's 11 conceptual model variables (Figley, 2014).

Table 3: Correlation of Interview Questions to Theoretical Model Variables

Interview Question	Theoretical Model Variables
1. How long have you been a flight nurse?	Exposure to Client Prolonged Exposure to Clients
2. Why are you a flight nurse?	Empathetic Ability Concern for Client Compassion Satisfaction and Support
3. Can you describe your experiences as a flight nurse?	Prolonged Exposure to Clients Therapeutic Response
4. How are you affected by caring for traumatized patients?	Compassion Satisfaction and Support Residual Compassion Stress
5. Describe one of the most traumatic patient care events you have encountered.	Traumatic Memories
6. How have encounters with traumatic patient care events affected your ability to care for patients?	Prolonged Exposure to Clients Residual Compassion Stress New Life Stressors
7. How do you cope with work-related stress?	Self-Regulation Compassion Satisfaction and Support
8. What brings you back to work each day?	Concern for Client Compassion Satisfaction and Support Compassion Fatigue Resilience

(Figley, 2014)

The second form of instrumentation in this study will consist of a 'day-in-the-life' observation of a flight nurse. The researcher has been invited to shadow a nurse as she performs various job duties in the air and on the ground alongside her flight team. The researcher will assume an onlooker role only, and all team members will be informed of the observation purpose. Should one twelve-hour observation period prove uneventful in terms of number or acuity of patient cases, or if the researcher feels the experience has failed to capture the essence of flight nursing practice, the experience will be repeated, with the consent of the nurse and health care organization, in order to gain more generous and insightful information about the flight nurse role.

The researcher has consulted the flight program's Medical Director and Chief Flight Nurse regarding initiation of the study. A letter of support for the research project has been obtained from the Medical Director, and the Chief Flight Nurse has expressed verbal support. Gaining access to the observation setting will occur in two phases, formal and informal. Formal permission to conduct the observational research and to board the medical helicopter will be gained from the healthcare organization's Institutional Review Board. The researcher anticipates signing a medical/safety waiver prior to the observation experience. Informal access will be negotiated via communication with the program's flight nurse staff. The proposed participants' knowledge of the researcher's considerable emergency nursing background will lend credence to the researcher's request for participation in the study. Pre-existing relationships of trust and mutual respect and shared clinical experiences and understandings of clinical issues remove barriers in the research setting (Lofland & Lofland, 1984). The researcher seeks to set a tone of collaboration and support throughout the data gathering process.

The observation experience will complement the interview process by allowing the researcher to witness firsthand the conditions and factors that influence flight nurses' stress and resilience. The observation will relate directly to the study's research questions by illustrating the nature of flight nurses' lived experiences with traumatic events – the expert nursing care response, patient management in the field and inside a medical helicopter, coping mechanisms employed during traumatic patient care events, and the emotional impact of witnessing and treating patients in urgent/emergent need of medical assistance. The researcher hopes to glean a strong impression of the flight nurse role in order to better understand flight nurses' professional quality of life and decision to stay.

Observation is used as a qualitative research method in two distinct ways – structured and unstructured. While structured observation consists of the discrete recording of physical and verbal participant behaviors, unstructured observations acknowledge the importance of context and the building of knowledge between the researcher and participants. Unstructured observation is not often utilized in qualitative nursing research; data collecting via interview is the prominent method (Mulhall, 2003). This study will involve unstructured participant observation during one or more 12-hour periods of time. Observers using unstructured methods enter the field with no predetermined notions as to the professional and social behaviors they may observe. Unstructured observation: (1) provides insight into interactions between dyads and groups, (2) illustrates the whole picture, (3) captures context/process, and (4) informs about the influence of the physical environment (Mulhall, 2003).

Recording detailed field notes within the observation experience can prove challenging. While realists consider the field to be a natural entity that needs to be

objectively described by the observer, others suggest that the practices of researchers in the field will be fashioned by their professional values and interests and by their personal worldview (Mulhall, 2003). The researcher plans the following strategies for recording and organizing consequential observation notes (Mulhall, 2003):

- Structural and organizational features – description of the hangar work environment, helicopter surroundings, the experience of flight, decision-making by the flight team, hospital setting/staff domain initiating the transition of care, and field settings.
- People – how the flight nurse responds to crucial clinical situations and interacts with patients and professional colleagues.
- Special events – the scenes and sequences of patient care events.
- Dialogue – conversations between researcher and participant related to interview question content.
- An everyday list of actions as they routinely occur in the flight nurse role.
- A personal reflection – researcher's perceptions, feelings, suppositions of the flight nurse role.

The researcher will maintain a hand written chronological log during the 12-hour observation period (and an additional observational period if deemed necessary). Observations, both descriptive and reflective, will be recorded as closely as possible to the time of actual events, either *in situ* or by moving to a discrete location. Additional notes will be recorded at the end of the observation experience. Recalling events as they happen or shortly after ensures accurate details, while reflection captures broad patterns of behavior and understanding of essences (Mulhall, 2003). The researcher will carry a

small notebook to jot down perceptions, thoughts, and impressions that will serve to conceptualize the experience and contribute to the study's plenitude. In the study's Results section, the field notes will be organized into a narrative that correlates collected observational data with study results (Spradley, 1979 as cited in Kawulich, 2005). The narrative will reflect the researcher's interpretation of themes and make the experience clear to the reader (Lincoln and Guba, 1994 as cited in Kawulich, 2005).

Researcher-Participant Relationship

In healthcare, innovative ways to support best patient care practices are continuously being developed and utilized. "Transparency in research methods and results is now widely seen as an imperative if the healthcare and research enterprise is to be truly successful" (Selvan, Subbian, Cantor, Rodriguez, Smith, & Walsh, 2011, p. 8). At this juncture, it is appropriate to report that the researcher, currently a nurse educator, is a former clinical colleague of four of the five study participants. As a career emergency department (ED) nurse with 38 years of experience, the researcher has had the opportunity to develop significant rapport with these four participants. The researcher clearly relates to the personal and professional needs of flight nurses and, additionally, harbors a deep respect for their practice and a genuine regard for their well-being. While this bond might be considered a limitation due to potential bias in qualitative research, it represents a potential strength in this study because familiarity and mutual understanding of clinical practice issues are expected to elicit heartfelt narratives and honest reflection. The researcher will be perceived as an insider who understands the language and nuances of the emergency environment (Benner, 1984). Rapport, trust, and empathy are critical to

gaining rich, detailed information, especially when the participant has a strong personal stake (Lester, 1999).

Illustrating the issue of familiarity between researcher and participants, Mahon & McPherson (2014) used the research method of critical ethnography to explain nurses' decisions to remain in or leave bedside nursing. Within a framework of critical social theory, data were collected from nurses (n = 31) through semi-structured interviews and unobtrusive observation in the clinical setting (Pediatric Intensive Care). As an 'insider', the principal researcher easily identified with the participants' accounts regarding their unit processes and culture, as well as the complex details and emotions they expressed about power in the workplace. The greatest challenges faced by the researchers were making sense of their insider position, how to acknowledge and challenge assumptions, and how to ensure that power relationships were correctly attended to. The study serves to illustrate the benefits, as well as the necessity of focused objectivity, when gathering and analyzing data from known participants.

Sample Selection/Setting

Qualitative research does not examine variables but experiences and events that are informative and relevant to the study's purpose. The focus in qualitative research is achieving rich, meaningful data from a limited, but sufficient, number of participants who are best able to answer the research questions (Patton, 2000). Large amounts of qualitative data are frequently generated by small sample sizes (Ayers, 2007). Because the goal of qualitative research is to describe and interpret rather than generalize, there is a lack of consensus and verbiage regarding ideal sample size within the research community (Lichtman, 2013). Sandelowski (1995) suggested that determining sample

size is a matter of researcher judgment. Existing qualitative studies have anywhere from one to several hundred participants (Creswell, 1998).

A major responsibility of the qualitative researcher is to choose participants who can articulate information that is abundant and insightful, befitting the study's objectives (Howell & Prevenier, 2001). Purposeful criterion sampling will be utilized for the recruitment of five flight nurses for this research study. Criterion sampling is advantageous when all participants represent people who have experienced the phenomenon (Creswell, 1998). Selection criteria for participants in this study includes registered nurses currently employed as full-time flight nurses for a minimum of five years in a Level Two Trauma facility (a facility that provides comprehensive trauma care with 24-hour availability of essential specialty personnel and equipment). Four of the potential study participants have worked as flight nurses for 14 years, having joined the program at its inception. Both males and females will be selected as participants. These inclusion criteria will ensure generous profundity of data from flight nurses who have been consistently exposed to traumatic patient care events.

The flight program chosen for the selection of research participants is located in the mid-Atlantic region of the United States. The program is affiliated with a healthcare organization in an independent city of approximately 76,000 residents. The city covers 50 square miles and is surrounded by four counties. The program's medical helicopter/crew operate from an airport hangar within one mile of these city limits. The primary response area is a 30-mile radius of the hangar, and the secondary response area is a 60-mile radius, as determined by the state's Medevac Committee. The program had 420 calls in 2013 and 385 calls in 2014. In general, approximately 60% - 70% of program calls

involve hospital-to-hospital Emergency Department or Intensive Care transfers. The remaining calls are scene-to-hospital transports. A snapshot of the number and distribution of calls is provided by a review of the program's monthly flight log (Chief Flight Nurse, personal communication, November 18, 2014). Over a span of 16 days, calls consisted of the following: 5 scene trauma transports; 3 scene medical transports; 1 ED trauma transfer; 5 ED medical transfers; 1 ED cardiac transfer; 1 ED neurological transfer; 3 ICU transfers; and 2 ground transports due to poor weather conditions. The program's flight staff consists of five full-time registered nurses, four limbo (work on an irregular basis as needed) registered nurses, one full-time paramedic, five part-time paramedics, and four limbo paramedics. Full-time staff work one 24-hour shift and one 12-hour shift per week. Part-time staff work one 24-hour shift per week (Chief Flight Nurse, personal communication, November 18, 2014).

Data Collection Procedure

The researcher has contacted all proposed participants to determine their interest in the research project. Following the reading of a telephone script (Appendix A) to determine qualification, the researcher has received positive feedback and verbal confirmation of participation from each proposed participant. All participants will be provided with a study folder prior to data collection. The folder will contain a recruitment letter (Appendix B) inviting them to be part of the study and a consent form (Appendix C) to participate in the study. The consent form provides an explanation of the purpose of the study; the benefits, risks, and procedures involved; a statement informing participants that their identity will be protected and that they may withdraw from the study at any time; and contact information for the researcher. Institutional Review Board (IRB)

approval from the researcher's academic institution and the flight program's healthcare organization will precede delivery of participant folders.

Upon delivery and completion of each study folder, individual interviews will commence and will be conducted at the participants' workplace or other place of their choosing. Interviews will be scheduled during the participants' off-duty hours in order to avoid interruptions and workplace distractions. No designated time limit will be assigned to the interview sessions, promoting a relaxed, unhurried environment. Interviews will move forward until the researcher believes data saturation has occurred as evidenced by no new information being provided or responses becoming repetitive (Kornhaber, 2009). Interviews will be audiotaped via a digital recording device placed in full view of each participant. Participant names will be changed to maintain confidentiality. After study completion, each participant will be gifted a $25 gift certificate to a local restaurant to demonstrate the researcher's sincere appreciation of his/her personal time and contribution to nursing research.

Notes regarding participants' emotions or physical signs of stress when providing narratives of traumatic patient care events will be recorded by the researcher after each interview and will be filed with audio recordings for future access. Should participants demonstrate undue anxiety during the interview, the researcher will give them the option of delaying further questioning to another time. The researcher will also offer personal assistance and will recommend counseling at the healthcare organization's Employee Assistance Program if warranted. A certified medical transcriptionist, approved by the academic and institutional Internal Review Boards, will transcribe all interviews. Recordings will be transcribed within two weeks of each interview, and then reviewed by

the researcher to ensure accuracy of data. 'Notes to self' in reference to meaningful responses that are in line with study research questions will assist the researcher when analyzing transcripts (Kornhaber, 2009).

Ethical Considerations/Trustworthiness

Research ethical principles proposed by Beauchamp and Childress (2001) will be made evident throughout the study. Autonomy via informed consent and confidentiality will be maintained. Participants may withdraw from the study at any point in the research process. Privacy will be ensured because the researcher will be the only person who can link names of participants with interviews, and the identity of the health care organization will not be revealed. Consent forms and recordings of interviews and observation field notes will be stored securely in a locked file in the researcher's collegiate office. As described, the researcher will be cognizant of non-maleficence (exploring emotionally sensitive topics) and benefice (sensitizing the reader to issues of flight nursing practice) (McGrath, 2008).

Ethical challenges anticipated during this study include the issue of bracketing within the Husserlian methodology framework. It is impossible to be totally free of bias when attempting to analyze responses and observations 'close to the heart'. Because the researcher's relationships with participants and deeply held views of the value of flight nurses could unintentionally create bias, the researcher will mediate bias by having a third party peer validate the study's findings. Third party reviewers provide objectivity and additional insights into theme and theory development and ensure that perspectives are grounded in and supported by data. This strategy will help provide a sense of

neutrality and quality to the research findings (Beeby, 2000; Burnard, Gill, Stewart, Treasure, & Chadwick, 2008).

The issue of informed consent during observation sessions can be problematic as well. While the participant and flight crew will be aware of the research process taking place during the observational period, other medical personnel and patients who interact with the flight nurse will not (Mulhall, 2003). This issue will be addressed by receiving permission and guidance regarding the observation experience from the healthcare organization's IRB. Throughout the observation, the researcher will be focused on the actions of the flight nurse and will have very minimal or no interaction with others who might enter the field of observation. The researcher will have no access to identifying patient information and will not discuss the patient with others. Additionally, the researcher will introduce herself to the patient via a patient script (Appendix D) and will then obtain witnessed written or verbal consent from the patient prior to recording any data pertaining to the flight nurse's responses during the case. The patient consent form (Appendix E) will explain the researcher's role of observing the environment and responses of the flight nurse, and it will state that the researcher will not provide patient care or relate patient information. No audio recordings will take place during the observation. The researcher will be purposively objective when choosing activities, key events, and reactions to events to record in field notes. "Unconscious analysis of events is constantly occurring as field notes are written" (Mulhall, 2003, p. 311). The researcher will be cognizant of not including any discriminating facts about the case that could make it recognizable to the reader. The researcher will not record any data in cases involving

unresponsive or critically unstable patients and will not participate in flights involving minors.

Data Analysis

Research data in this study will be analyzed using Colaizzi's (1978) procedure of inductive reduction. This method supports the Husserlian approach by placing an emphasis on the description of the lived experience as opposed to explanation (Beck & Watson, 2008). Colaizzi's method assists in achieving objectivity because "objectivity is fidelity to phenomena. It is a refusal to tell the phenomenon what it is, but a respectful listening to what the phenomenon speaks of itself" (Colaizzi, 1978, p. 52). In this study, each transcribed interview will be analyzed utilizing Collaizzi's (1978) strategy in descriptive phenomenology. This method will serve to assist the researcher in extracting, organizing, and analyzing the narrative dataset (Shosha, 2012).

The Collaizzi method of data analysis (1978) includes seven sequential stages (pp. 59-62):

1. Read and re-read all the participants' transcripts in order to acquire a general sense of the content as a whole.
2. Significant statements or phrases that pertain directly to the research phenomena are extracted from the transcripts.
3. Formulated meanings are constructed from these significant statements.
4. Formulated meanings are arranged into clusters themes, which evolve into emergent themes.
5. Incorporation of the results into a rich and exhaustive description of the lived experience.

6. Validation of the exhaustive description from the participants to compare the researcher's descriptive results with their experiences.
7. Incorporation of any new or pertinent information from the participants

Methodological Rigor

While qualitative methods are accepted as compatible with the perspective and goals of nursing research, criticism of the methodological rigor of qualitative work is ongoing (Farmer, Robinson & Elliott, 2006; Sandelowski, 2004). The standardization relative to reliability and validity that is devoted to quantitative methods is unavailable to qualitative methods. Observation in particular is not generally seen as an important method of data collection because different observers may record different observations during any given event. In contrast, observation has been fundamental to many qualitative research studies (Seale & Silverman, 1997). Because this study's data will largely result from participant interviews, it is felt that the observation experience will serve to supplement and enrich the overall tone and strength of the study.

The 'truth value', or internal validity, of qualitative research studies is controversial as well. In their seminal work examining the trustworthiness of qualitative research, Guba and Lincoln (1981) suggested standard criteria for evaluating its rigor: credibility, fittingness, transferability, auditabilty, and confirmability. These criteria were later refined to: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). In this qualitative study, the researcher seeks to find truth in the discovery of human phenomena or experiences as they are lived and perceived by the participants, not how previous conceptions of similar experiences have been reported. The researcher also suggests that external validity, as measured by the ability to generalize the study's

findings, could be measured by the criterion of fittingness, whereby the study findings are found to have meaning and can be applied to the nursing audience's personal experiences (Ryan-Nicholls & Will, 2009). The researcher will strive to adhere to Sandelowski's (1993, 2006) claim that interpretive phenomenology is not strictly about rigor, but about craftsmanship and transparency. Methodology in this study will adhere to philosophical perspectives, and findings will be presented in a transparent manner that enables the reader to audit the research process (McGrath, 2008).

Research Timeline

The researcher has developed the following research timeline:

- February 2015 – proposal defense/academic IRB review
- March 2015 –proposal edits/health care organization IRB review
- April 2015 through August 2015 – five participant interviews/one or two 12-hour flight observation sessions
- September 2015 through January 2016 – data analysis/complete dissertation writing
- February 2016 – dissertation defense/dissertation edits

CHAPTER FOUR

RESULTS

Flight nurses face suffering and death in their daily work. Determining the impact of persistent trauma exposure upon flight nurses' personal and professional quality of life provides groundwork for the discovery of effective coping strategies that enable compassion fatigue resilience. Qualitative descriptive methodology was used to study the lived experiences of a sample of flight nurses with traumatic patient care events. Face-to-face semi-structured interviews with five flight nurses provided rich description of the flight nurse role including multiple variables that influenced flight nurses' capacity to stay. Seven themes and twenty-three subthemes emerged from the narrative dataset as the flight nurse participants described their experiences with traumatic patient care events and the strategies they employed to manage secondary stress.

Colaizzi's (1978) procedure of inductive reduction was employed to organize and analyze the narrative data in the current study. Transcriptions were reviewed in order to gain an overall perception of the data. Significant statements and phrases that pertained to the study's research questions were extracted from participants' transcripts. This extraction process is illustrated in Table 4. Significant statements/phrases are highlighted.

Table 4: Identification of Significant Statements/Phrases

Emily: Ok. Um, we actually, this was a trauma case a few years ago. It was a lady that had been hit by a car attending a birthday party for her friend, and she was crossing the road to get in her car, and she got struck; and we actually didn't put her in the helicopter, because, I knew she was… she had arrested. She was a trauma arrest in the back of the unit. So, we worked her for a little bit, and then, um, we got permission to stop, because there were such devastating injuries, there was no way she was going to recover…

Emily: So, once we got done with that, I asked the EMS staff in the back, if they would help me clean-up, because I wanted to bring… the husband was on scene, and I wanted to bring him in to see her, and they said yes, but a couple of them weren't very comfortable about it, so I said, that's ok, I'll handle it, you can step out.

Emily: mhm. And this was over, I think it was in ___ area, over ___ area someplace. And I said: "that's fine, I'll take care of the husband and everything", so we. I did, once we, you know, cleaned up the majority and stuff, and um, brought him in, and he sat there on the, on the bench seat with me, and I was holding his hand, and he said: "She's just beautiful". And, there was not a dry eye around, and he said: "I just took her to have her hair done this morning for this party", and he said: "isn't it beautiful?" and of course, you know, it was awful…

Emily: And I said: "Yes absolutely". We, um, talked for… he told me about her, he talked about her, and I … I could feel him going through the grieving process beginning right there, and, you know, a couple of times he was a little bit angry, and a couple of times he broke down, and he, um…

Emily: They were in their 70s.

Emily: …and he um, he said: "You know, we both knew that we were going to die, but weren't… neither one of us was prepared for this!" and he just, he talked himself through, and I. I felt so satisfied afterwards, that I had done that…

Emily: Yea, and…

Emily: … exactly. I felt a little guilty that I had made some of the EMS people uncomfortable, but I think maybe in the future they'll be more comfortable now doing that.

Emily: Yea, I … I think so, because a couple of them came back into… once they saw us in there, one of them that had been working with her, [coughing], excuse me. helping us … came back in and sat down and…

Emily: Exactly.

Emily: Yea. And it… I think it's really important that the family knows everything, and knows what's going on.

Emily: Because, I think it does help them…

Emily: You know, I think … I really feel like, um, she was no longer my patient, he was.

(Transcript 3: Lines 166, 172, 178-184, 190-191, 204-205, 210)

Next, each significant statement/phrase was assigned a formulated meaning. According to Colaizzi (1978), the researcher exercises creative insight to determine fundamental meanings from participants' narrative statements. The 124 formulated meanings were arranged into 23 cluster themes, which then evolved into seven emergent themes. Data results were assimilated into a rich and exhaustive description of the lived experiences. The exhaustive description of the data results was provided to the study participants for their review and validation.

This chapter provides thematic discussion of the study's results, which have been extrapolated from participants' interview narratives. Cluster themes that emerged from the narrative data identified common experiences of flight nurses who were continuously exposed to traumatic patient care events. Emergent themes provided overview of data results by consolidating these experiences into broad concepts that were perceived by the participants as basic elements of the flight nurse role. Additionally, the researcher has provided a descriptive account of a personal flight observation experience, which offers insight into the study's thematic discussion.

Cluster Themes

During the data analysis process, 124 formulated meanings were generated from the extracted significant statements (Appendix F) leading to the emergence of 23 cluster themes (Appendix G). The cluster themes reflected the lived experiences of five flight nurses who were engaged in multiple traumatic patient care events. Table 5 illustrates how coded formulated meanings describing the emotional impact of persistent trauma exposure were grouped together to formulate the cluster theme: *Emotional Vulnerability*.

Table 5: Development of Cluster Themes (FM = Formulated Meaning)

Coded Significant Statements	Cluster Theme
FM13. Sharing the suffering of others can lead to feelings of stress as well as emotional pain and exhaustion. **FM14.** Caring for traumatized individuals on a daily basis is a choice and privilege, yet a moral and emotional burden. **FM28.** Flight nurses relate more strongly to traumatic events involving individuals close in age to their own family members. **FM52.** Emergency personnel absorb the traumatic stress of victims they assist. **FM70.** Caring for critically ill or injured children is emotionally challenging. **FM91.** Flight nurses, who systematically witness firsthand the graphic and sorrowful scenes of trauma, often reflect on the impact of the traumatic event on victims' lives. **FM93.** Bearing witness to cumulative traumatic events leaves caregivers vulnerable to the effects of compassion fatigue. **FM94.** Stress is a constant and confronting component of flight nursing practice. **FM98.** Responding to pediatric fatalities is emotionally distressing and unforgettable. **FM110.** Scenes of pediatric illness or injury are exacting and highly charged. **FM111.** Traumatic events involving children seem unfair and senseless and leave caregivers emotionally vulnerable.	Emotional Vulnerability

Emergent Themes

The study's 23 cluster themes were subsequently merged into seven emergent themes that constructed the framework of the reported results. The seven emergent themes were: self-efficacy, self-determination, traumatic caring, forbearance, professional isolation, heart, and finding meaning. Each emergent theme will be described within the context of the flight nurse role; transcript excerpts will serve to demonstrate and support each theme.

Emergent Theme #1: Self-efficacy

Self-efficacy reflected the ability of the participants to embrace challenge and achieve proficiency in their role by integrating personal and professional beliefs, confidence in self, and experiential knowledge (Garrin, 2014). Characteristics of self-efficacy included: mastery, stewardship, professional values, and advocacy.

Evident throughout the participant interviews, all participants achieved mastery of knowledge and skills via commitment to continuous learning and a desire to excel as nursing professionals.

Emily described a passion for flight nursing:

> *…I like the intensity of it…There are never two patients, even if they have the same diagnosis, that respond the same way, that are alike, and every day is different…it's different expectations…I constantly have to research…I have to look up, come home and find out, why…and I love that! I love the constant learning of it. (P3: L 16-20, 23)*

Jerome spoke of trajectory towards the flight nursing specialty:

…it really started with the ER…next logical step was to do the same type of job, with even greater autonomy; so I knew we could go out there, in the helicopter and deal with the most critically injured, and the most critically ill, and you had to rely on your own abilities to really take care of, and stabilize these patients; it was a challenge that I wanted. P5: L 15-20

Matthew explained that flight nurses must be constantly prepared to manage any patient event:

…you get a variety of calls, anything from pediatrics to the elderly…it could be a pregnant lady, um, it could be a pregnant lady that was in a car wreck…be able to think outside the box…and the autonomy that we have out here, I mean, that really plays into it. P4: L 47-51

The same participant described the critical triage process:

If there are multiple patients, we'll split, make sure…'cause sometimes they'll pick a patient for us…but then you have this elderly person…abdomen is rigid and on Coumadin, obviously bleeding out…the kid's got a broken arm…P4: L 143-148

The quality of stewardship, the responsible management of lives entrusted in their care, was apparent in several participant narratives.

John recounted a complex clinical situation in which resolve and leadership were demonstrated in order to obtain treatment for a patient:

> *...when I got there, his BP…well, hemodynamically he…wasn't stable at all…and I told the doc, you know… we need…some (vaso)pressors, you know; I know we need to fill the tanks, give him plenty of fluids, and he was kinda like, he told me, he said: "I wash my hands of this patient!" ...he walked out of the room, "I'm not gonna do anything else for him!" So… I said: "OK… I have to make a decision, is there someone else in this facility, or my medical director that can help me." P2: L 131-140*

Flight nurses' inherent sense of duty to assist individuals in crisis was echoed by *Tanya*:

> *What brings me back to work…we're put here in place to be able to smooth that transition for that patient, I mean, just to get the job done, you know, to be with my family…my other family…because we've seen things all together. P1: L 459-461*

> *Yea, I feel like it's what I'm called to do now. P1: L 474*

The participants were anchored by their professional values. Evidence based protocols and standards of quality patient care guided their treatment and management of patients. Frustration towards providers who did not meet their expectations emerged as a theme throughout the narratives.

Tanya stated the following:

I mean there is frustration, sometimes, that you try not to have your patient see, because…I don't' know how to say this and it come out nicely, but we are used, not always appropriately by other hospitals…things that don't meet the criteria…because there are physicians or practitioners who…they can't see past getting that patient out of their care, that they don't care who takes it, and how they get to it, they just want it out of their hands, which can leave us with what I call a soup sandwich…P1: L 394-401

Because the patient has not been managed well and/or appropriately, and we are always cleaning up messes from poorly managed patients…That's very stressful and aggravating, because you think every physician, every nurse, every respiratory therapist should be able to do some of the most basic of things, and we don't see that…insurance is not going to pay for a patient …that just needs a ride to another hospital, but if you question it…you're being mean. No! I'm trying to save the patient…I'm trying to save the patient from 20 grand, you know, or whatever that might be. P1: L 4-5-413

John expressed the same challenge:

…it's a challenge; because it's never a dull moment…the acuity of care is always high, you always have, uh, people that nobody else wants to take care of, they're trying to get rid of these patients…so, a lot of times when you get these patients, they're really sick, so you have to start from scratch… P2: L 26-29

…I think it takes a toll on a flight nurse, because we are held to such high expectations, and then we go to these facilities, and these people are not, and when you try to say something about it, a lot of times its political…but nothing is done about it…P2: L 202-204

The participants' responses reflected their resolve to stand firm for others. In the following quotes, *John* stated that patient advocacy was an obligation:

…and I think it's important that we remain a patient advocate, and we do that, especially as a flight nurse, because a lot of times we're these patients' last defense, last line defense, it's up to us to make sure things are done for them. And…it does take its toll on us as individuals…P2: L 340-343

…I had to take care of this child, and be a voice for this child, when nobody else was gonna…that's another coping mechanism…sometimes you need that feedback of knowing that you made a difference…you're gonna lose patients, again, but I need to make a difference…P2: L 475-477, 484-486

Emergent Theme #2: Self-Determination

The participants demonstrated self-determination by seeking to control their behavior to ensure their competency needs and collaborating with others to optimize their goal potentials. They valued relationships and social support (Garrin, 2014). Components of self-determination were: autonomy, team synergy, debriefing with peers, and collegiality.

Participants acknowledged autonomy, the separation of flight nursing practice from the hospital routine and the opportunity to make crucial clinical judgments independently, as important to their job satisfaction.

Emily conveyed enthusiasm for autonomous nursing practice:

Autonomy! We have the autonomy to make decisions…and, hopefully, they are the right decisions…and I constantly challenge myself to make sure I am making those right decisions. P3: L 34-37

John rated autonomy as a job satisfier:

Um, I enjoy the autonomy. I've been able to take care of patients on my own…with my ER experience…I enjoy the critical care end of it, and not knowing what's coming to the door next…P2: L 8-10

Matthew expressed appreciation for the opportunity to work in dynamic environments:

…in the woods, on the mountain, getting somebody out of the river, the lake…this time of year, motorcycles…it's always something different…it's not that controlled environment in the hospital…you don't have the patient very long…I feel like that really drained me in the hospital, just having the same patient, three 12-hour shifts in a row…you really just focus on patient care out here…P4: L 476-484

The participants indicated that team synergy was a significant variable to blunt stress in the medical flight environment.

Matthew reported that shared patient care experiences over an extended period of time created a foundation of trust among team members:

> *How do we trust each other, you know? How do we work together? And then after a few years, most of us have been doing this so long, we're not even talking, we're just handing stuff…and they know exactly what we're gonna do.* P4: L 266-268

Jerome stated that flight team peers became like family:

> *That's really…and I love the folks out here. I mean, I can't imagine having better working relationships at any point in my career…I mean, they are your family. P5: L 346-349*

Tonya reaffirmed the importance of team unity:

> *You try to build a rapport and stuff with your coworkers and try to maintain that, because we do work in stressful environments and most of us have worked together so long, that we don't even have to say stuff…we just flow and do it…P1: L 451-453*

Debriefing with peers occurred after each medical flight.

Tanya and *Matthew* explained the debriefing policy:

Tonya:

We debrief after every flight, no matter what…We have a check-off sheet for every shift…if there is anything we need to address after the call. Anything whatsoever. It's all encompassing…is there anything we could have done better. The opportunity is always given. P1: L 113, 117, 136-137, 141, 147, 151

Matthew:

And we're held to a high standard here, so, puts pressure on you, but it makes you work better…we review our charts…so, we're always finding ways to improve…healthcare is constantly changing in the flight environment…our protocols change, medications change…P4: L 67-69, 71-72

Jerome related the importance of open communication to facilitate optimum team performance:

So, I have excellent relationships…our inter-team relationships…my method starts immediately after the event; discussing it with my partner; and …typically on our flight home, and once we get back here to write our report, we just talk about what happened, how we impacted what happened. P5: L 243-246

John reported that the flight team examined issues in a transparent manner:

…we have to work together as a tight group…so one knows what the other is thinking…if I'm not comfortable doing something, I will tell that person, and they're the same with me…and so we're constantly reviewing ourselves…P2: L 404-410

The same participant felt that camaraderie of the team helped offset inadequate administrative support:

> *I think debriefing is good…it's always easy for our group to get together…and decide things that you should have done different, or what you can do next…than have someone sitting up in their office telling you, that you should have done it this way, or you should have done it that way…to make, you know, judgments about something unless you were actually there. P2 L 378-383*

Examples of collegiality surfaced in the interviews.

Tanya spoke of assisting health care partners in order to share the emotional impact of traumatic events:

> *Hospital staff, they get stressed out too, you know…there are some calls that you know you can tell from being in it, that those people are particularly stressed, and they just need that positive feedback…actually I'm trying to be more purposeful in the last several months of telling people, you're doing a good job, nobody is perfect…Give them a desire to want to be better. P1: L 327-332*

> *I just think it's the right thing to do…I mean I…if anything I hope that I have set an example that other people will try to do it too…But just to take this extra time. P1: L 338-346*

John discussed a difficult case in which he worked hand in hand with hospital personnel during patient resuscitation:

…It also meant a lot to the staff. The staff came up afterwards and shook my hand…thank you for staying here and helping us. P2:189-190

Emergent Theme #3: Traumatic Caring

Traumatic caring was the physical and emotional burden of tending to multiple patients experiencing traumatic events. The participants frequently bore witness to tragedies affecting other individuals and were, therefore, highly vulnerable to the deleterious effects of traumatic caring (van Dernoot & Lipsky, 2009). Manifestations of traumatic caring were: enduring memories, emotional vulnerability, physical fatigue, and lack of closure.

All participants carried enduring memories of traumatic patient care events. Consistently, the enduring memories involved two types of patients: 1) individuals who were initially awake and verbal, then died while in the participants' care and 2) children, who were perceived by the participants as innocent victims of trauma.

As recounted by *John*, flight nurses' memories of traumatic patient care events were intense and triggered feelings of deep sadness:

I had a 20, 22, 23-year old gentleman…And when I got there the patient was alert, was oriented, was talking to me…and he actually exsanguinated right in front of me and there was nothing I could do. And I can still see him, and telling him, it's gonna be ok…and seeing his parents…and I told them…I wished I could do more. P2: L 265-267, 283-284, 288-289.

And you have to in this line of work, because you can't take it home with you. And sometimes it's harder than others, when…especially when you have a patient look at you…P2: L 243-244

Matthew described how he was caught off guard by his patient's unanticipated death:

We get to that lady that's still pinned in the vehicle…husband arrived on scene…he's talking to his wife; everything is going fine…extricate her out of the vehicle…goes unresponsive…starts coding…Um, so we went from, um, perfectly mentating patient to…dead immediately…and just being able talk to her, and everything, and then just immediately dead…husband…was headed to the hospital…didn't know…he kinda even said, you know, he had a feeling when he left her, that was the last time he was actually gonna see his wife…he just had that gut feeling…P4: L 305-314, 320-321, 328-331, 385-387

Jerome remembered the traumatic death of children who were close in age to his own. He said:

That doesn't mean that I haven't had challenging cases…usually the ones that I find most challenging, are the ones that involve children…I can say that without a doubt…two most difficult cases I've ever had were kids. P5: L 56-60

…so this one was right about the age of my youngest at the time…And it was just kind of a perfect storm of things sort of came together…this kid has been here a long time already…this kid died about 5 minutes from (hospital)…This kid was

wide awake. We spent 45 minutes at the bedside getting to know the family; talking to this kid…interacting, which you never get in this job…P5: L 132, 137-138, 146-147

Emily also verbalized a powerful connection to children:

…physical exhaustion is the one thing. Um, children affect me, um, psychologically…the little ones really affect me…and I always internalize it as, what if this was my grandchild…you know, one of mine… I always go back home and think about, on my God, that poor family. And they are in my mind, but not, I don't think, to a…detrimental degree. P3: L 67-73

Emotional vulnerability was conspicuous as the participants told their stories of traumatic patient care events.

Tonya explained that caring for traumatized persons was a moral and emotional strain:

I've had a couple calls recently, where a wife or significant other is crying to me, "Please take care of him", that "he/she is all I have" and that kind of smacks you in the face, like, do you understand what you have in your hand, you know? Like, this is a big deal. This is not just a job. You have someone's outcome and their whole life in your hand. So… P1: L 183-186

Jerome discussed another pediatric case that left him shaken:

…my son was the same age at the time…struck by a drunk driver and ejected…I really, really struggle with that one…he is completely innocent in this whole thing…this one shook me…I'm a Christian, I'm rarely mad at God…but I was mad about this…I wanted to know why, it made no sense to me…No, it didn't shake my faith. I was just mad at Him (God). P5: L 78-79, 93-95, 104-106,108

After traumatic patient care events, *Matthew* reflected on victims' and families' lives:

When you get off the call, then you're kind of unwinding, and you kinda see…how that's going to impact those families' lives…it could be a single mom that has three kids, and she just got killed on her way to work…you're not very emotional on the direct patient care, it's all after the fact. P4: L 170-176, 179-180

Um, every now and then you just have a call that bothers you, and so, uh, I talk…about those types of things…we do have resources…We can talk to the chaplain…P4: L 196-197, 204

Matthew also spoke of pediatric cases that weighed on him:

um, some of the worst…we've had a few pediatric fatalities…any kind of patients your age or younger, that kinda plays into…maybe I'm not as invincible as I thought I was. P4: L 296-298

Increased number of patient calls and a work schedule that featured 24-hour shifts and 12-hour shifts clustered together contributed to physical fatigue among all the participants.

Tanya discussed the impact of physical fatigue on clinical decision-making:

And you're just exhausted, because fatigue does play a role in your decision-making process…we're… making critical decisions that affect patient outcomes, so yeah…you need to say it beforehand, does that make sense? P1: L 71-78

Matthew reiterated concerns about physical fatigue impacting performance*:*

…it seems what happens on a 24-hour shift a lot of times is…you don't really get hit with a whole bunch…you're already coming in rested…it's hard to unwind and rest…you're ready to go, and then when you're ready to start resting again, then the calls start coming in…any 24-hour shift, um, after 16 hours, regardless if you did any patient care or not, you're not the same level provider as you would have been at the beginning of your shift. P4: L 35-41

Emily described flight nurses' tendency to be diligent and indefatigable:

…for the most part I think I handle it pretty well. Um, I have had an occasion, where I did not handle it well, and I got physically exhausted…I had been working pretty nonstop for 36 hours…and I should have called…we have the ability to say: "We can't do anymore, we need 4 hours", and I didn't do that…I don't always heed the warnings, because I feel like I need to get this done. P3: 51-52, 59-61, 66-67

Jerome reported that physical fatigue compromised the ability to be compassionate:

> *...I think, compassion fatigue for me is directly related to fatigue in general…if I've had three or four flights during the day, and then you get that fourth or fifth at 1 am, it's hard…compassion is a very natural part of my care giving…But, five flights into a shift, it has to be a conscious effort…Yeah, you're tired. P5: L 264-275*

Lack of closure was seen as directly due to HIPPA (Health Insurance Portability and Accountability Act) privacy regulations. The participants were left wondering about their patients' outcomes and were unable to experience a sense of achievement or fulfillment.

Per *Tonya:*

> *...you get like a wall, sort of like a self-protective measure…because we never get hardly any feedback about our patients… P1: L 156-158*

Emergent Theme #4: Forbearance

The participants demonstrated forbearance by their proclivity towards self-control, inner strength, and endurance in order to resist the negative effects of traumatic stress and compassion fatigue. Elements of forbearance were found to be: coping strategies, emotional fortitude, and emotional separation.

The participants utilized various coping strategies to blunt inevitable stress in their flight nurse role.

Tanya discussed the importance of delineating work responsibilities and family time:

> *I definitely try to keep it at work. Um, when I'm home with my family that's my time at home…which is hard for us to do…I used to take stuff home all the time…and I don't do that anymore. Like, I keep work at work. P1: l 422-426*

> *Um, I do hobbies…I try to get outdoors…to me family is very important, because I realize, again, how quickly that can all change, so I try to spend as much precious time with my family. P1: L 430-432*

Matthew agreed and added that engagement in physical activity helped to reduce stress:

> *…emotional stress…I stay active, you know, hunt, fish, those types of things when I'm off duty, relaxing, not thinking about work. Uh, exercise, running, lifting…Physical activity…you don't want to take work home with you. P4: L 185-192*

John expressed gratitude for a work schedule that enabled quality family time:

> *I like what I do, um, the hours are great…it's wonderful to have a two-day work week…because I have time off to spend with my family, and do things I wanna do…when you regroup, you have time to unwind when you get home, and I've*

learned to, when I walk out that door, that's where I leave it. P2 L 364-367, 373-374

Both *Tanya* and *Matthew* related that faith helped them cope with traumatic events:

Tanya:

My faith is really important to me. So, you know, I use prayer for myself and for my patients that I take care of and their families…that helps me cope with a lot of stuff…I know that no matter what I do or anybody else does, that God has a plan for that person, above and beyond, no matter what drug I push. So this gives me comfort knowing no matter what happens, it's in His will. P1: l 445-449

Matthew:

. …physical, emotional, talk…you know, don't keep everything bundled in; have your close friends, that you know you can vent to, your close co-workers that can relate to you…spiritual aspect, you know, having a healthy relationship with God…my faith, yup. So, I know…if something does happen to me, I'm going to see a lot of my family members that have already gone before…I don't have to worry about that…and I kinda just try to have a healthy balance of work life…P4: L 453-462

Emily stated that self-reflection and solitude were preferred coping mechanisms:

Um, quiet time…if it's really, really critical, I don't like to keep discussing it…And I also sometimes go in my room for an hour or so, not necessarily to sleep, but to…think about it, be alone…and then, the other thing, sometimes I'll just go out and walk, in the area…P3: L 245, 247-248, 253-254

John identified humor as an effective way to reduce traumatic stress:

So, I think you distance yourself from these things, but you never forget them. You have to learn to let them go…or if you don't, it all builds up and you…we have a tendency to joke about things, that, you know, sick sense of humor, we do…You can't keep everything bottle up inside, because it'll eat away at you… P2: L 255-261

In the following excerpts, *Jerome* spoke of emotional fortitude as a necessary trait to keep moving forward as a care provider in the flight nurse role:

So, I do think that this industry demands an ability to be able to take care of these patients, and not let it overwhelm you…if you don't have that quality, you just will not survive, because you deal with it so much. P5: L 51-54

…everybody here is good at it. Whatever "it" is…So yes, I think maturity is part of it; I think wisdom is part of it; I think understanding the circle of life is part of it; I think experience is part of it; I think being able to kind of turn off your emotions a little bit in the heat of the moment is part of it…but I also think that if

you…if you don't have some system of coping with it, it'll catch up with you. P5: L 217, 235-240

Matthew explained that emotional fortitude included the ability to recognize and seek assistance for emotional stress:

…so I talked to, uh, actually talked to EAP (Employee Assistance Program), and, uh, you know, just worked through a couple counseling sessions with them…it really wasn't just that one call. What it was, that was just kinda the call that broke the camel's back…Yeah, it was just a trigger. So, talked to them…P4: L 345-353

Matthew also supported Jerome's view that emotional separation was necessary at scenes of traumatic events:

…you don't really stop and think, you know…this is gonna change, change their life forever. You're just worried about, let's get this patient, a viable patient from point A to point B…very focused on patient care…P4: L 165-170

Emergent Theme #5: Professional Isolation

Professional isolation incorporated the separateness of the participants from administrative communication and support, the disqualification to engage in decision-making, and the rigid critique of their practice. The components of professional isolation emerged as: absence of support, powerlessness, and reliving traumatic events.

Most participants raised pressing concerns about absence of support by institutional leaders:

Tanya:

…the support of your business or your employer can make or break you…I just…we have very little administrative support. Everything that our program has done, we have built pretty much ourselves, and there is rarely any feedback, unless there is someone who has a complaint about something…P1 L 492-496

We're very isolated. We're out of sight, out of mind until they need something. We're definitely the, ah, I'm not sure what the right word is…appendage? P1: L 503-504

John:

So, we really don't have a set medical director at this time…it's very important that you have a close relationship to your medical director…There is a gap in that right now…you have to have a medical director that's really involved with you as a group…you're only as strong as your medical director…. you have somebody to go to for backup. P2: L 398-403, 414-415, 422

…and I think a lack of communication, sometimes, can really hinder you, and you have such great potential sometimes…so that's a lot of stress on a flight nurse…there is a fine line between, think to be a patient advocate and doing what you are supposed to do, or what they expect you to do…and I understand that

from the business end of it, but also, you have to realize, why you're there…P2: L 438-445

…"out of sight, out of mind" is good sometimes, but it also has its bad aspects…to try and get something…is just terrible…No administration…I think we've come a long ways on our own. P2: L 513-515, 518, 525

Emily:

Um, I think my main stressor is the lack of support from administration…the lack of moving us forward, helping us to grow as…we have to do it on our own, and it would be much easier if we had support from, um administration…we just…we're kind of a step child. That's the feeling I have…we're easy to forget…we are a billboard and that's want they want us…look what we're doing…P3: L 286-291, 297-299

Jerome:

…often times the only time we hear from administration is if somebody has complained about something, which isn't real often. Typically, it's because they don't understand what it is we're doing. So that leads to some negative feelings…but at the same time, you know, if administration was over here all the time, they'd want to know…why they are bothering us, I mean we're over here doing our jobs, so…you know, we wish maybe that we had some better financial support, that we received some more organized training…I'm very fortunate that

these folks are as independent and autonomous as they are because this service, from day one, has really run itself.

So, that one generated this big risk assessment…and the hospital didn't want…me to go to the funeral which made me furious…So I called the ER doctor that was in charge of the case, just so he and I could sort of commiserate together and talk about it…So I had very little closure…P5: L 160-162, 166-167, 170

Powerlessness emerged as a consequence of inadequate administrative cohesiveness and support.

Tanya provided a rationale for participants' emotional depletion:

I could do what I do for the rest of my life, I love…but with the lack of support and stuff that we have, it's so frustrating and tiring, and such a poor use of resources…and you know nothing is changing, um, that I'm fatigued. P1: L 549-553

John said the team felt pressured to accept medical flight requests:

…we have the rule, if…if one person says "No, we don't go"; so everybody has to decide, are we gonna go on this call…if someone is not comfortable with that flight, we do not go…they don't like us to do that… P2: L 80-86

Tanya confirmed this perception:

Um, well just basically like a lot of these ground transports. If you've been up all day, running flights on very critically ill patients, and at 2 am, the weather is bad and they have a patient that they need to move, that does not fit critical care air medical transport criteria, they will make you do it…I just…it's exhausting, what we're doing now; we're so much busier…P1: L 508-510, 523-524

Emily told of unanswered requests to facilitate program growth:

Um, I think one thing that I would love to see us do is to become a mentor…for people who want to become flight nurses, and have an active ride-along program, and that's another thing that we have tried to do and have not been successful past our administration…we would be able to make wiser decisions on crew members. But that hasn't happened yet. P3: L 346-348, 359-360

As related by Matthew, reliving traumatic events due to administrative case review was educational but disheartening:

. …we own it…sometimes the hospital calls you in, big meeting with a lot of the, uh, physicians and head nurse, uh, management…Oh yea, it's providing better care for the next patient…you build off an education experience that you can take to your next call. P4: L 235-236, 251-252

…it was brought up in the hospital. So you had to go over there…constantly for about a month…having everybody kind of critique your work…It's easy to sit back and…Monday morning quarterback the call…P4: L 357-362

Emergent Theme #6: Heart

Heart was the core spirit of caring genuinely for others who were experiencing traumatic events. Empathy for the traumatic circumstances of others was demonstrated by reaching out to victims' families. Participants developed a strong sense of the circle of life – nature's way of taking and giving back via birth, survival, and death. Heart included human connection, compassion, and appreciation for life.

Tanya explained the ingrained human connection to family members:

Um, well I always go into every call, my goal is to treat every person as if it was someone in my family, because that's what I would want to be done for me, which gives you that attachment inherently, and to me one of the most difficult things, aside from the patient himself/herself, is dealing with the family member, or significant other. P1: L 176-179

Matthew and *Tanya* voiced the singular connection between flight nurse and patient:

Matthew:

It is an exciting job, it's very rewarding. Uh, you really do make a difference in people's lives and you can really see that…Just you and the patient…you just figure it out…P4: L 514-515, 525-526

Tanya:

…it may be only 15 minutes, but… it feels very long sometimes. P1: L 307

Emily shared the human care process used to assist family members:

…she had arrested…the husband was on scene, and I wanted to bring him in to see her…and he sat there on the, on the bench seat with me, and I was holding his hand, and he said: "She's just beautiful" …and I said: "Yes absolutely" … I could feel him going through the grieving process beginning right there…I felt so satisfied afterwards, that I had done that…I think it's really important that the family knows everything, and knows what's going on. Because, I think it does help them…You know, I think…I really feel like, um, she was no longer my patient, he was. P3: L 166, 172, 178-184, 190-191, 204-205, 210

And oftentimes I feel that way, when I think that people are just not going to survive, I want to be sure that the family sees them before we leave…you never know if they're going to make it there in time…as I'm packaging them, I have them help me, um, you know, they can put blankets on them, and help with the buckles, and stuff; and it makes them feel like they are a part of it…we take them out, and I let them come…Some of them want to take pictures…and I feel like that's fine…they might want that as a memory…I think the family is really important. P3: L 212-213, 216-217, 220-221, 223-227

Jerome described powerful human connections that were experienced:

So I actually got a call from the trauma coordinator two days later…this kid had passed away…But in the process he gave almost every organ he had to save a bunch of lives. I mean I cried again. P5: L 110-112, 116

…later…I'm…shopping…there is a woman coming the other way and we kind of make eye contact…she started crying and I started crying…and we hugged each other…and it was just this most cathartic experience that I've ever had doing this job…I said…he didn't die alone, I was holding his hand…she said…she wanted ME to know, that she felt it was just his time…P5: L 168, 173-179, 181, 183, 189-190

The participants' compassion for others was manifested in concrete acts. *Tonya* recounted a traumatic patient care event that included a victim's mother:

Like this is probably one of the worst calls that I've ever had…I see a very mangled car and a white sheet, which I knew that was a body underneath that…um, she is partially covered and she is talking to me…and her mom is right there. So I'm trying to address her, being critically ill, and …this is her mom's more than likely last moments with her…I'm like mom…she can hear you…talk to her. P1: L 218, 221, 231-232, 246-247, 279-280

Several participants felt that communicating with family members was part of the job:

John:

Yes! I'm, you know, I'm from the old school of, sometimes you let people die with dignity…I even went out and explained it to the family. I said: "I'm, sorry…he was not hemodynamically stable enough…to fly." P2: L 168, 175-177

Emily:

I think I've learned…how to compartmentalize, and, um, move on without…and sometimes, when it really bothers me, um, I usually have the phone number of the parents, because we call them…and ask about how the child is doing…that helps. P3: L 75-79

Tanya:

And for the family, like I try to, with every flight, I try to get a phone number for the family to let them know…if we can…but just to call and follow-up with them…Sometimes I'm honestly scared to call, because I don't' know if the outcome was good and I'm like, I don't' want to stress the family member… do you know what I mean? Like, I don't want to make them have to re-live it, and what do you say? P1: L 196-201

Emily indicated that acts of compassion included supporting the patient and family when death was eminent:

…the man was extremely sick, and very, very unstable…he had six drips, um, to keep him going...all kinds of (vaso)pressors…and it took us…three hours in the hospital to stabilize him…He was sedated…we had to land at an airport because of the weather…getting him out of the aircraft , was just absolutely traumatic…when we go to the hospital, um, we got him in the bed, and we started getting all the wires untangled, and everything, and the physician said: "Why did you transfer this patient?" and I said: "because we were instructed to"… and he

*died the next morning. And I just felt like…if we had known that before…the two hospitals knew…he could have been with his family, surrounded by his family…it was very traumatic for me to put somebody through all that…and find out there is no help…hopefully they arrived in time to see him before he died…3: L 88-90, 103, 109-110, 115-124, 129-131, 140-*143, 149

I think maybe it has made me stronger…I think it has made me…it has made me face my own mortality…I can relate to patients. And when patients tell me, that they are going to die, I don't tell them "no, you're not going to". I just try to support them. P3: L 230, 232-235

The participants expressed their sincere appreciation for life, articulating that they valued the present because they had repeatedly witnessed the unpredictability of life:

Tanya:

I realize how important family is, and I know not to take anything for granted, because I could be that patient tomorrow, or today. So I try to make the most out of what life has given me. You know. I can definitely be better about that. P1: L 209-211

John:

Um…I think it's easier on me, because I've been in healthcare for about 29 years…So I learned…that people will die…I look at it this way, for every person

that dies, there are two little babies being born every day over at the [hospital], so it's a cycle. None of us is promised the next day. P2: L 277-230

Matthew:

Yup, you don't take for granted anymore, you know…you take advantage every day, because you don't know, get in the vehicle…something could happen, and that be it that day. P4: L 413, 417-418

Emergent Theme #7: Finding Meaning

Finding meaning was the satisfaction felt by the participants for saving patients' lives; the enrichment of the participants' lives by doing consequential work; and the opportunity to work in a unique and exciting nursing specialty they relished. Finding meaning consisted of: making a difference and the joy of work.

Making a difference for patients helped the participants achieve balance between compassion satisfaction and compassion fatigue.

John and *Matthew* reflected:

John:

…but on the other hand, I have people that come out to the hangar…and tell me, "thank you for taking care of my child" or the child comes out and they're talking to you, and they say… "thank you for helping me", you know. So it's…a cycle…we do the best we can…It is a cycle of life…we just ask to be in this life…we have such a short time, and we don't realize it…P2: 307-315

We're all gonna pass away one day, we…we're just thankful to be here. Um, but I believe we can make a difference in people's lives while we're here. And I'm not perfect…but I think we have to stop and think about what we're doing, and why we do it. P2 L 448-451

Matthew:

Um, you know, when you can pick a patient up that you know, if you don't get them there within 30 – 40 minutes, we've had a few that, um, sitting there squeezing two units of blood in, as we're rolling into the OR, and so, and then those patients walk out, two or three days after. So, it is very balanced…if you weren't there, this helicopter didn't exist, that patient would have died…so you have that job satisfaction, to put things in perspective. P4: L 406-41

Tanya said:

I feel blessed that I'm able to do this. I think it just takes my care for that patient…to another level. I don't want to be just rhythmic, pushing a drug, treat an event…I want them to go home to their family and not have any deficits, if at all possible… P1: L 190-192

Jerome added:

…but when you come back, and when you're doing the job, and when you're finished with the job, and knowing that, that patient is better now, because of the role that we play, that's why you keep coming back. P5: L 342-344

I love the job! I mean, no job is perfect, but this for me is about as close as you can come… I love the difference that we can make. And we can make measurable differences. P5: L 370-371, 378

Matthew summed up **the joy of work**:

You see…it doesn't feel like work…It's never…the job itself is never work…now there is always gonna be bureaucracy in any place that you ever work…management issues…you don't let those things bother you, you just worry about work, that you have to perform…it's exciting. P4: L 468-471

Exhaustive Description

Flight nurses are widely regarded for their clinical prowess and courage to practice independently in intense and risky conditions. They are steadfast, passionate providers who must maintain a superior level of competency and be constantly prepared to manage any patient care event. Flight nurses hold their professional values close and advocate for consistent standards of practice to ensure best possible outcomes for traumatized patients and their families.

Additionally, flight nurses embrace their unique role and relish opportunities to make crucial, lifesaving decisions in unstructured, unfamiliar work environments. The flight team is self-directing and focused on continuous performance improvement; team unity is a key factor in blunting inevitable stress in the medical flight environment. Debriefing after each flight allows team members to share knowledge, expertise, and to decompress after the emotional impact of traumatic patient care events.

Stress is a constant and confronting component of flight nursing practice. Enduring memories, along with emotional and physical exhaustion, are the aftermath of exposure to multiple traumatic patient care events. Sharing in the suffering of others leaves flight nurses highly vulnerable to the deleterious effects of compassion fatigue. Flight nurses frequently receive limited or no feedback about the resultant outcomes of the care they provided to their patients, adding to their job stress.

Flight nurses are grounded in reality; however, they consistently demonstrate profound emotional capacity. Repeatedly exposed to the graphic and sorrowful scenes of major illness and injury, flight nurses persevere by developing diverse coping strategies. Inner strength and resilience are distinguishing characteristics of flight nurses.

A difficult aspect is the apparent administrative disregard and neglect of flight nurse practice, which results in a pervading sense of professional isolation among flight nurses. A lack of voice in their flight nurse practice with administration leads to a chronic state of emotional depletion. When administrative review of traumatic patient care events becomes necessary, flight nurses are required to relive the events, increasing the sense of isolation and emotional trauma. Additionally, reporting to leaders from whom they are detached only serves to validate the disconnection between the practice requirements of the flight nurse and health care administrators.

Furthermore, despite multiplex challenges, flight nurses are heartful and humane. Their deep-seated feelings of empathy for the severe circumstances of patients and families often manifest as compelling acts of compassion. Via the lens of their multiple exposures to traumatic patient care events, flight nurses value life and perceive the circle of life.

In conclusion, flight nurses are dedicated professionals whose lives have been enriched by their work of caring for traumatized persons. Flight nurses make measureable differences in individuals' lives every day; every day events in flight nursing practice are extraordinary.

Researcher Observation

The researcher shadowed one flight nurse participant for two shifts: one 7am-7pm shift and one 11am-10pm shift. During these 23 hours, the researcher had the opportunity to participate in one medical flight. The remaining hours were spent learning about the hangar environment and observing the duties and interactions of the flight team.

The flight team consisted of the flight nurse, the paramedic, and the pilot. Safety of the flight team was a primary consideration, and pilot debriefings and daily equipment checks were standard procedures. One pilot personally demonstrated the helicopter's safety features to the researcher. The professionalism and cordiality of the flight team were exceptional.

In the late afternoon of the first observation day, a call was received – a head-on motor vehicle crash involving a belted, entrapped driver. The call was designated as 'Level One' (a critically injured patient at risk for death). The scene of the crash was approximately 45 miles from the hangar. Upon liftoff, the researcher heard the announcement: "Four souls departed...", which gave pause. Also at this juncture, the researcher noted the flight nurse's complete focus on the upcoming patient encounter - the nurse became silent and began to review printed resource materials in anticipation of possible patient care scenarios and interventions. During the flight, the paramedic obtained a description of the landing zone and the patient's approximate weight. As the

helicopter approached the landing zone, the nurse assisted the pilot by calling out "clear of the fence…" The helicopter landed on a college athletic field 25 minutes after the call was received.

The patient was transported to the helicopter via ambulance. Handoff report between the Emergency Medical Services (EMS) crew and the flight crew was delivered in a calm, informative manner. The EMS crew assisted and stood by as the patient was lifted into the helicopter and assessed. The patient was alert and oriented, and vital signs were stable. The patient verbalized consent for the researcher to observe the flight nurse as care was initiated. Thirteen minutes after landing at the destination, the helicopter ascended and began its flight to a 'Level Two' Emergency Department (a facility that provides comprehensive trauma care with 24-hour availability of essential specialty personnel and equipment).

During the flight, the nurse continuously monitored the patient's vital signs and assessed pain. The patient was medicated for pain twice. The nurse and paramedic reassured the patient throughout the flight, easing anxiety. They demonstrated competency and compassion, as well as seamless teamwork. Landing at the Level Two Trauma facility 20 minutes later, the patient remained in stable condition and appeared more relaxed and comfortable.

Prior to lift off from the receiving facility, the nurse and paramedic assisted the pilot in performing helicopter safety checks. The researcher was invited to sit in the cockpit with the pilot for the flight back to the hangar. The researcher was able to appreciate the expansive view of the community and the thrill of helicopter flight from this vantage point.

In conclusion, reflections of the researcher's observation experience served to augment the study's thematic discussion, and field and anecdotal notes provided additional data to validate study results. Although the observation experience included only one medical flight, the researcher gained significant understanding of the flight nurse role, specifically as related to the study's themes of self-efficacy (preparedness, expertise, and commitment to flight safety and individuals in crisis); self-differentiation (autonomous decision making, professional working relationships, and collegiality); and heart (patient-focused nursing care).

Chapter Summary

Chapter Four revealed the themes that emerged from participants' narratives, which predicated the experiences of five flight nurses involved in multiple traumatic patient care events. An exhaustive description of study findings provided an overview of data results. The additional observation by the researcher added insight regarding the role of flight nurses and validated results obtained from participant narrative data. In Chapter Five, the ramifications of the study's results will be discussed. Suggestions for practice, policy, and research will be made based on study results with the intention of informing flight nurses and other nurses and health care leaders who provide care and support for traumatized patients.

CHAPTER FIVE

DISCUSSION

Being a flight nurse is fraught with stress and risk, yet distinguished by untold reward. The purpose of this study was to provide a rich description of the lived experiences of flight nurses with traumatic patient care events and to identify ways in which intense and prolonged exposure to traumatic events influenced flight nurses' capacity to stay in their current roles. The descriptive phenomenology of Husserl (1970) and the methodological interpretation of Colaizzi (1978) facilitated the discovery of abundant narrative data that offered a rare view of flight nursing practice including characteristics and values of flight nurses, coping strategies flight nurses employed to resist compassion fatigue (CF), and barriers to job satisfaction in the medical flight environment. In this chapter, themes that emerged from narrative data will be described. Additionally, participants' perspectives will be compared and contrasted to relevant literature and linked to the study's underpinning theories and conceptual model. Study limitations will be acknowledged, and implications and recommendations for flight nursing practice, policy, and research will be highlighted. Finally, the chapter will provide a concluding summary to the reported study.

Survey of Data Themes

Through their stories and reflections, flight nurses in the current study were found to possess self-efficacy and self-determination. They demonstrated self-efficacy through clinical mastery, stewardship to individuals experiencing traumatic events, adherence to

professional values, and patient advocacy. Self-determination consisted of autonomous practice, team synergy, debriefing with peers, and collegiality with community health partners. Traumatic caring was an inevitable outcome of repeated exposure to traumatic patient care events. Enduring memories, emotional vulnerability, physical fatigue, and lack of closure contributed to stress in the medical flight environment. Forbearance in the forms of coping strategies, emotional fortitude, and emotional separation assisted flight nurses to remain resilient and continue in their current roles. Professional isolation was a reality of the participants' practice, and absence of support, powerlessness, and reliving traumatic events were strong deterrents of job satisfaction. The participants demonstrated heart via their human connection with others, compassionate acts that assisted patients and families in crisis, and appreciation for everyday life. In the final analysis, the flight nurse participants realized immense joy in their role of rescuing and stabilizing individuals experiencing traumatic events. Making a difference for critically ill and injured patients defined the flight nurse as a person and a professional and influenced the participants' capacity to continue in their role as flight nurses.

Consideration of themes that emerged from this study's findings will provide valuable information to health care organizations that support flight nursing programs, enabling them to better assist flight nurses in their employ. While recognizing that secondary stress is an expected, unavoidable type of stress that is experienced when caregivers aid others who are suffering, it is imperative that health care organizations perceive the unique factors that contribute to the high risk for secondary stress and compassion fatigue among flight nurses. Compassion fatigue is linked to employee turnover, decreased clinical competence, and a resulting negative impact on providers'

physical and emotional well-being (La Jeunesse, 2012). It is crucial that health care organizations retain their flight nurse experts so that critically ill and injured patients within their sphere of responsibility can achieve the best possible outcomes during traumatic events.

Relationship to Literature

The clinical phenomenon of secondary traumatic stress, also known as compassion fatigue, has received considerable attention among the general nursing population; however, its potentiality among flight nurses, nurses who routinely witness the suffering and death of severely traumatized patients, has been virtually ignored. Notwithstanding the serious gap in research related to flight nursing practice, the literature reviewed and presented in this study included numerous findings related to trauma exposure response among nurses who provide advanced clinical care to traumatized patients. Specifically, the literature explored the impact of exposure to multiple traumatic patient care events upon nurses' personal and professional quality of life, coping abilities, and resilience. In this section, findings from the current study will be compared and contrasted to relevant literature. The four research questions of the study will be addressed.

Traumatic Event Experiences

Research Question #1: What is the nature of flight nurses' lived experience with traumatic caring and compassion fatigue?

Traumatic event experiences described by participants in this study were patient care events that stood apart because they elicited strong and lasting emotional reactions. The reported events were expectedly profound and unique, consistent with

conceptualization of the flight nurse role and responsibilities. When compared to critical or extraordinary events described by nurses in previous studies, analogy existed in terms of events that were vividly imprinted in the participants' memories. Overall, the perceptions of traumatic events as reported by the flight nurse participants closely resembled those found in the literature.

In the current study, two categories of patient care events were perceived as being the most traumatic: 1) the witnessed demise of initially alert and verbal patients while still in the participants' care (sudden or unavoidable death in the field) and 2) the death of children (witnessed demise or lifeless at the scene of trauma). Some events for participants were memorable for their graphic or tragic nature. Other events, years later, aroused feelings of incomprehensibility and self-doubt regarding the course and management of the event (Gunther & Thomas, 2006). As supported by previous studies that explored compassion stress among hospital-based nurses, unexpected patient death and the death of a child or young person take a significant emotional toll on the nurse (Adriaenssens, 2012; Gunther & Thomas, 2006; Laposa et al., 2003; Lavoie et al., 2010; O'Conner & Jeavons, 2003; Yoder, 2010). In the current study, narrative data, as well as emotional responses observed during the telling, demonstrated that the flight nurse participants suffered their own grief after losing patients. Despite having given all to saving life, memories of traumatic patient care events had not faded.

Clearly, nurses who choose to practice within the acute care or emergency care context do so realizing that suffering and death are realistic outcomes for patients of all ages. The flight nurse, however, is especially vulnerable to emotional pain and exhaustion. Due to the criteria associated with every helicopter/flight team call, the

possibility of patient deterioration or demise occurring in the course of a rescue medical flight is relatively high. Additionally, flight nurses assume a powerful 'all on me' sense of accountability for individuals in their care, a degree of stewardship to traumatized patients not realized by nurses who have prompt access to a team of providers in the hospital setting. As reported in earlier studies, flight nurses are highly skilled and utilize intuition, experiential knowledge, and self-critique to effectively manage traumatic events. Flight nurses are secure in their abilities to provide competent care, and they are fearless providers who bear the weight of autonomous, crucial decision-making (Pugh, 2002; Topley et al., 2003). Furthermore, among health care colleagues, flight nurses are generally considered 'the best of the best'. Institutional health leaders hold the flight nurse to a very high standard of care. Patient cases that result in poor outcomes or death can leave the flight nurse with the sense that he/she did not perform adequately or meet personal, professional, or institutional expectations (Pugh, 2002; Reimer & Moore, 2009).

Another factor that makes flight nurses highly vulnerable to emotional residue is their uncommon connection with those they serve. Data from this study showed that flight nurses and their patients/family members have the capacity to form immediate, intense bonds due to the dramatic nature of their time spent together. Nurses who care for critically ill or injured patients in the hospital setting develop therapeutic relationships with patients and their families over time (Beeby, 2000). Nurses report the need to balance engagement with an appropriate amount of detachment in order to accomplish tasks (Henderson, 2001; Kornhaber, 2009; Walsh & Buchanan, 2011; Yoder, 2010). In the current study, participants also reported that emotional separation was sometimes

necessary during traumatic events in order to avoid being overwhelmed by the enormity of the situation. However, the sincere empathetic responses of the participants towards their patients and families, as evidenced by multiple narrative data, demonstrated their penchant to form strong emotional connections with those in crisis. Patients treated by the flight nurse are fighting to survive. In these heightened moments, the patient and the flight nurse both hold on for dear life.

Aftermath

Research Question #2: How does this experience affect flight nurses' personal and professional quality of life?

In the current study, the responses of the flight nurse participants predominantly reflected personal health, life balance, and a deep-seated passion for flight nursing despite persistent exposure to traumatic patient care events. When compared to previous literature, the participants reported significantly less unfavorable manifestations of trauma-induced stress than their hospital-based colleagues. Psychological consequences of providing nursing care for traumatized and dying patients reported in the literature (depression, intrusive thoughts about patients, emotional numbing, reduced effectiveness, and anxiety) were not reported in the current study (Adriaenssens et al., 2012; Dominguez-Gomez & Rutledge, 2009; Embriaco et al., 2007). Specifically, participants in this study denied that exposure to multiple traumatized patients affected their ability to provide quality patient care on a continuum. Additionally, participants in the current study did not report somatic complaints associated with traumatic caring that have been identified in the literature (smoking, headaches, hypertension, and sleep disturbances) (Abendroth & Flannery, 2006; Lavoie et al., 2010). However, participants in this study

did report that physical fatigue impacted their clinical performance and ability to be compassionate. Physical fatigue resulted from working 12-hour and 24-hour shifts that were grouped together. Because of the participants' unique work schedule, physical fatigue, as a risk factor for compassion fatigue, was not comparable to other studies that examined stress among nurses who worked shorter shifts.

Despite the emotional hardiness demonstrated by participants in the current study, as a group their professional outlooks lacked hope and promise. The absence of administrative support and cohesiveness had a significant negative impact on the flight nurse participants' professional satisfaction in this study. Since the outset of this study, one participant changed from full-time status to limbo 'as needed' status, citing emotional depletion due to lack of administrative support. Data in relation to administrative support among advanced caregivers is limited, though administrative disregard has been reported as a stress variable in several nursing studies (Adriaenssens et al., 2012: Bee, 2012; Laposa et al., 2003).

Unique to the current study was the use of the flight program as a means to promote appreciation for the health care organization. Being required to showcase the helicopter at community events was an act that was perceived by the participants as extraneous when compared to other more pressing needs. The flight team members felt exploited, not supported, by their organizational leaders. This circumstance was a risk factor for secondary stress that could not be compared to previous studies of stress among acute care/emergency nurses. It was not reported as a risk for secondary stress or compassion fatigue in examined flight nursing studies.

Coping

Research Question #3: How do flight nurses cope with multiple traumatic patient care events?

In the current study, the flight nurse participants reported various coping strategies that assisted them in achieving compassion fatigue resilience. These coping strategies were very comparable to those utilized by hospital-based nurses who care for traumatized patients. Shared strategies between the flight nurse participants and nurses examined in other studies included collegial support, hobbies, exercise, prayer, and introspection (Hinderer et al., 2014; Kornhaber & Wilson, 2011a; McGrath, 2008; Von Rueden et al., 2010; Yoder, 2010). Collegial synergy among the flight nurse participants emerged as a significant theme in the current study. Team unity was a positive variable to blunt inevitable emotional stress in the medical flight environment. Debriefing after every traumatic event was a practice unique to the participants. Additionally, peer camaraderie, collaboration, and debriefing helped offset the effects of inadequate administrative support.

Another unique finding of the current study as compared to previous literature about nurses' coping strategies was the flight nurse participants' appreciation for the 'everyday' and their respect for the circle of life. These views were expressed by all participants and served to sustain them as they dealt with repeated traumatic patient care events. Reflection about life and death helped the participants accept the harsh realities they faced every day (Lavoie et al., 2010; McGrath, 2008; Von Rueden et al., 2010; Yoder, 2010).

Resilience

Research Question #4: Why do flight nurses decide to stay in their current clinical roles?

Each flight nurse participant demonstrated compassion fatigue resilience in this study. As supported by previous literature, the participants were able to bounce back or recover from frequent exposure to traumatic events, to cope successfully, and to transcend emotional pain and fatigue into opportunities for personal and professional growth (Gillespie, 2007a; Hart et al., 2014; Kornhaber & Wilson, 2011b; McGee, 2006; Polk, 1997; van Dernoot Lipsky & Burk, 2009). Evidences of CF resilience were their expressions of satisfaction in doing consequential work. Additionally, their obvious enthusiasm for working autonomously in unstructured, dynamic environments and their ongoing commitment to making a difference for individuals in their community provided strong evidence of compassion fatigue resilience. Despite being emotionally vulnerable as the result of constant trauma exposure as well as deeply felt empathy for the circumstances of others, the participants enjoyed a pervading sense of compassion satisfaction for meaningful work well done. The participants demonstrated emotional toughness and the ability to keep moving forward. They embraced their flight nurse role and experienced purpose and passion in their work that largely superseded professional challenges and risks for compassion fatigue.

The retention of these nursing experts spoke volumes as to their dedication to flight nursing practice. One participant, however, has relinquished full-time status in the flight program due to administrative concerns. Based upon analysis of narrative data, the researcher deems this participant, who is currently enjoying a new professional opportunity, to be a highly effective provider who continues to demonstrate emotional

resilience in the face of formidable trauma exposure. The participant remains employed in the flight program in a limbo status, unwilling to surrender the satisfaction of caring for traumatized individuals within the flight nurse role.

Theoretical Review

In order to comprehend the scope and significance of secondary stress and compassion fatigue in flight nursing practice, four theoretical concepts were combined to provide the conceptual framework that guided this study. Watson's *Theory of Human Caring* (1979) and Benner's *From Novice to Expert Theory* (1984) provided the basis for appreciating the intense connection between nurses and their patients in critical care situations. Lazarus and Folkman's *Theory of Stress, Appraisal, and Coping* (1984) and Figley's *Compassion Stress and Fatigue Model* (1995) provided a social science frame of reference that assisted the researcher in understanding the coping process and the emotional and situational factors that are instrumental in predicting the risk of compassion fatigue. Together, these four theories presented a clearer depiction of the relationship between various characteristics of flight nurses and the capacity to achieve compassion fatigue resilience.

Watson's Theory of Transpersonal Caring (1979)

As postulated by Watson (1979), 'caring' is the essence of nursing. The nurse is the mediator of illness, the provider of competent and compassionate care (Chase, 2005; Watson, 2008). Caring is universal; caring and nursing are widely thought of synonymously. In the current study, the depth and breadth of the participants' empathy and consideration for others reached well beyond the researcher's forethought. While the aim of this phenomenological study was to explore the lived experiences of a sample of

flight nurses in order to determine factors that influenced their decision to stay in their role as expert clinicians, what dominated participant responses were stories of caring and compassion towards patients and families. As reported, the bond between flight nurse and patient was urgent and unassailable. Moreover, the participants deemed the patient and family to be one unit, each needing physical and/or emotional support in a crisis situation. The participants' heartfelt concern for traumatized individuals embodied Watson's definition of caring as the "co-participation of one's entire self in nursing…it touches another person's soul and feels the emotion and union with another…" (Watson, 1988, p. 70-71). Indeed, the flight nurse participants demonstrated a spirit of trauma stewardship, answering the call to engage oppression and trauma by caring for and protecting others who were struggling (van Dernoot Lipsky & Burk, 2009).

Benner's From Novice to Expert Theory (1984)

Participants in this study uniformly demonstrated advanced nursing knowledge and skills during traumatic patient care events. Benner (1984) called this level of nursing expertise a 'way of knowing', an intuition about patients' conditions that facilitates appropriate action – the ability to anticipate, problem-solve and recommend (Benner, 1984). After analysis of narrative data in the current study, the researcher realized a deeper implication of Benner's theory as related to the actions of the flight nurse participants: professional caring, which encompassed caring in the moment as well as caring beyond (Turkel, 2001). With responsibility comes the expectation to know and to perform. During their career, the participants have duly invested in continuous education and skill training in order to build and maintain an exceptional level of clinical expertise. They have strived for excellence in nursing practice in order to serve others. As nursing

experts, the participants were constantly prepared to manage any traumatic event and assumed accountability for their actions. The isolation that is characteristic of flight nursing practice added to the weight of autonomous, crucial decision-making during multiple traumatic patient care events. Additionally, the participants served as strong patient advocates, demonstrating a level of concern and liability for patients that befitted their expert professional status.

Lazarus and Folkman's Theory of Stress, Appraisal, and Coping (1984)

The *Theory of Stress, Appraisal, and Coping* (1984) identifies two processes that serve to mediate a stressful occurrence. In the current study, the flight nurse participants utilized *cognitive appraisal*, the bridge between stress and coping, to evaluate traumatic patient care events. In some incidences, the enormity of the event was apparent with the patient's life dependent upon the flight nurse's rapid assessment and expert actions. The participants then utilized *coping* to control their emotional responses to the critical situation. Consistently, the participants demonstrated *problem-focused* coping mechanisms instead of *emotion-focused* coping mechanisms to manage traumatic patient care events. Examples of their *problem-focused* actions were prioritizing patient care, initiating interventions, and taking necessary steps to stabilize traumatized patients. Some participants did admit to emotional distancing, an example of *emotion-focused* coping, at the scenes of traumatic events which enabled them to concentrate on the urgent tasks at hand. Other types of *emotion-focused* coping that assisted the participants to deal with the emotional aftermath of traumatic patient care events were team support, social support, faith, exercising, and meditating.

Figley's Compassion Stress and Fatigue Model (1995)

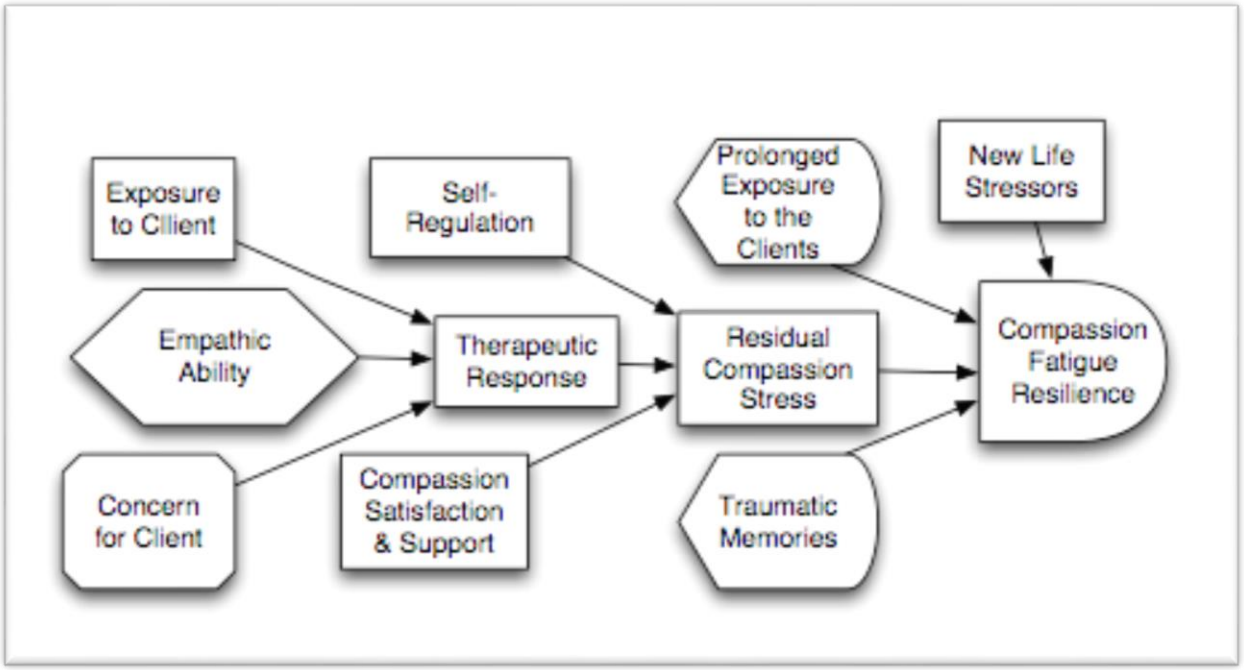
As demonstrated by narrative data in this study, the lives of the participants were shaped by their commitment to saving others' lives. Figley (2002) stated, "In our efforts to view the world from the perspective of the suffering, we suffer" (Figley, 2002, p. 1434). Figley's original model, the *Compassion Stress and Fatigue Model* (1995) is an explanatory multi-factor model that predicts compassion fatigue among workers and care givers. Each of the model's eleven variables either prevents or promotes the development of compassion fatigue. Variables within this model that were illustrated by narrative data in the current study were *exposure to suffering*, *empathetic ability*, *concern*, *empathetic response, sense of satisfaction, prolonged exposure to suffering, residual compassion stress*, and *traumatic memories*. The variables of *detachment* and *other life demands* were not determined to be significant factors that prevented or promoted compassion fatigue among the participants in this study. In the following section, Figley's most recent model related to compassion fatigue (2014) will be explored in depth.

Evaluation of Conceptual Model

The *Compassion Stress and Fatigue Model* (Figley, 1995) was revised over the years in order to illustrate research-based stress variables and to propose compassion fatigue resilience as the goal of care giving. The current study served to substantiate the revised model, *A Model of Compassion Fatigue Resistance* (Figley, 2014), by identifying variables that contributed to compassion fatigue risk and resilience among a sample of flight nurses. The researcher chose the revised model (Figley, 2014) as an appropriate conceptual model for the current study in part due to the low turnover rate within the participants' flight program. The researcher believed the model would explain the staying

power of the flight nurse participants in a structured, evidence-based manner. Comparing and contrasting study findings with variables within the conceptual model (Figley, 2014) enabled and endorsed researcher recommendations for flight nursing practice. The conceptual model (Figley, 2014) is re-presented in diagram form to aid in the evaluation of model variables as related to findings in the current study, thereby determining the model's applicability to flight nursing practice. See pages 31-32 for Figley's full descriptions of model variables.

Figure 5: A Generic Model of Compassion Fatigue Resilience (2014)



(http://figley.blogspot.com/2014/04)

Findings from the current study are correlated with conceptual model variables in the following section (Figley, 2014):

Exposure to Client Suffering**.** According to Figley, the greater the self-reported number of hours per week exposed to "client material that would make nearly anyone uncomfortable, imagining what it would be like to be in the client's situation", the lower the CF resilience (Figley, 2014, p. 2). This variable is obviously relevant to the examination of CF resilience in flight nursing practice. The flight nurse participants in the current study were *exclusively* exposed to traumatic patient care events - witnessing the suffering of clients in severe, unexpected circumstances was the norm. While caring for traumatized individuals on a daily basis was their choice and privilege, it was also a moral and emotional burden. A participant in the current study stated: "I've had a couple calls recently, where a wife or significant other is crying to me, 'Please take care of him/her…he/she is all I have' and that kind of smacks you in the face…do you understand what you have in your hand, you know? Like, this is a big deal. This is not just a job. You have someone's outcome and their whole life in your hand. So …" (P1: L 183-186).

Furthermore, the flight nurse participants in this study witnessed firsthand the graphic and sorrowful scenes of trauma and sudden death, which magnified their exposure to client suffering. Providing critical care for patients on roadways, in woods or fields, or in the confines of a medical helicopter required tenacity and a courageous spirit. The study participants also cared for traumatized and dying children; narratives of pediatric death in the current study were tragic and emotionally difficult. Especially arduous to manage in terms of emotional residue were traumatic events that involved

children close in age to one's own child or grandchild. One study participant said, "…it made no sense to me…" as the traumatic death of a boy, the same age as a son, was recounted (P5: L 106).

Additionally, witnessing patient death and aiding critically ill and injured patients as they spoke their last words demanded exceptional emotional strength. One participant stated: "And I can still see him, and telling him, it's gonna be OK…and seeing his parents… and I told them… I wished I could do more." (P2: L 284-288). Another participant shared a heartfelt memory: "…there is a woman (mother) … she started crying and I started crying … I said … he didn't die alone, I was holding his hand… she wanted ME to know, that she felt it was just his time… (P5: L 174-190).

Upon analysis of narrative data in the current study, the flight nurse participants disproved Figley's assumption as outlined in the model's variable: *Exposure to Client Suffering*. Despite their continuous and uncommon exposure to traumatic patient care events, all participants in this study demonstrated compassion fatigue resilience.

Empathetic Ability**.** The variable *Empathetic Ability* is very pertinent to the current study. Without exception, the flight nurse participants demonstrated the ability to understand others' emotions, feelings, and fears and to relate to others' life experiences. One participant expressed profound empathy for a victim and his family: "…if we had known that before…he could have been with his family, surrounded by his family…it was very traumatic for me to put somebody through all that…hopefully they arrived in time to see him before he died…" (P3: L 129-149). The participants' voluntary decisions to reach out to victims' family members, regardless of patient outcomes, was an unexpected study finding. Multiple participants spoke of compelling family interactions,

some at the scenes of illness or trauma, others face-to-face or by phone after cases had ended. Participant 3 also stated: "And oftentimes I feel that way, when I think that people are just not going to survive, I want to be sure the family sees them before we leave…as I'm packaging them (placing on a backboard, applying monitoring equipment, and securing with belts) …they can put blankets on…and it makes them feel like they are a part of it…Some of them want to take a picture…they might want that as a memory…" (P3: L 212-226). Another participant stated: "…sometimes you let people die with dignity…I even went out and explained it to the family. I said: 'I'm sorry…he was not hemodynamically stable enough… to fly'" (P2: L168-177). The researcher interpreted the participants' interactions with overwhelmed and grieving family members as evidence of professional caring - the physical and emotional caretaking of traumatized individuals by mature, dedicated nurses - as well as a means of achieving self-actualization.

Concern for Client**.** The variable *Concern for Client* also firmly relates to the current study. The flight nurse participants consistently served the best interests of their patients, not only by their combined efforts to effectively manage traumatic patient care events, but also by advocating for quality patient care. Participant 2 said: "…I had to take care of this child and be a voice for this child, when nobody else was gonna…that's another coping mechanism…knowing that you made a difference…" (P2: L 475-485). The same participant discussed patient advocacy in the flight nurse role: "…and I think it's important that we remain a patient advocate, and we do that, especially as a flight nurse, because a lot of times we're these patients' last defense, last line defense, it's up to us to make sure things are done for them. And it takes a toll on us as individuals…" (P2:

L 340-342). Lack of adherence to professional guidelines and evidence-based standards of care frustrated the participants. A participant vented: "Because the patient has not been managed well and/or appropriately, and we are always cleaning up messes from poorly managed patients…That's very stressful and aggravating, because you think every physician, every nurse, every respiratory therapist should be able to do some of the most basic of things, and we don't see that…" (P1: L 405-408).

Therapeutic Response**.** Therapeutic response involves enabling clients to feel more optimistic, less fearful, and more supported (Figley, 2014). According to Figley (2014), the caregiver, in delivering the appropriate therapeutic response, experiences vicarious distress of the client that weighs on the caregiver in measureable ways as Residual Compassion Distress (Figley, 2014). The researcher believes that *Therapeutic Response* is applicable to the current study in a variable degree. The intense nature of the flight nurse-patient relationship, the suffering and unstable physiological condition of the patient, and the urgency of the traumatic event did not always allow opportunity for a measured therapeutic response on the part of the flight nurse participants. Certainly, the participants communicated to patients during those dramatic moments by offering words of comfort and support to calm their anxiety and to keep them informed of necessary actions. At times, however, their actions necessarily spoke louder than words. Largely, *Therapeutic Response* does apply to the current study because empathy and engagement comprise the therapeutic relationship between nurse and patient (Watson, 1998). The flight nurse participants in this study were front line providers who took every opportunity to relieve suffering and physical disability. Additionally, the flight nurse

participants consistently engaged with family members in a therapeutic manner, reaching out to provide vital information and assistance.

Residual Compassion Stress. Residual compassion stress is the compulsive demand to action to relieve the suffering of others and doing all one can to relieve suffering (compassionfatigue.wikispaces.com/file/view/Figley's+model+session.doc.; Figley, 2014). Flight nurses are devoted to the highly charged and complex work of rescuing individuals in crisis. The variable *Residual Compassion Stress* is applicable to the current study in terms of emotional residue that the participants experienced after managing difficult traumatic events. Participant 4 stated: "…because we'll talk about it, you know, 'ah man, we could have…maybe we should have tried this, we should have tried that'…but is the outcome really gonna change? It's not gonna" (P4: L 223-226). The same participant also shared: "When you get off the call, then you're kind of unwinding, and you kinda see…how that's going to impact those families' lives…it could be a single mom that has three kids, and she just got killed on her way to work… (P4: L 170-176). The participants also experienced residual compassion stress when they were required to re-live traumatic events by participating in case review sessions. One participant explained: "…it was brought up in the hospital. So you had to go over there…constantly for about a month…having everybody kind of critique your work…It's easy to sit back and…Monday morning quarterback the call…" (P4: L 357-362).

Self-Regulation. The variable of *Self-Regulation* is highly applicable to the current study. As previously described, the study participants utilized various coping strategies to manage the impact of stress due to persistent trauma exposure. Importantly, they were cognizant of their high risk for compassion fatigue and therefore made

conscious efforts to maintain good health and life balance in order to resist it. One participant explained: "…physical, emotional, talk…you know, don't keep everything bundled in; have your close friends…your close co-workers…having a healthy relationship with God…my faith, yup…and I kinda just try to have a healthy balance of work life…" (P4: L 453-462). The participants also recognized the need to separate work from their personal lives. Participant 1 stated: "I definitely try to keep it at work Um, when I'm at home with my family that's my time at home…which is hard for us to do…I used to take stuff home all the time…and I don't do that anymore…Like, I keep work at work" (P1: L 422-426).

Team identity and adherence to established debriefing practices also exemplified the participants' capacity for self-regulation. The flight team was self-directing and on the same page. A participant stated: "…we have to work together as a tight group…so one knows what the other is thinking…if I'm not comfortable doing something, I will tell that person, and they're the same with me…and so we're constantly reviewing ourselves… (P2: L 404-410).

Compassion Satisfaction and Support**.** The flight nurse participants expressed a strong sense of personal and professional satisfaction from doing consequential work. They experienced pride in their work and fulfillment in their unconventional flight nurse role. They felt they made a lifesaving difference. Participant 5 stated: "I love the job! I mean, no job is perfect, but this for me is about as close as you can come…I love the difference that we can make. And we can make measurable differences" (P5: L 370-378). Additionally, the participants experienced unequivocal support from their peers, an atmosphere of team unity made all the more important because they did not perceive any

form of administrative support. The same participant shared: "…I can't imagine having better working relationships at any point in my career. I mean, they are your family" (P5: L 346-349).

Compassion Fatigue Resilience. Compassion fatigue resilience is an estimate of the tendency to bounce back or recover from trauma exposure (Figley, 2014). Four participants in this study have been in their current role within the same medical flight program for 14 years (one has reduced work hours in the program). The other participant has been a flight nurse for seven years. Despite continuous exposure to traumatic patient care events, the participants remained committed to their FN role. One participant stated: "I feel blessed that I'm able to do this…I don't want to be just rhythmic, pushing a drug, treat an event…I want them to go home to their family and not have any deficits, if at all possible…" (P1: L 190-192). As evidenced by the study's narrative data, the singularity of the flight nurse role and the participants' satisfaction gained from assisting others chiefly outweighed negative aspects of the job. Participant 3 explained: "So, it is very balanced…if you weren't there, this helicopter didn't exist, that patient would have died…so you have that job satisfaction, to put things in perspective. (P3: L 408-411). Moreover, the participants sought opportunities to learn and grow from their management of traumatic patient care experiences. The same participant said: "…it's providing better care for the next patient…you build off an education experience that you can take to your next call (P4: L 251-252). Collectively, the study participants found joy and meaning in their work, and they experienced a profound sense of completion that kept them coming back. Participant 5 expressed: "…but when you come back, and when you're doing your

job, and when you're finished with the job, and knowing that, that patient is better now, because of the role that we play, that's why you keep coming back" (P5: L 342-344).

Prolonged Exposure to Clients. This variable refers to dosage of trauma exposure. Figley's formula for computing *Prolonged Exposure to Clients* is "the amount of clients assigned versus time in the day to provide services multiplied by the number of months performing this service. The greater the dosage…the lower the Compassion Fatigue Resilience" (Figley, 2014, p. 3). To paraphrase this description, *Prolonged Exposure to Clients* is "the on-going sense of responsibility for the care of the suffering, over a protracted period of time" (compassionfatigue.wikispaces.com/file/view/Figley's+model+session.doc.). As previously described, the flight nurse participants were persistently exposed to traumatic patient care events. Certainly, the participants 'signed on' for this specialized type of nursing care/trauma response. They embraced challenge and thrived in dynamic environments that offered opportunities to utilize their expert clinical judgment. In answering the research question: 'Why are you a flight nurse?' one participant stated: "The challenge; being able to help them; the personal growth of learning more and seeing more results…" (P1: L 9-10). Another participant answered: "um, well, I like the intensity of it. I do love flying, um, and I like the challenge. There are never two patients, even if they have the same diagnosis, that respond the same way, that are alike, and every day…we don't know what we're going to get…I constantly have to research…and find out, why…" (P3: L 16-20). The variable *Prolonged Exposure to Clients*, is, therefore, highly applicable to the current study. Even though the participants' exposure to traumatic patient care events was self-prescribed, the continuous nature of the trauma

exposure tested the participants' emotional fortitude. A study participant referred to the cumulative emotional stress that is the reality of flight nursing: "…it really wasn't just that one call. What it was, that was just kinda the call that broke the camel's back…Yeah, it was just a trigger" (P4: L 348-349). Another participant spoke of the emotional toughness that was necessary to be a flight nurse: "So, I do think that this industry demands an ability to be able to take care of these patients, and not let it overwhelm you…if you don't have that quality, you just will not survive, because you deal with it so much" (P5: L 51-54).

As formerly discussed, an additional manifestation of the flight nurse participants' prolonged exposure to traumatized patients was their particular worldview. Via the lens of multiple exposure to sudden, critical events that disrupted patients' and families' lives, the participants fully appreciated the gift of life and perceived the circle of life. Participant 2 said: "…I look at it this way…for every person that dies, there are two little babies being born every day…so it's a cycle. None of us is promised the next day" (P2: L 228-230). Another participant stated: "I think it has made me stronger…it has made me face my own mortality, which I think I can…I can relate to patients" (P3: L 232-233). Participant 1 shared the belief that self and patients were in God's hands: "…I use prayer for myself and for my patients…that helps me cope with a lot of stuff…I know that no matter what I do or anybody else does, that God has a plan for that person, above and beyond, no matter what drug I push. So this gives me comfort knowing no matter what happens, it's in His will. (P1: L 445-449). The researcher reasoned that the participants' respect for life, recognition of the circle of life, and personal faith not only grounded them and helped them cope with suffering and death, but also contributed to their

apparent fearlessness. Not one of the participants expressed concerns about the significant risk for personal injury or death that is associated with the flight nurse role.

Effective Management of Traumatic Memories. The variable *Effective Management of Traumatic Memories*, as described by Figley, is "the self-reported satisfaction with managing the number, if any, and intensity of memories of past trauma" (Figley, 2015, p.3). While the traumatic patient care events described in this study were vividly imprinted in the participants' memories, as evidenced by their clear recall of the events, the researcher concluded that all participants managed their traumatic memories effectively. The participants proved Figley's premise that "the greater the satisfaction workers have in managing the memories, the greater the Compassion Fatigue Resilience" (Figley, 20014, p. 3). One participant stated: "So, I think you distance yourself from these things, but you never forget them. You have to learn to let them go…of if you don't, it all builds up…You can't keep everything bottled up inside, because it'll eat away at you…" (P2: L 255-257). Another participant explained: "…everybody here is good at it. Whatever 'it' is…So yes, I think maturity is part of it; I think wisdom is part of it; I think understanding the circle of life is part of it; I think experience is part of it; I think being able to kind of turn off your emotions a little bit in the heat of the moment is part of it…but I also think that if you…if you don't have some system of coping with it, it'll catch up with you" (P5: L 235-240).

New and Chronic Stressors. Figley recognizes that caregivers' stress can be new and/or chronic as well as either personal or professional (Figley, 2014). The variable *New and Chronic Stressors* relates to the current study in one exclusive category of stress: chronic professional stress, which resulted from the participants' long-standing absence

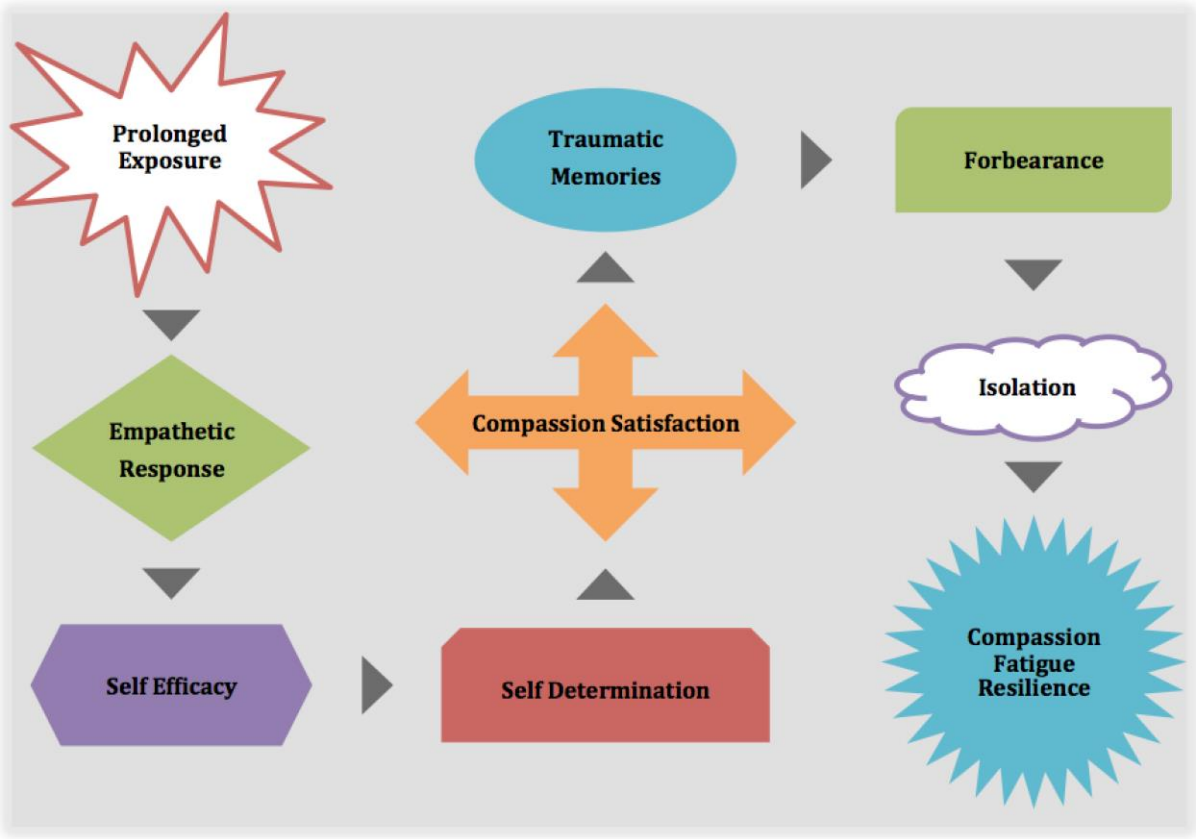
of administrative support. As a group, the study participants expressed explicit dissatisfaction with their administration's apparent disregard for their practice. The participants felt frustrated and emotionally depleted by their administration's lack of involvement in flight program concerns and goals. The participants felt 'on their own'; lack of voice rendered them powerless. One participant, who has given up full time status since the research interview, did so because "it's so frustrating and tiring, and such a poor use of resources…and you know nothing is changing, um, that I'm fatigued" (P1: L 552-553). Furthermore, the participants felt misused by their institution. A participant stated: "We're very isolated. We're out of sight, out of mind until they need something. We're definitely the…appendage" (P1: L 503-504)? Another participant added: "Um, I think my main stressor is the lack of support from administration…the lack of moving us forward, helping us to grow…we're kind of a step child. That's the feeling I have…we're easy to forget…we are a billboard…" (P3: L 286-298). Lack of administrative support was also personally hurtful. Participant 5 shared: "So, that one generated this big risk assessment…and the hospital didn't want…me to go to the funeral, which made me furious…So I called the ER doctor that was in charge of the case, just so he and I could sort of commiserate together and talk about it…So I had very little closure" (P5: L 160-170). Inadequate/misguided administrative attention and support and the professional isolation experienced by the flight nurse participants represented this study's major deterrent to compassion fatigue resilience as illustrated by generous narrative data.

Presentation of Flight Nursing Model

Figley's *A Generic Model of Compassion Fatigue Resilience* (2014) provides a valuable, evidence-based framework for the investigation of compassion fatigue

resilience among nurses and other caregivers. Upon the careful corresponding of the current study's findings and the multiple variables that comprise *A Generic Model of Compassion Fatigue Resilience* (Figley, 2014), it is apparent that flight nursing is a rare nursing specialty that requires an equally exclusive model relative to the phenomenon of compassion fatigue resilience. The researcher presents the *Model of Compassion Fatigue Resilience in Flight Nursing Practice* with the following primary intention: to inform health care institutions of the distinctive characteristics and considerations of flight nursing practice, including factors that contribute to flight nurses' high risk for compassion fatigue. Compassion fatigue has the potential to compromise flight nurses' clinical performance, physical and emotional health, and retention and, subsequently, patient outcomes. The *Model of Compassion Fatigue Resilience in Flight Nursing Practice* will serve as a practical model for health care institutions to evaluate the integration and effectiveness of their flight nursing programs. The model was created by the researcher based upon analysis of this study's narrative data and represents an adaptation of *A Model of Compassion Fatigue Resilience* (Figley, 2014) that reflects the distinctive experiences and perceptions of flight nurses. The model is presented below followed by the researcher's conception of model variables.

Figure 6: Model of Compassion Fatigue Resilience in Flight Nursing Practice



Prolonged Exposure**.** The progression to compassion fatigue resilience in flight nursing practice necessarily begins with continuous exposure to traumatic patient care events. *Prolonged Exposure* decreases the capacity for compassion fatigue resilience.

Empathetic Response**.** Empathy and frontline engagement are integral components of flight nursing practice. *Empathetic Response* increases emotional vulnerability, thereby decreasing the capacity for compassion fatigue resilience.

Self-efficacy**.** Competence and confidence distinguish the flight nurse role. *Self-efficacy* increases the capacity for compassion fatigue resilience.

Self-Determination**.** Autonomy and accountability likewise distinguish the flight nurse role. *Self-determination* increases the capacity for compassion fatigue resilience.

Compassion Satisfaction**.** Personal and professional fulfillment imbues flight nursing practice. Compassion satisfaction supersedes risk factors for compassion fatigue. *Compassion Satisfaction* increases the capacity for compassion fatigue resilience.

Traumatic Memories**.** Enduring memories that trigger emotional pain are certain consequences of flight nursing practice. *Traumatic Memories* decrease the capacity for compassion fatigue resilience.

Forbearance**.** Flight nurses demonstrate effective coping and emotional stamina in the face of persistent trauma exposure. *Forbearance* increases the capacity for compassion fatigue resilience.

Isolation**.** Professional isolation, the detachment and disunion from institutional support, is a reality of flight nursing practice. *Isolation* decreases the capacity for compassion fatigue resilience.

Compassion Fatigue Resilience**.** Flight nurses consistently illustrate the capacity to rebound from prolonged exposure to traumatic patient care events. *Compassion Fatigue Resilience* is a defining characteristic of flight nursing practice.

Study Limitations

The aim of this study was to provide a rich description of the flight nurse role enabling understanding and insight into the lived experiences of flight nurses who care for critical patients during multiple traumatic events. Recognizing the limitations of this study provides an understanding of the scope and significance of the study in terms of its implications for flight nursing practice, policy, and research. Limitations associated with phenomenological methodology will be presented in this section followed by limitations identified by the researcher as pertaining directly to the current study.

The purpose of phenomenological methodology is to study others' lived experiences thereby uncovering the inherent structure and logic of that common experience. Within this approach, there lies the possibility of seeing what one wants to see or falling prey to the contingent facts of a particular case. It is essential that the phenomenological researcher gather data from a sufficient and qualified sample, which allows patterns and truths to emerge. Furthermore, the phenomenological researcher must utilize bracketing, the process of temporarily suspending any consideration of the facts, in order to discover essential principles of the experience (Dukes, 1984).

The disadvantages of using phenomenology in research are listed below (http://www.researchproposalsforhealthprofessionals.com/disadvantages_of_phenomenology.htm):

- The subjectivity of the data leads to difficulties in establishing reliability and

validity of approaches and information.

- It is difficult to detect or to prevent researcher induced bias.
- There can be difficulty in ensuring pure bracketing - this can lead to interference in the interpretation of the data.
- The presentation of results - the highly qualitative nature of the results can make them difficult to present in a manner that is usable by practitioners.
- Phenomenology does not produce generalizable data.
- Because the samples are generally very small, can we ever say that the experiences are typical?
- The original Husserlian/Heideggerian texts were written in German, and translations of words could lose the special meaning that was assigned to them by Husserl and Heidegger.
- On a practical note, it is important to consider the possible difficulties of participants expressing themselves.
- Participants need to be interested and articulate - problems that can cause difficulties in being able to express themselves include foreign language, age, brain damage, and embarrassment.

Specific limitations of the current study included participant sample, community-based setting, and consequences of traumatic event experiences:

Participant sample**.** While the findings reported in this study contribute to the body of nursing knowledge regarding the phenomena of caring for patients during multiple traumatic events, the results cannot be generalized to a wider population of nurses and patients. This study determined the capacity for compassion fatigue

resilience among a sample of flight nurses during one point in time. The participants' perceptions and work circumstances may change or evolve over time, lending diverse data. The participant sample in this study was small (five flight nurses), which also limits transferability. However, in qualitative research the focus on data collection is richness of data obtained from participants who can offer information that is abundant and insightful (Howell & Prevenier, 2001; Patton, 2002). Purposeful sampling can also introduce the potential for researcher bias. The researcher was a former colleague of four of the study participants. While this familiar type of researcher-participant relationship encourages open dialogue and the sharing of feelings and perceptions, it could potentially prevent participants from being completely forthcoming about their experiences. Furthermore, participants may withdraw from the study due to potential repercussions associated with their responses.

Community-based setting**.** This study was conducted in one community-based setting, which limits its applicability to nurses working in other flight programs. Policies, professional relationships, and work culture are unique among various flight programs and health care organizations. For example, while inadequate administrative/institutional support was identified as a risk for compassion fatigue in this study, other health care organizations may offer adequate or superior administrative/institutional support. Likewise, multiple variables such as patient volume, work schedule, staffing, and availability of resources contribute to the capacity for compassion fatigue resilience among flight nurses. These variables may differ widely among individual flight programs.

Consequences of traumatic event experiences**.** The consequences of exposure to multiple traumatic events reported by participants in this study were not representative or as comprehensive as those identified in other studies (Abendroth & Flannery, 2006; Adriaenssens et al., 2012; Dominguez-Gomez & Rutledge, 2009; Embriaco et al., 2007; Lavoie et al., 2010). The interview question "How are you affected by caring for traumatized patients?" did not elicit responses that could be compared to the emotional and somatic symptoms of stress reported by respondents in previous literature. Probing by the researcher in relation to specific symptoms of work related stress might have prompted responses allowing a more thorough comparison. The unique work environment of the flight nurse participants also contributed to this discrepancy. For example, stress for emergency department nurses may be precipitated by variables not experienced by flight nurses such as department volume and nurse-to-patient ratios. Stress for the flight nurse, on the other hand, is exacerbated by persistent trauma exposure and working in isolation.

Implications and Recommendations

The findings of this study have significant implications for the specialty of flight nursing in respect to practice, policy, and research. The study will serve to illuminate the complexity of caring as experienced by flight nurses and will potentially assist in removing barriers to caring in the medical flight environment, thereby facilitating best patient care. Study implications include the following:

Implications for Practice

Nurses considering entry into flight nursing practice could benefit from the current study's findings in terms of comprehending the risks for compassion fatigue

associated with caring for traumatized patients on a perpetual basis. They could also reflect on their own qualities such as the ability to practice independently on an expert level, coping skills, and emotional fortitude in the face of continuous trauma exposure. Knowing risk factors for compassion fatigue in the medical flight environment could alert nurses to their own reactions to compassion stress and provide the means for informed choices regarding self-care practices (Abendroth, 2005). Additionally, knowledge gained from this research could promote a better understanding of compassion fatigue among currently employed flight nurses who may not fully realize the extent of the risk and ramifications of compassion fatigue within their clinical role. The reported experiences of participants in this study may serve to inform and prepare flight nurses for the physical, emotional, and professional challenges they face in their role and enable them to expand their influence upon their nursing practice, thus promoting provider and community health.

Implications for Policy

In today's climate of radical health care delivery changes and decreasing resource dollars, hospitals have necessarily become business enterprises. The caring philosophy of health care institutions is at risk of becoming lost within the struggle to survive and thrive. Nurses, howbeit, value caring above economic reform. Nurse leaders must recognize the emotional work of caring. Caring leads to healing and reflects quality care. Nurses who are practicing from a caring perspective are vulnerable to the pernicious effects of secondary stress and compassion fatigue (Turkel, 2001). Understanding the risks and predictors of compassion fatigue among flight nurses would lead to policies that

would promote retention of these clinical experts, ensure optimum patient care, and enhance the integrity of the organization (Abendroth, 2005).

Specifically, policies should be implemented to 1) control/minimize the risks for compassion fatigue among flight nurses and 2) reduce the sense of professional isolation experienced by flight nurses, thereby promoting job satisfaction. Researcher recommendations include the following:

Pre-incident training/simulation sessions. Education about secondary stress and compassion fatigue in the medical flight environment should be held during flight nurse orientation and in annual competency sessions. Information should include identification of usual responses, effective coping behaviors, and available resource network. Special attention should be given to managing sudden death, death of a child, and bereaved family members (Bechtel, 2009).

Clear guidelines related to traumatic event exposure. Guidelines for stress debriefing/counseling should include structured team debriefing sessions after each flight and immediate and subsequent employee assistance/critical incident stress counseling for flight nurses who have experienced severe traumatic patient care events (Bechtel, 2009). Establishing opportunities for reflection with colleagues and experienced mentors addresses the feeling of isolation perceived by flight nurses following traumatic events.

Flight Nurse Educator position**.** A position should be created to ensure adequacy and consistency of staff education and development regarding trauma exposure. The position should be held by a flight nurse who has a good understanding of compassion fatigue and who is responsible for developing CF training modules,

providing CF competency education, monitoring staff for CF risk at regular intervals, and facilitating access to multidisciplinary resources. The educator could also serve as a liaison and provide information to nursing administration regarding the most current research practices to prevent the risk for CF (Abendroth, 2009).

Work schedules that limit the impact of physical fatigue. Physical fatigue and sleep deprivation impact provider and patient safety by altering the provider's clinical judgment and inducing emotional numbing. Work schedules that are flexible and voluntary would assist providers who are prone to physical and mental exhaustion.

Change culture and promote a dynamic work environment**.** Health care administrators can improve relationships with flight nurses by embracing employee input and supporting employee driven process improvement projects. Regular meetings with the flight nurse staff should encourage 'safe' communication and include recognition of program excellence that would allow the staff to feel validated for their emotional work and professional commitment. Supporting the flight nurse staff and empowering them to have a voice in the organization can improve efficiency and reduce their sense of professional isolation (Bee, 2012; Olsen, 2004). Flight nurses desire to feel valued as part of a cohesive team (Henderson, 2001; Kornhaber & Wilson, 2011b).

Patient Follow Up Protocol. Consideration should be given to the formation of a patient follow up protocol to be regulated by institutional trauma coordinators. With patients' and families' consent, flight nurses who provided initial care for

the patient could be kept informed of the patient's clinical condition and progress. Unknown patient outcomes contribute to nurses' work place stress (Bechtel, 2009).

Implications for Research

The search for literature in this study underscored the paucity of research related to flight nurses. A follow up study with a larger sample of flight nurse participants from different geographic regions and health care organizations would serve to expand knowledge of the risks and ramifications of compassion fatigue in flight nursing practice. Additional research is needed to understand the relationship between multiple trauma exposure and the retention of clinical nursing experts. Data in this study showed that flight nurses who have high levels of role autonomy and independence, the ability to cope effectively, and the emotional fortitude to withstand secondary stress may react more adequately to traumatic patient care events. Future studies should explore these characteristics of flight nurses to determine whether nurses with certain personality traits or coping strategies are less vulnerable following persistent trauma exposure (Adriaenssens et al., 2012). Also missing in the literature are formal and informal interventions to prevent or decrease the experience of compassion fatigue within all nursing disciplines. The future of nursing requires educational preparation that emphasizes reflective thinking and participation in self-care practices and processes that enable innate resilience and career longevity (Hodges et al., 2005 in Grafton et al., 2010). Health care organizations should recognize the significance of resilience among patient care providers and institute initiatives to support staff in developing and maintaining personal and professional resilience (Zander et al., 2013). As front line providers of

emergent patient care, it is imperative that flight nurses be part of these vital investigations so that barriers to caring in the medical flight environment might be diminished.

Lastly, the initiation of an organizational action research project is recommended, which would serve to utilize data generated in the current study in order to address concerns of detachment and isolation that were voiced by study participants. Collaborative inquiry within the construct of action research allows practitioners to analyze research data in a focused effort to improve their own practice. It is an empowering experience that builds reflective practitioners and promotes a positive, professional organizational culture (https://gse.gmu.edu/research/tr/tr-action; www.ascd.org/). Steps of action research are illustrated in Figure 7.

Figure 7: Action Research

(www.det.nsw.edu.au/proflearn/research/actres.htm)

Conclusion

Flight nurses care for individuals on conceivably the worst day of their lives; assuredly, these nurses have big hearts and broad shoulders. Emergent themes that surfaced from this study were self-efficacy, self-determination, traumatic caring, forbearance, professional isolation, heart, and finding meaning. A number of theories and models exist that apply to flight nursing practice; however, none are fully inclusive of all issues related to the unique specialty of flight nursing. The nursing theories of Watson (*Theory of Transpersonal Caring*, 1979) and Benner (*From Novice to Expert Theory*, 1984) explained the perfect alignment of care and competence in flight nursing practice. Lazarus and Folkman's *Theory of Stress, Appraisal, and Coping* (1984) assisted in identifying coping behaviors that are necessary following exposure to traumatic events. The *Compassion Stress and Fatigue Model* (Figley, 1995) and *A Model of Compassion Fatigue Resilience* (Figley, 2014) served to guide the current study in terms of evaluating the risks for compassion fatigue and determining the capacity for compassion fatigue resilience in flight nursing practice. Flight nurse participants in this study were all found to possess compassion fatigue resilience, enabling them to remain in their clinical roles. One participant, however, reduced participation within the flight nurse role as a result of work-related emotional fatigue. The comparison of the current study's findings with variables within Figley's evidence-based models served to support the researcher's model presentation and recommendations for flight nurse practice, policy, and research.

Flight nurses understand and engage with suffering (Figley, 2014). They are committed providers who honor their profession by serving others with courage and conviction. "Commitment is about passion, a fire in the heart, a willingness to do

whatever it takes to accomplish the goal" (Yoder-Wise & Kowalski, 2012, p. 20). Findings from this study have provided insight into the provision of expert nursing care to traumatized individuals in the medical flight environment. The knowledge generated through the descriptive phenomenological approach furthers understanding of flight nursing practice with the potential to benefit patients, nurses, and other health care professionals. The retention of flight nurse experts is a paramount priority within the matrix of health care delivery.

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APPENDICES

APPENDIX A: PHONE SCRIPT

Hello, my name is Joanne B. Newton from the Department of Nursing at Lynchburg College. I am a student in the Lynchburg College Leadership Studies Doctorate Program.

I am working on a research study about flight nurses' responses to traumatic patient care events. Your taking part in this phone call is completely voluntary. The information collected during this phone call will be kept private and used only for my research study. May I ask you a few questions to see if you qualify to be a participant in the research study? If you do not qualify for the study or if you choose not to enroll in the study, your personal history information obtained during this phone call will be stored in a locked file in the researcher's office at Lynchburg College. At any time, you may request that your name and information be removed from the recruitment database.

If the response is "No": Thank you for your time.

If the response is "Yes":

- Are you employed as a full-time flight nurse with [redacted] Flight Services?
- Have you been a flight nurse for at least five years?
- May I deliver to you a folder that explains my research study? The folder includes a recruitment letter and a consent form to participate in the study.
- I would like to summarize the research process:
    - I, as the primary researcher, will conduct a single face-to-face interview with you. The interview will last approximately one hour. Additional interview sessions may be conducted at your request. The interview will consist of nine questions. The questions will probe your experiences related to flight nursing practice and prompt you to reflect on the impact of traumatic patient care events upon your personal and professional life.
    - One participant will allow me to shadow him/her for one 12-hour shift. I will have no patient contact during this experience and will be in an observation role only.
    - The study will explore the unique experiences of advanced practice nurses who care for traumatized patients and will serve as a foundation for future studies about the flight-nursing role. Risks of the study include the stirring of traumatic memories.
    - There is no cost associated with participation in the study. In appreciation of your time and contribution to nursing research, I will gift you a $25 gift certificate upon completion of the study.
    - Your anonymity will be maintained throughout the course of the study.

- Do you have any questions? Do you think you would like to participate in this research about flight nursing?
- Please contact Joanne B. Newton at Newton.j@lynchburg.edu [redacted] for further questions or concerns.

APPENDIX B: RECRUITMENT LETTER

Invitation to Participate in a Research Study

Title of research study: "Flight Nurses' Narratives of Traumatic Patient Care Events: Why Do They Stay?"

Dear _____

You are invited to participate in a research study conducted by me, Joanne Booth Newton, a Doctoral student in the field of Leadership Studies at Lynchburg College, Lynchburg, Virginia. This study is about describing and exploring flight nursing practice in order to determine the factors that influence the retention of flight nurses. Special attention will be given to trauma response exposure with its potential for compassion fatigue or compassion satisfaction.

Participation will involve talking about your experiences as a flight nurse, how you cope with traumatic patient care events, and how your role as a flight nurse impacts your personal and professional quality of life. If you decide to participate in the study, your experiences will be audio recorded and then transcribed. You will be assigned an alias name for use in the research study, and the audio recordings and transcription will be stored securely in a locked file in the researcher's office at Lynchburg College. All research data will be destroyed at the end of three years. The information that you share will be strictly confidential.

Please read the Informed Consent Agreement included in this folder that details the study's purpose, risks and benefits, and confidentiality agreement.

If you choose not to participate for any reason, your choice will be respected. My contact information is:

[redacted]
Newton.j@lynchburg.edu

Thank you for your consideration to participate in this research study.

Sincerely,

Joanne Booth Newton

APPENDIX C: PARTICIPANT CONSENT FORM

Informed Consent Agreement

Please read this consent agreement carefully before you decide to participate in the research study.

Project Title: The study title is: "Flight Nurses' Narratives of Traumatic Patient Care Events: Why Do They Stay?"

Purpose: The purpose of this research study is to describe the lived experiences of flight nurses in order to discover factors that influence their decision to stay in their roles as emergency and critical care providers in the clinical arena. The study will explore the concepts of caring, coping, compassion fatigue, compassion satisfaction, and resilience in flight nursing practice.

Participation: You are being asked to participate in this study because you are a registered nurse currently employed as a full-time flight nurse for a minimum of five years in a Level Two Trauma facility. You will be asked to participate in a face-to-face interview session conducted by the researcher. The interview will take place in a location of your choosing during off-duty hours. The interview will be audio-recorded and will consist of nine questions that have been developed by the researcher. The researcher seeks to determine the impact of traumatic patient care events upon your personal and professional quality of life. You will be asked to describe your experiences as a flight nurse and reflect upon traumatic patient care events. Additionally, the researcher will shadow/observe one participant within the flight nursing work environment for one 12-hour period of time.

Time Required: Your participation in the interview session is expected to take approximately one hour. Upon completion of the study's data analysis, the researcher will ask you to review data results to validate the researcher's conclusions as related to your perceptions and professional work experiences. The observation session will last 12 hours. Should one observation session prove uneventful in terms of number or acuity of patient cases, the observation session will be repeated upon discretion of the participant and health care institution.

Risks & Benefits: A potential risk associated with this study is emotional discomfort that may result from recounting stories of traumatic patient cases. Should this occur, the researcher would stop the interview and offer to continue at a later date/time. The researcher would personally assist you in any way you feel would be beneficial. The [redacted] Employee Assistance Program located at [redacted] ([redacted]) would be available to you as well. The study is expected to benefit you by providing an opportunity to voice your values, beliefs, and needs associated with providing expert nursing care to traumatized patients. Flight nurses are persistently exposed to traumatic patient care events. There is currently a significant gap in research related to the experiences of flight nurses. The study will add significant qualitative description and insight to the limited body of research about flight nursing practice. Understanding both the positive and negative responses to trauma exposure can provide a greater understanding of factors that promote the health and retention of expert clinical nurses. The study will honor flight nurses by explicating their value to humanity. There is a crucial need for flight nurses to provide life-saving care to critically ill and injured patients.

Compensation: As compensation for your participation, you will receive a $25 gift certificate from the researcher, a gesture of the researcher's sincere appreciation of your time and contribution to nursing research.

Voluntary Participation: Please understand that participation is completely voluntary. You have the right to refuse to participate and/or answer any question(s) for any reason, without penalty. You

also have the right to withdraw from the research study at any time without penalty. If you want to withdraw from the study, please tell the researcher or a member of the research team who is present during your participation. The researcher may likewise terminate your participation in the study if the researcher feels the interview process is overwhelming or burdensome for you.

Confidentiality: Your individual privacy will be maintained throughout this study by the researcher. In order to preserve the confidentiality of your responses, your responses will be assigned a pseudonym. The list connecting your name to this pseudonym will be known only by the researcher. When the study is completed and the data have been analyzed, this list will be destroyed. Neither your name nor the name of your employer will be used in any report or oral dissemination. No demographic information regarding the location of your employer will be provided. Signed informed consent agreements, audiotapes, research data, and any codes or pseudonyms linking research data with subject names will be kept for three years in a locked file in the office of the principle investigator, Joanne Booth Newton, located in the McMillan building on the Lynchburg College campus.

Whom to Contact with Questions: If you have any questions or would like additional information about this research, please contact Joanne Booth Newton at Newton.j@lynchburg.edu [redacted] The Lynchburg College Institutional Review Board (IRB) for Human Subjects Research has approved this project. This IRB currently does not stamp approval on the informed consent/assent documents; however, an approval number is assigned to approved studies – the approval number for this study is _____. You may contact the IRB Director and Chair, Dr. Sharon Foreman-Kready, through the Office of the Associate Dean for Academic Affairs at Lynchburg College at [redacted] or irb-hs@lynchburg.edu with any questions or concerns related to this research study.

Agreement: I understand the above information and have had all of my questions about participation in this research study answered. By signing below, I voluntarily agree to participate in the research study described above and verify that I am 18 years of age or older.

Signature of Participant_____

Date _____

Printed Name of Participant _____

Signature of Researcher _____

Date _____

Printed Name of Researcher _____

Signature of Witness_____

Date _____

Printed Name of Witness _____

You will receive a copy of this form for your records.

APPENDICX D: PATIENT SCRIPT

Patient Consent Script

My name is Joanne B. Newton and I am a student in the doctoral program in Leadership Studies at Lynchburg College. I am working on a research study about flight nurses' responses to traumatic patient care events. As part of my study, I am observing a flight nurse during one of his/her shifts so that I can better describe and explore the experience of flight nurses and understand their response to their job and job retention.

Today I am observing your flight nurse, _____. With your permission, I would like to accompany you on this medical transport, but I need your permission or that of your guardian or designee, the person who is authorized to give medical permission for you, before I can do so. I am going to give you an informed consent form and will explain it to you. It is completely up to you as to whether or not you allow me to accompany you on this medical transport. If you agree to let me do so, I will not record your name or any information about your condition or case. The only place your name will appear is on the informed consent form. No one will have access to that except me, and I will keep it in a locked file cabinet in my office at Lynchburg College for a period of three years. At that time, the forms will be destroyed. During the observation, I will be taking written notes and recording audio notes to myself. The only information I'm going to record during this observation is about the role of the flight nurse. I will not be participating in your medical care. If you sign permission for me to ride along during this medical transport and at a later point decide you want to withdraw that permission, I will withdraw from your physical space and will stop recording observations in both written and audio formats. I will be writing my dissertation using some of the information I gather during this observation about the flight nurse. Again, none of your identifying information or case information will be included. Members of my dissertation committee will read my dissertation paper but only one member of my committee will be reviewing transcripts of my observations.

This study has been approved by the Institutional Review Boards at Lynchburg College and at [redacted]. The purpose of Institutional Review Boards is to protect the rights of those participating and involved in research studies. Lynchburg College and [redacted] and their authorized researchers, hospitals, and health care providers are required to protect the privacy of your health information.

APPENDIX E: PATIENT CONSENT FORM

Patient Informed Consent Agreement

Please read this consent agreement carefully before you sign to allow me to ride along on this medical transport.

Project Title: The study title is: "Flight Nurses' Narratives of Traumatic Patient Care Events: Why Do They Stay?"

Purpose: The purpose of this research study is to describe the lived experiences of flight nurses in order to discover factors that influence their decision to stay in their roles as emergency and critical care providers in the clinical arena. The study will explore the concepts of caring, coping, compassion fatigue, compassion satisfaction, and resilience in flight nursing practice.

Participation: Today I am observing your flight nurse. With your permission, I would like to accompany you on this medical transport, but I need your permission or that of your guardian or designee, the person who is authorized to give medical permission for you, before I can do so. It is completely up to you as to whether or not you allow me to accompany you on this medical transport. If you agree to let me do so, I will not record your name or any information about your condition or case. The only place your name will appear is on this form. No one will have access to the form except me, and I will keep it in a locked file cabinet in my office at Lynchburg College for a period of three years. At that time, the forms will be destroyed. During the observation, I will be taking written notes and recording audio notes to myself. The only information I will record during this observation is about the role of the flight nurse. I will not be recording, either in written or audio format, any identifying information about you or your case. I will not be participating in your medical care. If you sign permission for me to ride along during this medical transport and at a later point decide you want to withdraw that permission, I will withdraw from your physical space and will stop recording observations in both written and audio formats. I will be writing my dissertation using some of the information I gather during this observation about the flight nurse. Again, none of your identifying information or case information will be included. Members of my dissertation committee will read my dissertation paper but only one member of my committee will be reviewing transcripts of my observations.

Time Required: There is nothing related to my study that you need to do during this observation. I will be observing your flight nurse for the duration of this medical transport. I will not be engaging in your care or interacting directly with you. If you sign permission for me to ride along during this medical transport and at a later point decide you want to withdraw that permission, I will withdraw from your physical space and will stop recording observations in both written and audio formats.

Risks & Benefits: There are no direct risks or benefits to you for allowing me to observe your nurse during this medical transport. However, this study is expected to contribute to research by identifying the factors that contribute to the retention of flight nurses, thereby promoting the health and well-being of nurses and future patients.

Compensation: You will not receive compensation for allowing me to ride along and observe your flight nurse during this medical transport.

Voluntary Participation: Please understand that participation is completely voluntary. You have the right to refuse to allow me to accompany this medical transport. If you sign permission for me to ride along during this medical transport and at a later point decide you want to withdraw that permission, I will withdraw from your physical space and will stop recording observations in both written and audio formats. The researcher may likewise terminate the observation of your flight nurse during this medical transport if the researcher or your flight nurse feels the process is problematic for you or your care.

Confidentiality: Your individual privacy will be maintained throughout this study by the researcher. Your name will appear only on this informed consent form, which will be maintained in a locked file cabinet in the researcher's office at Lynchburg College for a period of three years and then will be destroyed. No identifying information about you or your case will be recorded during this observation of your flight nurse.

Whom to Contact with Questions: If you have any questions or would like additional information about this research, please contact Joanne Booth Newton at Newton.j@lynchburg.edu [redacted]. The Lynchburg College Institutional Review Board (IRB) for Human Subjects Research has approved this project. This IRB currently does not stamp approval on the informed consent/assent documents; however, an approval number is assigned to approved studies – the approval number for this study is _____. You may contact the IRB Director and Chair, Dr. Sharon Foreman-Kready, through the Office of the Associate Dean for Academic Affairs at Lynchburg College [redacted] irb-hs@lynchburg.edu with any questions or concerns related to this research study. In addition, if you have any questions relating to your privacy rights (HIPAA), please contact the U.S. Department of Health and Human Services at 1-800-368-1019.

Agreement: I understand the above information and have had all of my questions about participation in this research study answered. By signing below, I voluntarily agree to participate in the research study described above and verify that I am 18 years of age or older.

Name of Patient:

_____

Signature or Verbal Consent of Patient _____

Date _____

Signature of Researcher _____

Date _____

Printed Name of Researcher _____

Signature of Witness_____

Date _____

Printed Name of Witness _____

You will receive a copy of this form for your records.

APPENDIX F:

Significant Statements and Formulated Meanings

Significant statements and phrases that have been extracted from the study's five participant interviews are provided in the following table. Each significant statement/phrase is identified by participant number (P) and line numbers (L). Corresponding formulated meanings (FM) are linked to the significant statements/phrases.

Significant Statements	Formulated Meanings
Participant 1: Tanya	
1. Because I like the most critically ill and injured patient population and I like all age groups and this fits this genre most. P1: L 6-7	**FM1.** Flight nursing (FN) is a unique nursing specialty in which highly trained registered nurses provide comprehensive emergency and critical care to individuals of all ages.
2. The challenge; being able to help them; the personal growth…P1: L 9-10	**FM2.** Flight nurses embrace challenge and thrive in dynamic environments that offer opportunities to utilize advanced nursing knowledge and skill.
3. Well initially it was mostly scene work…pulling service for trauma…we are moving a lot more really just sick…transfers to specialty care centers. P1: L 13-17	**FM3.** The scope of FN practice has expanded to include both scene-to-hospital and hospital-to hospital transports of critically ill and injured patients.
4. Oh my goodness, yes, much more, much more...It's tiring. P1: L 51-53	**FM4.** Increased utilization of medical flight services has led to physical fatigue among flight nurses.
5. So, it's kind of opposite of probably what you think …inter-hospital can be a little more stressful because you have higher expectations, because you are picking up a patient from a physician, but a lot of times we get as well if not better care from pre-hospital providers… P1: L 39-42	**FM5.** Flight nurses responding to providers' requests for transport of critical patients witness variable levels of patient care and management among medical facilities.
6. Yes…we do 24-hour shifts…we have policies in place where we can take crew safety naps, because in a 24-hour shift you kind of need that…at 3 o'clock in the morning, you have been up all day. P1: L 55-58	**FM6.** A safety nap policy for providers who work 24-hour shifts mitigates provider fatigue and facilitates accurate clinical decision-making and patient safety.
7. Actually we have a policy which I very much respect, is that…4 to go, 1 to say no…like you know the Swiss cheese effect, if something doesn't feel right, if something is not lining up, you can say "I don't feel comfortable taking this flight"; now I'm not going to say that administration is not going to question you later." P1: L 60-64	**FM7.** Flight nurses have the authority to decline a flight if they are experiencing debilitating physical fatigue or if they lack the appropriate resources needed for the case.
8. And you're just exhausted, because fatigue does play a role in your decision-making process…we're… making critical decisions that affect patient outcomes, so yeah…you need to say it beforehand, does that make sense? P1: L 71-78	**FM8.** Extended-hour work shifts can contribute to increased medical errors and decreased vigilance on the job.
9. …Yeah…we need to be aware and be able to, because sometimes you have to call out the other person who is trying to play tough and say…'you need to go lay down or something.' P1: L 92-94	**FM9.** Collegial support among flight team members includes honest feedback and an organizational focus on optimal team performance and patient safety.

10. We debrief after every flight, no matter what…We have a check-off sheet for every shift…if there is anything we need to address after the call. Anything whatsoever. It's all encompassing…is there anything we could have done better. The opportunity is always given. P1: L 113, 117, 136-137, 141, 147, 151	**FM10.** The flight team engages in regular self-evaluation in order to facilitate personal growth and continuous team performance improvement.
11. …you get like a wall, sort of like a self-protective measure…because we never get hardly any feedback about our patients… P1: L 156-158	**FM11.** Lack of feedback about patients' conditions (due to hospitals' adherence to HIPAA [Health Insurance Portability and Accountability Act] privacy regulations) prevents the flight nurse from experiencing a sense of fulfillment or closure.
12. Um, well I always go into every call, my goal is to treat every person as if it was someone in my family, because that's what I would want to be done for me, which gives you that attachment inherently, and to me one of the most difficult things, aside from the patient himself/herself, is dealing with the family member, or significant other. P1: L 176-179	**FM12.** Flight nurses experience deep-seated feelings of empathy for the circumstances of patients and their families.
13. I've had a couple calls recently, where a wife or significant other is crying to me, "Please take care of him", that "he/she is all I have" and that kind of smacks you in the face, like, do you understand what you have in your hand, you know? Like, this is a big deal. This is not just a job. You have someone's outcome and their whole life in your hand. So… P1: L 183-186	**FM13.** Sharing the suffering of others can lead to feelings of stress as well as emotional pain and exhaustion.
14. I feel blessed that I'm able to do this. I think it just takes my care for that patient…to another level. I don't want to be just rhythmic, pushing a drug, treat an event…I want them to go home to their family and not have any deficits, if at all possible… P1: L 190-192	**FM14.** Caring for traumatized individuals on a daily basis is a choice and privilege, yet a moral and emotional burden.
15. And for the family, like I try to, with every flight, I try to get a phone number for the family to let them know…if we can…but just to call and follow-up with them…Sometimes I'm honestly scared to call, because I don't' know if the outcome was good and I'm like, I don't' want to stress the family member… do you know what I mean? Like, I don't want to make them have to re-live it, and what do you say? P1: L 196-201	**FM15.** Compassionate nurses consider the patient and family to be one unit in need of assistance.
16. I realize how important family is, and I know not to take anything for granted, because I could be that patient tomorrow, or today. So I try to make the most out of what life has given me. You know. I can definitely be better about that. P1: L 209-211	**FM16.** Flight nurses value the present because they have witnessed the unpredictability of life.
17. Like this is probably one of the worst calls that I've ever had…I see a very mangled car and a white sheet, which I knew that was a body underneath that…um, she is partially covered and she is talking to me…and her mom is right there. So I'm trying to address her, being critically ill, and …this is her mom's more than likely last moments with her…I'm like mom…she can hear you…talk to her. P1: L 218, 221, 231-232, 246-247, 279-280	**FM17.** Flight nurses' compassion for others manifests itself in concrete acts.

18. …it may be only 15 minutes, but… it feels very long sometimes. P1: L 307	**FM18.** Flight nurses and their patients have the capacity to form immediate bonds due to the intense nature of their time spent together.
19. I've talked to EMS providers after the fact that were there too, because I always try to check on them after a call too, since they are the ones seeing them initially. P1: L 311-313	**FM19.** Flight nurses reach out to their health care partners who respond to critical patient care events.
20. Hospital staff, they get stressed out too, you know…there are some calls that you know you can tell from being in it, that those people are particularly stressed, and they just need that positive feedback…actually I'm trying to be more purposeful in the last several months of telling people, you're doing a good job, nobody is perfect…Give them a desire to want to be better. P1: L 327-332	**FM20.** Conversing with colleagues allows caregivers to share the emotional impact of traumatic patient care events.
21. I just think it's the right thing to do…I mean I…if anything I hope that I have set an example that other people will try to do it too…But just to take this extra time. P1: L 338-346	**FM21.** Flight nurses' commitment to their role extends beyond their work shift hours.
22. A lot of times what's the next thing that most of our patients and our family members hear from us? A big huge bill? You know, like how is that personal? P1: L 365-366	**FM22.** Experienced nurses possess the knowledge and tenacity to serve as patient/family advocates.
23. I think what impacts our patient care more than anything…how fast we have to do things…I had a kid the other day who…he needed to be in the OR yesterday, so I don't have a lot of time to build that repoire with family…I'm trying to get him stable…P1: L 382-385	**FM23.** Flight nurses must prioritize and work urgently to expedite patient care and ensure favorable patient outcomes.
24. I mean there is frustration, sometimes, that you try not to have your patient see, because…I don't' know how to say this and it come out nicely, but we are used, not always appropriately by other hospitals…things that don't meet the criteria…because there are physicians or practitioners who…they can't see past getting that patient out of their care, that they don't care who takes it, and how they get to it, they just want it out of their hands, which can leave us with what I call a soup sandwich…P1: L 394-401	**FM24.** Misuse of medical flight services due to overwhelmed providers seeking to transfer their patients to other institutions leads to frustration, impaired professional relationships, unnecessary risk to the flight team and patient, and heavy financial burdens for patients.
25. Because the patient has not been managed well and/or appropriately, and we are always cleaning up messes from poorly managed patients…That's very stressful and aggravating, because you think every physician, every nurse, every respiratory therapist should be able to do some of the most basic of things, and we don't see that…insurance is not going to pay for a patient …that just needs a ride to another hospital, but if question it…you're being mean. No! I'm trying to save the patient…I'm trying to save the patient from 20 grand, you know, or whatever that might be. P1: L 4-5-413	**FM25.** Lack of adherence to professional guidelines and evidence-based standards of practice are exasperating to the flight nurse.
26. I definitely try to keep it at work. Um, when I'm home with my family that's my time at home…which is hard for us to do…I used to take stuff home all the	**FM26.** The ability to compartmentalize work responsibilities and family time serves to contain job stress.

time…and I don't do that anymore. Like, I keep work at work. P1: l 422-426	
27. Um, I do hobbies…I try to get outdoors…to me family is very important, because I realize, again, how quickly that can all change, so I try to spend as much precious time with my family. P1: L 430-432	**FM27.** Coping mechanisms for avoiding secondary stress include hobbies, enjoying the outdoors, and spending time with family.
28. But it can make you overprotective too…I had to step back and say: "You can't". They have to experience life…it's hard to find that balance. P1: L 434, 440-442	**FM28.** Flight nurses relate more strongly to traumatic events involving individuals close in age to their own family members.
29. My faith is really important to me. So, you know, I use prayer for myself and for my patients that I take care of and their families…that helps me cope with a lot of stuff…I know that no matter what I do or anybody else does, that God has a plan for that person, above and beyond, no matter what drug I push. So this gives me comfort knowing no matter what happens, it's in His will. P1: l 445-449	**FM29.** Finding peace and comfort in God's plan for each individual is another coping mechanism for flight nurses.
30. You try to build a repoire and stuff with your coworkers and try to maintain that, because we do work in stressful environments and most of us have worked together so long, that we don't even have to say stuff…we just flow and do it…P1: L 451-453	**FM30.** Team unity is a positive variable to blunt inevitable stress in the medical flight environment.
31. What brings me back to work…we're put here in place to be able to smooth that transition for that patient, I mean, just to get the job done, you know, to be with my family…my other family…because we've seen things all together. We have a repoire; that's my other home, home away from home. P1: L 459-462	**FM31.** Flight nurses feel a sense of duty and purpose to assist others who are experiencing crisis.
32. Um, so to be with them, just getting through the shift, try to stay strong, try to stay well rested; part of fatigue is, um, food choices, which is something…I grapple with now, because I'm a stress eater. So that's one of the ways I cope poorly with things, is eating. P1: L 466-468	**FM32.** An undesirable coping mechanism for flight nurses is stress eating.
33. Yea, I feel like it's what I'm called to do now. P1: L 474	**FM33.** Flight nurses experience significant fidelity and sense of responsibility within their role.
34. …the support of your business or your employer can make or break you…I just…we have very little administrative support. Everything that our program has done, we have built pretty much ourselves, and there is rarely any feedback, unless there is someone who has a complaint about something…P1 L 492-496	**FM34.** Lack of institutional support has a negative impact on organizational culture and employee satisfaction and retention.
35. We're very isolated. We're out of sight, out of mind until they need something. We're definitely the, ah, I'm not sure what the right word is…appendage? P1: L 503-504	**FM35.** Inadequate administrative involvement in team values and program problems and goals creates poor employee morale.
36. Um, well just basically like a lot of these ground transports. If you've been up all day, running flights on very critically ill patients, and at 2 am, the weather is bad and they have a patient that they need to move, that does not fit critical care air medical transport criteria, they will make you do it…I just…it's exhausting, what we're doing now; we're so much busier…P1: L 508-510, 523-524	**FM36.** Professionals who do not have a voice in their practice feel frustrated, emotionally fatigued, and powerless.

37. I love my schedule. But in the middle of it, it's tiring. P1: L 529	**FM37.** Work schedules that reduce the number of shifts worked per week decrease the flight nurse's exposure to clients' trauma and suffering and allow for quality time to recover, however 24-hour shifts and grouping of work days lead to physical fatigue.
38. I could do what I do for the rest of my life, I love…but with the lack of support and stuff that we have, it's so frustrating and tiring, and such a poor use of resources…and you know nothing is changing, um, that I'm fatigued. P1: L 549-553	**FM38.** Lack of control in the workplace leads to a chronic state of emotional depletion.
39. But I'm trying to keep positive and telling…keep telling myself, it's not really all about all that stuff, like, I want to, when that call…when the phone rings, I want my focus to be on what that patient is…P1: L 559-561	**FM39.** Flight nurses' professional values are illustrated by their actions in the workplace.
Participant 2: John	
40. Um, I enjoy the autonomy. I've been able to take care of patients on my own…with my ER experience…I enjoy the critical care end of it, and not knowing what's coming to the door next…P2: L 8-10	**FM40.** Flight nurses enjoy independent, crucial decision-making in unstructured, unfamiliar work environments.
41. Um, it's a challenge; because it's never a dull moment…the acuity of care is always high, you always have, uh, people that nobody else wants to take care of, they're trying to get rid of these patients…so, a lot of times when you get these patients, they're really sick, so you have to start from scratch… P2: L 26-29	**FM41.** Flight nurses are highly accountable professionals who practice at an expert clinical level.
42. So I have to stop and think about where I'm at sometimes, and these people are doing the best they can…and sometimes it's hard to do…and I'm a patient advocate, so I will change and do what I need to do, to take care of this patient…Yes, you have to be a strong patient advocate as a flight nurse. P2: L 39-46	**FM42.** Flight nurses demonstrate dedication and conviction by speaking up to protect their patients' rights and well-being.
43. …I always laugh, when I land, you know, when I used to work in EMS, you know, you thought these people were gods…when they get out of the helicopter… but I always tell people…that I put my pants on the same way that you do, and everything that you've done, before I get there… I appreciate, and I realize, that not everything is text book… P2 L 64-68	**FM43.** Flight nurses feel humbled and fortunate to have a fulfilling career they have aspired to.
44. …we have the rule, if…if one person says "No, we don't go"; so everybody has to decide, are we gonna go on this call…if someone is not comfortable with that flight, we do not go…they don't like us to do that… P2: L 80-86	**FM44.** The flight team is savvy and self-reliant but feels pressured by administrative regulation to accept medical flight requests.
45. And a lot of times, they won't tell you things, because they're trying to get rid of this patient…and they're hemodynamically unstable, and the predicament that you find yourself in, is they're gonna die, if they stay at this facility, they're gonna die en route. Is there a chance that you can get them there and save them in time? P2: L 116, 121-123	**FM45.** Flight nurses are challenged and stressed by patient care situations in which clinical information is limited and the previous standard of care does not meet their professional expectations.
46. …when I got there, his BP…well, hemodynamically he…wasn't stable at all…and I told	**FM46.** Flight nurses must demonstrate leadership and resolve in complex clinical situations to ensure best

the doc, you know… we need…some pressors, you know; I know we need to fill the tanks, give him plenty of fluids, and he was kinda like, he told me, he said: "I wash my hands of this patient!" …he walked out of the room, "I'm not gonna do anything else for him!" So… I said: "OK… I have to make a decision, is there someone else in this facility, or my medical director that can help me." P2: L 131-140	practice.
47. Yes! I'm, you know, I'm from the old school of, sometimes you let people die with dignity…I even went out and explained it to the family. I said: "I'm, sorry…he was not hemodynamically stable enough…to fly." P2: L 168, 175-177	**FM47.** Addressing the family following a patient death requires courage and compassion on the part of the flight nurse.
48. Yeah, it's part of my job. I feel, if I'm taking care of that patient…if that patient passes away, I then explain to them…It also meant a lot to the staff. The staff came up afterwards and shook my hand…thank you all for staying here and helping us. P2: l79-180, 189-190	**FM48.** Flight nurses support their colleagues and work hand in hand with them to provide patient care.
49. …I think it takes a toll on a flight nurse, because we are held to such high expectations, and then we go to these facilities, and these people are not, and when you try to say something about it, a lot of times its political…but nothing is done about it…P2: L 202-204	**FM49.** An inconsistent standard of patient care among providers causes frustration and job stress.
50. Um…I think it's easier on me, because I've been in healthcare for about 29 years…So I learned…that people will die…I look at it this way, for every person that dies, there are two little babies being born every day over at the [hospital], so it's a cycle. None of us is promised the next day. P2: L 277-230	**FM50.** Flight nurses, via the lens of their multiple exposures to traumatic patient care events, appreciate life and perceive the circle of life.
51. And you have to in this line of work, because you can't take it home with you. And sometimes it's harder than others, when…especially when you have a patient look at you…P2: L 243-244	**FM51.** The traumatic memories of flight nurses often emanate from responding to patients who were initially conscious and verbal, but then deteriorated and died while in their care.
52. I never forget… when I first started out, I was in the EMS field…and that's been probably 20 years, I can still see that father when I close my eyes…telling me, "please do something…" P2: L 244-253.	**FM52.** Emergency personnel absorb the traumatic stress of victims they assist.
53. So, I think you distance yourself from these things, but you never forget them. You have to learn to let them go…or if you don't, it all builds up and you…we have a tendency to joke about things, that, you know, sick sense of humor, we do…You can't keep everything bottle up inside, because it'll eat away at you… P2: L 255-261	**FM53.** Humor is a coping mechanism used by nurses who are frequently exposed to traumatic events.
54. I had a 20, 22, 23-year old gentleman…And when I got there the patient was alert, was oriented, was talking to me…and he actually exsanguinated right in front of me and there was nothing I could do. And I can still see him, and telling him, it's gonna be ok…and seeing his parents…and I told them…I wished I could do more. P2: L 265-267, 283-284, 288-289.	**FM54.** Flight nurses' traumatic memories are intense and can trigger feelings of anxiety, regret, and deep sadness.
55. …but on the other hand, I have people that come	**FM55.** Effective management of traumatic memories

out to the hangar…and tell me, "thank you for taking care of my child" or the child comes out and they're talking to you, and they say… "thank you for helping me", you know. So it's…a cycle…we do the best we can…It is a cycle of life…we just ask to be in this life…we have such a short time, and we don't realize it…P2: 307-315	includes reflections about patients who were saved by the flight nurse's efforts.
56. …and I think it's important that we remain a patient advocate, and we do that, especially as a flight nurse, because a lot of times we're these patients' last defense, last line defense, it's up to us to make sure things are done for them. And…it does take its toll on us as individuals…P2: L 340-343	**FM56.** Flight nurses are allegiant, passionate providers who are committed to protecting others in need.
57. …and I think the years of experience, you learn that intuition, and, you know, "looks like a duck, walks like a duck, quacks – it's a duck" P2: L 353-354	**FM57.** Experienced nurses utilize intuitive knowledge to anticipate, problem-solve, and intervene.
58. I like what I do, um, the hours are great…it's wonderful to have a two-day work week…because I have time off to spend with my family, and do things I wanna do…when you regroup, you have time to unwind when you get home, and I've learned to, when I walk out that door, that's where I leave it. P2 L 364-367, 373-374	**FM58.** Bundled days off from work help to relieve pent-up stress.
59. I think debriefing is good…it's always easy for our group to get together…and decide things that you should have done different, or what you can do next…than have someone sitting up in their office telling you, that you should have done it this way, or you should have done it that way…to make, you know, judgments about something unless you were actually there. P2 L 378-383	**FM59.** Camaraderie and joint decision- making among the flight team help offset inadequate administrative support.
60. …we have to work together as a tight group…so one knows what the other is thinking…if I'm not comfortable doing something, I will tell that person, and they're the same with me…and so we're constantly reviewing ourselves…P2: L 404-410	**FM60.** The flight team is self-directing and examines issues in a transparent manner.
61. So, we really don't have a set medical director at this time…it's very important that you have a close relationship to your medical director…There is a gap in that right now…you have to have a medical director that's really involved with you as a group…you're only as strong as your medical director….you have somebody to go to for backup. P2: L 398-403, 414-415, 422	**FM61.** The absence of structured, supportive leadership is detrimental to organizational success.
62. …and I think a lack of communication, sometimes, can really hinder you, and you have such great potential sometimes…so that's a lot of stress on a flight nurse…there is a fine line between, think to be a patient advocate and doing what you are supposed to do, or what they expect you to do…and I understand that from the business end of it, but also, you have to realize , why you're there…P2: L 438-445	**FM62.** Ineffective organizational communication results in knowledge deficit and speculation that erodes employee trust and respect.
63. We're all gonna pass away one day, we…we're just thankful to be here. Um, but I believe we can make a difference in people's lives while we're here.	**FM63.** Reflection helps nurses make sense of their work situations and to recognize their own strengths and weaknesses.

And I'm not perfect…but I think we have to stop and think about what we're doing, and why we do it. P2 L 448-451	
64. …I had to take care of this child, and be a voice for this child, when nobody else was gonna…that's another coping mechanism…sometimes you need that feedback of knowing that you made a difference…you're gonna lose patients, again, but I need to make a difference…P2: L 475-477, 484-486	**FM64.** Advocating for vulnerable, traumatized individuals can result in personal and professional gratification.
65. …"out of sight, out of mind" is good sometimes, but it also has its bad aspects…to try and get something…is just terrible…No administration…I think we've come a long ways on our own. P2: L 513-515, 518, 525	**FM65.** Ineffectual processes in the workplace lead to employee discontent.
Participant 3: Emily	
66. Um, well I like the intensity of it…There are never two patients, even if they have the same diagnosis, that respond the same way, that are alike, and every day is different…it's different expectations…I constantly have to research…I have to look up, come home and find out, why…and I love that! I love the constant learning of it. P3: L 16-20, 23	**FM66.** Flight nurses strive for excellence in their practice.
67. Autonomy! We have the autonomy to make decisions…and, hopefully, they are the right decisions…and I constantly challenge myself to make sure I am making those right decisions. P3: L 34-37	**FM67.** Autonomy must coincide with accountability for one's knowledge and expertise.
68. …in the, um, trauma role…you have to use a lot of other senses, a lot of other parameters to make sure you have done the right thing; so I like that as well…P3: L 46-47	**FM68.** Advanced nursing knowledge is comprehensive, a utilization of personal experience, critical thinking, and clinical decision-making.
69. …for the most part I think I handle it pretty well. Um, I have had an occasion, where I did not handle it well, and I got physically exhausted…I had been working pretty nonstop for 36 hours…and I should have called…we have the ability to say: "We can't do anymore, we need 4 hours", and I didn't do that…I don't always heed the warnings, because I feel like I need to get this done. P3: 51-52, 59-61, 66-67	**FM69.** Despite the safety nap policy that is in place, flight nurses feel obligated to be diligent and indefatigable.
70. …physical exhaustion is the one thing. Um, children affect me, um, psychologically…the little ones really affect me…and I always internalize it as, what if this was my grandchild…you know, one of mine… I always go back home and think about, on my God, that poor family. And they are in my mind, but not, I don't think, to a…detrimental degree. P3: L 67-73	**FM70.** Caring for critically ill or injured children is emotionally challenging.
71. I think I've learned…how to compartmentalize, and, um, move on without…and sometimes, when it really bothers me, um, I usually have the phone number of the parents, because we call them…and ask about how the child is doing…that helps. P3: L 75-79	**FM71.** Compassion for the urgent circumstances of children and parents is enmeshed in flight nursing practice.
72. …the man was extremely sick, and very, very unstable…he had six drips, um, to keep him going...all kinds of pressors…and it took us…three hours in the hospital to stabilize him…He was sedated…we had to	**FM72.** Compassionate nurses suffer their own grief after losing a patient, despite having given all to saving life.

land at an airport because of the weather…getting him out of the aircraft , was just absolutely traumatic…when we go to the hospital, um, we got him in the bed, and we started getting all the wires untangled, and everything, and the physician said: "Why did you transfer this patient?" and I said: "because we were instructed to"… and he died the next morning. And I just felt like…if we had known that before…the two hospitals knew…he could have been with his family, surrounded by his family…it was very traumatic for me to put somebody through all that…and find out there is no help…hopefully they arrived in time to see him before he died…3: L 88-90, 103, 109-110, 115-124, 129-131, 140-143, 149	
73. …she had arrested…the husband was on scene, and I wanted to bring him in to see her…and he sat there on the, on the bench seat with me, and I was holding his hand, and he said: "She's just beautiful" …and I said: "Yes absolutely" … I could feel him going through the grieving process beginning right there…I felt so satisfied afterwards, that I had done that…You know, I think…I really feel like, um, she was no longer my patient, he was…And it... I think it's really important that the family knows everything, and knows what's going on...Because, I think it does help them... P3: L 166, 172, 178-184, 190-191, 204-205, 210	**FM73.** Flight nurses use the human care process to assist others with healing.
74. And oftentimes I feel that way, when I think that people are just not going to survive, I want to be sure that the family sees them before we leave…you never know if they're going to make it there in time…as I'm packaging them, I have them help me, um, you know, they can put blankets on them, and help with the buckles, and stuff; and it makes them feel like they are a part of it…we take them out, and I let them come…Some of them want to take pictures…and I feel like that's fine…they might want that as a memory…I think the family is really important. P3: L 212-213, 216-217, 220-221, 223-227	**FM74.** Easing the suffering of others allows flight nurses to achieve self-actualization.
75. I think maybe it has made me stronger…I think it has made me…it has made me face my own mortality…I can relate to patients. And when patients tell me, that they are going to die, I don't tell them "no, you're not going to". I just try to support them. P3: L 230, 232-235	**FM75.** Flight nurses strive to ease suffering in a compassionate but realistic, holistic manner.
76. Um, quiet time…if it's really, really critical, I don't like to keep discussing it…And I also sometimes go in my room for an hour or so, not necessarily to sleep, but to…think about it, be alone…and then, the other thing, sometimes I'll just go out and walk, in the area…P3: L 245, 247-248, 253-254	**FM76.** Self-reflection and quiet solitude are coping mechanisms for some providers who are consistently exposed to traumatic patient care events.
77. …I hardly ever like sweets, but I have learned that when I come back from a bad call, sometimes I just want something sweet. P3: L 261-262	**FM77.** Comfort food provides temporary relief from the emotional aftermath of a stressful call.
78. I'm kind of obsessed with my work…I think there	**FM78.** Flight nurses are dedicated professionals

is a little imbalance, but, it doesn't bother me…every time I think about retirement, I think, well then I won't have anything to look forward to; to taking care of a patient…I really worry about that… P3L L 267-269, 272-273	whose lives have been enriched by their work of caring for traumatized persons.
79. Um, I think my main stressor is the lack of support from administration…the lack of moving us forward, helping us to grow as…we have to do it on our own, and it would be much easier if we had support from, um administration…we just…we're kind of a step child. That's the feeling I have…we're easy to forget…we are a billboard and that's want they want us…look what we're doing…P3: L 286-291, 297-299	**FM79.** Flight nurses desire to contribute to their profession, not to be marketing ploys.
80. Um, I think one thing that I would love to see us do is to become a mentor…for people who want to become flight nurses, and have an active ride-along program, and that's another thing that we have tried to do and have not been successful past our administration…we would be able to make wiser decisions on crew members. But that hasn't happened yet. P3: L 346-348, 359-360	**FM80.** Unanswered quests for opportunities to enable program growth and effectiveness add to employee dissatisfaction.
Participant 4: Matthew	
81. I don't want to be in the hospital, don't want to be confined to that kind of environment to the bedside, um, want that constant change…never looked back. P4: L 14-15, 20	**FM81.** Flight nurses prefer patient encounters that are vigorous and challenging over those that are routine and conventional.
82. …most of my background was critical care…able to bring that in, uh, share it with other colleagues…so, we just work great as a team…the paramedic and nurse combination, we're able to feed off each other, on our strengths, and weaknesses…P4: L 22-25	**FM82.** Bonds of trust are formed among team members by the sharing of knowledge and expertise.
83. …very fast-paced; it's kind of "hurry up and wait" type atmosphere P4: L 30	**FM83.** The hangar atmosphere is one of readiness and anticipation.
84. …it seems what happens on a 24-hour shift a lot of times is…you don't really get hit with a whole bunch…you're already coming in rested…it's hard to unwind and rest…you're ready to go, and then when you're ready to start resting again, then the calls start coming in…any 24-hour shift, um, after 16 hours, regardless if you did any patient care or not, you're not the same level provider as you would have been at the beginning of your shift. P4: L 35-41	**FM84.** Disrupted sleep and provider fatigue contribute to unsatisfactory patient outcomes.
85. …you get a variety of calls, anything from pediatrics to the elderly…it could be a pregnant lady, um, it could be a pregnant lady that was in a car wreck…be able to think outside the box…and the autonomy that we have out here, I mean, that really plays into it. P4: L 47-51	**FM85.** Flight nurses must maintain a superior level of competency and be constantly prepared to manage any patient care event.
86. You don't get stagnant in this field. If you get stagnant, then, it's time to find something else to do…P4: L 63-64	**FM86.** Passion for emergency and critical care nursing is an essential qualification for the flight nurse role.
87. And we're held to a high standard here, so, puts pressure on you, but it makes you work better…we review our charts…so, we're always finding ways to improve…healthcare is constantly changing in the	**FM87.** Ongoing performance appraisal is a characteristic of an advanced level of practice.

flight environment…our protocols change, medications change…P4: L 67-69, 71-72	
88. …we may land at a remote…LC and be shuttled in a pick-up truck to the scene and patient may still be in the woods, on a Four-Wheeler… P4: L 132-133	**FM88.** Flight nursing is engaging and adventurous.
89. If there are multiple patients, we'll split, make sure…'cause sometimes they'll pick a patient for us…but then you have this elderly person…abdomen is rigid and on Coumadin, obviously bleeding out…the kid's got a broken arm…P4: L 143-148	**FM89.** Flight nurses have a broad scope of accountability that includes accurate triage and assessment and excellent clinical decision-making.
90. …you don't really stop and think, you know…this is gonna change, change their life forever. You're just worried about, let's get this patient, a viable patient from point A to point B…very focused on patient care…P4: L 165-170	**FM90.** Flight nurses must be emotionally detached at the scenes of traumatic events in order to concentrate on the task at hand.
91. When you get off the call, then you're kind of unwinding, and you kinda see…how that's going to impact those families' lives…it could be a single mom that has three kids, and she just got killed on her way to work…you're not very emotional on the direct patient care, it's all after the fact. P4: L 170-176, 179-180	**FM91.** Flight nurses, who systematically witness firsthand the graphic and sorrowful scenes of trauma, often reflect on the impact of the traumatic event on victims' lives.
92. …emotional stress…I stay active, you know, hunt, fish type of things when I'm off duty, relaxing, not thinking about work. Uh, exercise, running, lifting…Physical activity…you don't want to take work home with you. P4: L 185-192	**FM92.** Another form of stress relief is physical activity.
93. Um, every now and then you just have a call that bothers you, and so, uh, I talk…about those types of things…we do have resources…We can talk to the chaplain…P4: L 196-197, 204	**FM93.** Bearing witness to cumulative traumatic events leaves caregivers vulnerable to the effects of compassion fatigue.
94. …when you first start…it's so exciting…you don't see the big picture…After a year of two, you're kinda seeing more of the big pictures, certain things will bother you…we debrief after every call…P4: L 218-220	**FM94.** Stress is a constant and confronting component of flight nursing practice.
95. …cause we'll talk about it, you know, "ah man, we could have…maybe we should have tried this, we should have tried that" …we follow up with the physicians…sometimes its "Yeah, you could have done that" but is the outcome really gonna change? It's not gonna. P4: L 223-226	**FM95.** The value of reflection lies in increasing one's awareness of actions and resources that can be used in future situations, not to assign blame or "what ifs".
96. …we own it…sometimes the hospital calls you in, big meeting with a lot of the, uh, physicians and head nurse, uh, management…Oh yea, it's providing better care for the next patient…you build off an education experience that you can take to your next call. P4: L 235-236, 251-252	**FM96.** Upon administrative case review, flight nurses are required to relive the traumatic patient care event and to justify their actions.
97. How do we trust each other, you know. How do we work together? And then after a few years, most of us have been doing this so long, we're not even talking, we're just handing stuff…and they know exactly what we're gonna do. P4: L 266-268	**FM97.** Positive peer relationships are built upon trust, mutual respect, and shared experiences with traumatic patient care events.
98. um, some of the worst…we've had a few pediatric fatalities…any kind of patients your age or younger,	**FM98.** Responding to pediatric fatalities is emotionally distressing and unforgettable.

that kinda plays into…maybe I'm not as invincible as I thought I was. P4: L 296-298	
99. We get to that lady that's still pinned in the vehicle…husband arrived on scene…he's talking to his wife; everything is going fine…extricate her out of the vehicle…goes unresponsive…starts coding…Um, so we went from, um, perfectly mentating patient to…dead immediately…and just being able talk to her, and everything, and then just immediately dead…husband…was headed to the hospital…didn't know…he kinda even said, you know, he had a feeling when he left her, that was the last time he was actually gonna see his wife…he just had that gut feeling…P4: L 305-314, 320-321, 328-331, 385-387	**FM99.** The unanticipated death of previously alert patients leaves flight nurses caught off guard and exposed.
100. …so I talked to, uh, actually talked to EAP (Employee Assistance Program), and, uh, you know, just worked through a couple counseling sessions with them…it really wasn't just that one call. What it was, that was just kinda the call that broke the camel's back…Yeah, it was just a trigger. So, talked to them…P4: L 345-353	**FM100.** Recognizing symptoms of traumatic stress and seeking help for it requires emotional capacity and strength.
101. …it was brought up in the hospital. So you had to go over there…constantly for about a month…having everybody kind of critique your work…It's easy to sit back and…Monday morning quarterback the call…P4: L 357-362	**FM101.** Having a traumatic patient care event critiqued by individuals who are otherwise not involved in one's nursing practice is disheartening.
102. Um, you know, when you can pick a patient up that you know, if you don't get them there within 30 – 40 minutes, we've had a few that, um, sitting there squeezing two units of blood in, as we're rolling into the OR, and so, and then those patients walk out, two or three days after. So, it is very balanced…if you weren't there, this helicopter didn't exist, that patient would have died…so you have that job satisfaction, to put things in perspective. P4: L 406-411	**FM102.** Traumatic events that place the flight nurse at risk for compassion fatigue are often balanced by success stories that contribute to compassion satisfaction.
103. Yup, you don't take for granted anymore, you know…you take advantage every day, because you don't know, get in the vehicle…something could happen, and that be it that day. P4: L 413, 417-418	**FM103.** Flight nurses are pragmatic and realistic about life and death.
104. …physical, emotional, talk…you know, don't keep everything bundled in; have your close friends, that you know you can vent to, your close co-workers that can relate to you…spiritual aspect, you know, having a healthy relationship with God…my faith, yup. So, I know…if something does happen to me, I'm going to see a lot of my family members that have already gone before…I don't have to worry about that…and I kinda just try to have a healthy balance of work life…P4: L 453-462	**FM104.** Having faith in God and achieving life balance can assist flight nurses to develop trauma fatigue resistance.
105. You see…it doesn't feel like work…It's never…the job itself is never work…now there is always gonna be bureaucracy in any place that you ever work…management issues…you don't let those things bother you, you just worry about work, that you have to perform…it's exciting. P4: L 468-471	**FM105.** Flight nurses find tremendous joy and meaning in their work.

106. …in the woods, on the mountain, getting somebody out of the river, the lake…this time of year, motorcycles…it's always something different…it's not that controlled environment in the hospital…you don't have the patient very long…I feel like that really drained me in the hospital, just having the same patient, three 12-hour shifts in a row…you can really just focus on patient care out here…P4: L 476-484	**FM106.** In flight nursing, everyday events can be exceptional.
107. It is an exciting job, it's very rewarding. Uh, you really do make a difference in people's lives and you can really see that…Just you and the patient…you just figure it out…P4: L 514-515, 525-526	**FM107.** The singular connection between flight nurse and patient can be life giving.
Participant 5: Jerome	
108. …it really started with the ER…next logical step was to do the same type of job, with even greater autonomy; so I knew we could go out there, in the helicopter and deal with the most critically injured, and the most critically ill, and you had to rely on your own abilities to really take care of, and stabilize these patients; it was a challenge that I wanted. P5: L 15-20	**FM108.** Personal motivation and the accumulation of experiential knowledge develop into clinical expertise and job satisfaction.
109. So, I do think that this industry demands an ability to be able to take care of these patients, and not let it overwhelm you…if you don't have that quality, you just will not survive, because you deal with it so much. P5: L 51-54	**FM109.** Emotional fortitude is a necessary trait to keep moving forward as a clinician who is consistently exposed to traumatic events.
110. That doesn't mean that I haven't had challenging cases…usually the ones that I find most challenging, are the ones that involve children…I can say that without a doubt…two most difficult cases I've ever had were kids. P5: L 56-60	**FM110.** Scenes of pediatric illness or injury are exacting and highly charged.
111. …my son was the same age at the time…struck by a drunk driver and ejected…I really, really struggle with that one…he is completely innocent in this whole thing…this one shook me…I'm a Christian, I'm rarely mad at God…but I was mad about this…I wanted to know why, it made no sense to me…No, it didn't shake my faith. I was just mad at Him. P5: L 78-79, 93-95, 104-106,108	**FM111.** Traumatic events involving children seem unfair and senseless and leave caregivers emotionally vulnerable.
112. So I actually got a call from the trauma coordinator two days later…this kid had passed away…But in the process he gave almost every organ he had to save a bunch of lives. I mean I cried again. P5: L 110-112, 116	**FM112.** Traumatic events elicit heartfelt and emotional responses.
113. …so this one was right about the age of my youngest at the time…And it was just kind of a perfect storm of things sort of came together…this kid has been here a long time already…this kid died about 5 minutes from (hospital)…This kid was wide awake. We spent 45 minutes at the bedside getting to know the family; talking to this kid…interacting, which you never get in this job…P5: L 132, 137-138, 146-147	**FM113.** Compassion stress resulting from sudden patient death is increased by previous interaction with the patient and family.
114. So, that one generated this big risk assessment…and the hospital didn't want…me to go to the funeral which made me furious…So I called the ER doctor that was in charge of the case, just so he	**FM114.** Flight nurses are isolated from other medical staff in terms of both physical space and personal and professional support.

and I could sort of commiserate together and talk about it…So I had very little closure…P5: L 160-162, 166-167, 170	
115. …later…I'm…shopping…there is a woman coming the other way and we kind of make eye contact…she started crying and I started crying…and we hugged each other…and it was just this most cathartic experience that I've ever had doing this job…I said…he didn't die alone, I was holding his hand…she said…she wanted me to know, that she felt it was just his time…P5: L 168, 173-179, 181, 183, 189-190	**FM115.** Flight nurses' compassion and common sense of humanity foster healing and personal growth.
116. To be able to have that interaction with the mother, and to hear the other kid saved lives…So I was lucky to find those pieces…You're not always gonna get these answers…maybe something positive is coming out of it, even though you don't know what it is. P5: L 194-195, 207-209	**FM116.** Flight nurses seek answers in order to cope with the suffering of others.
117. …everybody here is good at it. Whatever "it" is…So yes, I think maturity is part of it; I think wisdom is part of it; I think understanding the circle of life is part of it; I think experience is part of it; I think being able to kind of turn off your emotions a little bit in the heat of the moment is part of it…but I also think that if you…if you don't have some system of coping with it, it'll catch up with you. P5: L 217, 235-240	**FM117.** While caregiver stress is a certain consequence of frequent exposure to traumatic patient care events, it is coping that makes the difference in the ability to adapt.
118. So, I have excellent relationships…our inter-team relationships…my method starts immediately after the event; discussing it with my partner; and …typically on our flight home, and once we get back here to write our report, we just talk about what happened, how we impacted what happened. P5: L 243-246	**FM118.** Peer harmony and open communication are integral elements of an effective performance appraisal process.
119. …I think, compassion fatigue for me is directly related to fatigue in general…if I've had three or four flights during the day, and then you get that fourth of fifth at 1 am, it's hard…compassion is a very natural part of my care giving…But, five flights into a shift, it has to be a conscious effort…Yeah, you're tired. P5: L 264-275	**FM119.** Sleep deprivation and responding to repetitive traumatic patient care events can impair providers' ability to be compassionate.
120. …often times the only time we hear from administration is if somebody has complained about something, which isn't real often. Typically, it's because they don't understand what it is we're doing. So that leads to some negative feelings…but at the same time, you know, if administration was over here all the time, they'd want to know…why they are bothering us, I mean we're over here doing our jobs, so…you know, we wish maybe that we had some better financial support, that we received some more organized training…I'm very fortunate that these folks are as independent and autonomous as they are because this service, from day one, has really run itself. P5: L 315-319, 321-322, 324-325	**FM120.** While flight nurses enjoy autonomy and independence in their practice, disregard and neglect by administration leads to negativity.
121. …but when you come back, and when you're doing the job, and when you're finished with the job,	**FM121.** The satisfaction of rescuing others who are experiencing traumatic events is key to flight nurse

and knowing that, that patient is better now, because of the role that we play, that's why you keep coming back. P5: L 342-344	retention.
122. That's really…and I love the folks out here. I mean, I can't imagine having better working relationships at any point in my career…I mean, they are your family. P5: l 346-349	**FM122.** Peer friendship and camaraderie are essential pillars of support in a stressful environment.
123. …and then there is also the schedule. You're here a day and a half a week, which gives me much more time with my family…24-hour shifts are…long, they're hard. But you just knocked out three 8-hour shifts with one 24. P5: L 354-355, 359-362	**FM123.** Periods of time away from work allow opportunities to refocus and heal.
124. I love the job! I mean, no job is perfect, but this for me is about as close as you can come… I love the difference that we can make. And we can make measurable differences. P5: L 370-371, 378	**FM124.** Flight nurses' commitment and passion for excellent patient care makes a measureable difference in individuals' lives.

APPENDIX G:

Development of Cluster and Emergent Themes

Formulated Meanings	Cluster Theme	Emergent Theme
FM1. Flight nursing (FN) is a unique nursing specialty in which highly trained registered nurses provide comprehensive emergency and critical care to individuals of all ages. **FM2.** Flight nurses embrace challenge and thrive in dynamic environments that offer opportunities to utilize advanced nursing knowledge and skill. **FM3.** The scope of FN practice has expanded to include both scene-to-hospital and hospital-to hospital transports of critically ill and injured patients. **FM23.** Flight nurses must prioritize and work urgently to expedite patient care and ensure favorable patient outcomes. **FM41.** Flight nurses are highly accountable professionals who practice at an expert clinical level. **FM57.** Experienced nurses utilize intuitive knowledge to anticipate, problem-solve, and intervene. **FM68.** Advanced nursing knowledge is comprehensive, a utilization of personal experience, critical thinking, and clinical decision-making. **FM85.** Flight nurses must maintain a superior level of competency and be constantly prepared to manage any patient care event. **FM89.** Flight nurses have a broad scope of accountability that includes accurate triage and assessment and excellent clinical decision-making.	Mastery	**Self-Efficacy**
FM21. Flight nurses' commitment to their role extends beyond their work shift hours. **FM31.** Flight nurses feel a sense of duty and purpose to assist others who are experiencing crisis. **FM33.** Flight nurses experience significant fidelity and sense of responsibility within their role. **FM46.** Flight nurses must demonstrate leadership and resolve in complex clinical situations to ensure best practice. **FM56.** Flight nurses are allegiant, passionate providers who are committed to protecting others in need. **FM83.** The hangar atmosphere is one of readiness and anticipation. **FM86.** Passion for emergency and critical care nursing is an essential qualification for the flight nurse role.	Stewardship	
FM5. Flight nurses responding to providers' requests for transport of critical patients witness variable levels of patient care and management among medical facilities. **FM24.** Misuse of medical flight services due to overwhelmed providers seeking to transfer their patients to other institutions leads to frustration, impaired professional relationships, unnecessary risk to the flight team and patient, and heavy financial burdens for patients. **FM25.** Lack of adherence to professional guidelines and evidence-based standards of practice are exasperating to the flight nurse. **FM39.** Flight nurses' professional values are illustrated by their actions in the workplace. **FM45.** Flight nurses are challenged and stressed by patient care situations	Professional Values	

in which clinical information is limited and the previous standard of care does not meet their professional expectations. **FM49.** An inconsistent standard of patient care among providers causes frustration and job stress.		
FM22. Experienced nurses possess the knowledge and tenacity to serve as patient/family advocates. **FM42.** Flight nurses demonstrate dedication and conviction by speaking up to protect their patients' rights and well-being. **FM64.** Advocating for vulnerable, traumatized individuals can result in personal and professional gratification.	Advocacy	
FM40. Flight nurses enjoy independent, crucial decision-making in unstructured, unfamiliar work environments. **FM67.** Autonomy must coincide with accountability for one's knowledge and expertise.	Autonomy	**Self-Determination**
FM9. Collegial support among flight team members includes honest feedback and an organizational focus on optimal team performance and patient safety. **FM30.** Team unity is a positive variable to blunt inevitable stress in the medical flight environment. **FM59.** Camaraderie and joint decision- making among the flight team help offset inadequate administrative support. **FM82.** Bonds of trust are formed among team members by the sharing of knowledge and expertise. **FM97.** Positive peer relationships are built upon trust, mutual respect, and shared experiences with traumatic patient care events. **FM118.** Peer harmony and open communication are integral elements of an effective performance appraisal process. **FM122.** Peer friendship and camaraderie are essential pillars of support in a stressful environment.	Team Synergy	
FM10. The flight team engages in regular self-evaluation in order to facilitate personal growth and continuous team performance improvement. **FM60.** The flight team is self-directing and examines issues in a transparent manner. **FM87.** Ongoing performance appraisal is a characteristic of an advanced level of practice. **FM95.** The value of reflection lies in increasing one's awareness of actions and resources that can be used in future situations, not to assign blame or "what ifs".	Debriefing with Peers	
FM19. Flight nurses reach out to their health care partners who respond to critical patient care events. **FM20.** Conversing with colleagues allows caregivers to share the emotional impact of traumatic patient care events. **FM48.** Flight nurses support their colleagues and work hand in hand with them to provide patient care.	Collegiality	
FM51. The traumatic memories of flight nurses often emanate from responding to patients who were initially conscious and verbal, but then deteriorated and died while in their care. **FM54.** Flight nurses' traumatic memories are intense and can trigger	Enduring Memories	**Traumatic Caring**

feelings of anxiety, regret, and deep sadness. **FM70.** Caring for critically ill or injured children is emotionally challenging. **FM99.** The unanticipated death of previously alert patients leaves flight nurses caught off guard and exposed. **FM113.** Compassion stress resulting from sudden patient death is increased by previous interaction with the patient and family.		
FM13. Sharing the suffering of others can lead to feelings of stress as well as emotional pain and exhaustion. **FM14.** Caring for traumatized individuals on a daily basis is a choice and privilege, yet a moral and emotional burden. **FM28.** Flight nurses relate more strongly to traumatic events involving individuals close in age to their own family members. **FM52.** Emergency personnel absorb the traumatic stress of victims they assist. **FM70.** Caring for critically ill or injured children is emotionally challenging. **FM91.** Flight nurses, who systematically witness firsthand the graphic and sorrowful scenes of trauma, often reflect on the impact of the traumatic event on victims' lives. **FM93.** Bearing witness to cumulative traumatic events leaves caregivers vulnerable to the effects of compassion fatigue. **FM94.** Stress is a constant and confronting component of flight nursing practice. **FM98.** Responding to pediatric fatalities is emotionally distressing and unforgettable. **FM110.** Scenes of pediatric illness or injury are exacting and highly charged. **FM111.** Traumatic events involving children seem unfair and senseless and leave caregivers emotionally vulnerable.	Emotional Vulnerability	
FM4. Increased utilization of medical flight services has led to physical fatigue among flight nurses. **FM6.** A safety nap policy for providers who work 24-hour shifts mitigates provider fatigue and facilitates accurate clinical decision-making and patient safety. **FM7.** Flight nurses have the authority to decline a flight if they are experiencing debilitating physical fatigue or if they lack the appropriate resources needed for the case. **FM8.** Extended-hour work shifts can contribute to increased medical errors and decreased vigilance on the job. **FM37.** Work schedules that reduce the number of shifts worked per week decrease the flight nurse's exposure to clients' trauma and suffering and allow for quality time to recover, however 24-hour shifts and grouping of work days lead to physical fatigue. **FM69.** Despite the safety nap policy that is in place, flight nurses feel obligated to be diligent and indefatigable. **FM84.** Disrupted sleep and provider fatigue contribute to unsatisfactory patient outcomes. **FM119.** Sleep deprivation and responding to repetitive traumatic patient care events can impair providers' ability to be compassionate.	Physical Fatigue	
FM11. Lack of feedback about patients' conditions (due to hospitals' adherence to HIPAA [Health	Lack of Closure	

Insurance Portability and Accountability Act] privacy regulations) prevents the flight nurse from experiencing a sense of fulfillment or closure. **FM116.** Flight nurses seek answers in order to cope with the suffering of others.		
FM26. The ability to compartmentalize work responsibilities and family time serves to contain job stress. **FM27.** Coping mechanisms for avoiding secondary stress include hobbies, enjoying the outdoors, and spending time with family. **FM29.** Finding peace and comfort in God's plan for each individual is another coping mechanism for flight nurses. **FM32.** An undesirable coping mechanism for flight nurses is stress eating. **FM53.** Humor is a coping mechanism used by nurses who are frequently exposed to traumatic events. **FM58.** Bundled days off from work help to relieve pent-up stress. **FM76.** Self-reflection and quiet solitude are coping mechanisms for some providers who are consistently exposed to traumatic patient care events. **FM77.** Comfort food provides temporary relief from the emotional aftermath of a stressful call. **FM92.** Another form of stress relief is physical activity. **FM104.** Having faith in God and achieving life balance can assist flight nurses to develop trauma fatigue resistance.	Coping Strategies	**Forbearance**
FM100. Recognizing symptoms of traumatic stress and seeking help for it requires emotional capacity and strength. **FM109.** Emotional fortitude is a necessary trait to keep moving forward as a clinician who is consistently exposed to traumatic events. **FM117.** While caregiver stress is a certain consequence of frequent exposure to traumatic patient care events, it is coping that makes the difference in the ability to adapt.	Emotional Fortitude	
FM90. Flight nurses must be emotionally detached at the scenes of traumatic events in order to concentrate on the task at hand. **FM123.** Periods of time away from work allow opportunities to refocus and heal. **FM103.** Flight nurses are pragmatic and realistic about life and death.	Emotional Separation	
FM34. Lack of institutional support has a negative impact on organizational culture and employee satisfaction and retention. **FM35.** Inadequate administrative involvement in team values and program problems and goals creates poor employee morale. **FM61.** The absence of structured, supportive leadership is detrimental to organizational success. **FM62.** Ineffective organizational communication results in knowledge deficit and speculation that erodes employee trust and respect. **FM65.** Ineffectual processes in the workplace lead to employee discontent. **FM79.** Flight nurses desire to contribute to their profession, not to be marketing ploys. **FM114.** Flight nurses are isolated from other medical staff in terms of both physical space and personal and professional support. **FM120.** While flight nurses	Absence of Support	**Professional Isolation**

enjoy autonomy and independence in their practice, disregard and neglect by administration leads to negativity.		
FM36. Professionals who do not have a voice in their practice feel frustrated, emotionally fatigued, and powerless. **FM38.** Lack of control in the workplace leads to a chronic state of emotional depletion. **FM44.** The flight team is savvy and self-reliant but feels pressured by administrative regulation to accept medical flight requests. **FM80.** Unanswered quests for opportunities to enable program growth and effectiveness add to employee dissatisfaction.	Powerlessness	
FM96. Upon administrative case review, flight nurses are required to relive the traumatic patient care event and to justify their actions. **FM101.** Having a traumatic patient care event critiqued by individuals who are otherwise not involved in one's nursing practice is disheartening.	Reliving Traumatic Events	
FM12. Flight nurses experience deep-seated feelings of empathy for the circumstances of patients and their families. **FM18.** Flight nurses and their patients have the capacity to form immediate bonds due to the intense nature of their time spent together. **FM73.** Flight nurses use the human care process to assist others with healing. **FM74.** Easing the suffering of others allows flight nurses to achieve self-actualization. **FM107.** The singular connection between flight nurse and patient can be life giving. **FM112.** Traumatic events elicit heartfelt and emotional responses. **FM115.** Flight nurses' compassion and common sense of humanity foster healing and personal growth.	Human Connection	**Heart**
FM15. Compassionate nurses consider the patient and family to be one unit in need of assistance. **FM17.** Flight nurses' compassion for others manifests itself in concrete acts. **FM47.** Addressing the family following a patient death requires courage and compassion on the part of the flight nurse. **FM71.** Compassion for the urgent circumstances of children and parents is enmeshed in flight nursing practice. **FM72.** Compassionate nurses suffer their own grief after losing a patient, despite having given all to saving life. **FM75.** Flight nurses strive to ease suffering in a compassionate but realistic, holistic manner.	Compassion	
FM16. Flight nurses value the present because they have witnessed the unpredictability of life. **FM50.** Flight nurses, via the lens of their multiple exposures to traumatic patient care events, appreciate life and perceive the circle of life.	Appreciation for Life	
FM55. Effective management of traumatic memories includes reflections about patients who were saved by the flight nurse's efforts. **FM63.** Reflection helps nurses make sense of their work situations and to recognize their own strengths and weaknesses. **FM78.** Flight nurses are dedicated professionals whose lives	Making a Difference	**Finding Meaning**

have been enriched by their work of caring for traumatized persons. **FM102.** Traumatic events that place the flight nurse at risk for compassion fatigue are often balanced by success stories that contribute to compassion satisfaction. **FM121.** The satisfaction of rescuing others who are experiencing traumatic events is key to flight nurse retention. **FM124.** Flight nurses' commitment and passion for excellent patient care makes a measureable difference in individuals' lives.		
FM43. Flight nurses feel humbled and fortunate to have a fulfilling career they have aspired to. **FM81.** Flight nurses prefer patient encounters that are vigorous and challenging over those that are routine and conventional. **FM88.** Flight nursing is engaging and adventurous. **FM105.** Flight nurses find tremendous joy and meaning in their work. **FM106.** In flight nursing, everyday events can be exceptional. **FM108.** Personal motivation and the accumulation of experiential knowledge develop into clinical expertise and job satisfaction.	The Joy of Work	