PRESSURE ULCER PREVENTION: THE ATTITUDES AND EXPERIENCES OF UNDERGRADUATE NURSING STUDENTS

By

Layla J. Garrigues

A DISSERTATION

Presented to

Oregon Health & Science University

School of Nursing

in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

April 7, 2014

Approval Page

APPROVED:

_____

Dr. Juliana C. Cartwright, PhD, RN, Associate Professor, OHSU, SON, Dissertation Chair

_____

Dr. Paula Gubrud-Howe, EdD, RN, FAAN, Associate Professor & Senior Associate Dean for Education & Statewide Programs, OHSU, SON, Committee Member

_____

Dr. Donna Bliss, PhD, RN, FGSA, FAAN, School of Nursing Foundation Research Professor, University of Minnesota, Committee Member

_____

Dr. Susan Bakewell-Sachs, PhD, RN, PNP-BC, FAAN, Dean, School of Nursing

ACKNOWLEDGEMENT OF FINANCIAL SUPPORT

This study was partially supported by the following funding:

- Graduate Assistance in Areas of National Need Fellowship
- Oregon Health & Science University School of Nursing Deans Award for Doctoral Dissertation
- John A. Hartford Center for Geriatric Nursing Excellence at OHSU

ACKNOWLEDGEMENTS

This dissertation research was an excellent learning experience from the very beginning to the final completed product. It was a journey that could not have been completed without the expertise, wisdom, and loving advice of my mentor, advisor, and dissertation chair, Juliana Cartwright, PhD, RN. Dr. Cartwright has gently encouraged me throughout the years with her patience, competence, and kindness. I am truly indebted to her.

Thank you to my dissertation committee members, Paula Gubrud-Howe, EdD, RN, FAAN, and Donna Bliss, PhD, RN, FGSA, FAAN, for their expert advice and encouragement in completing this dissertation research.

Thank you to the nursing students who participated in this study – I could not have completed this research without you. My warm thanks to my qualitative seminar colleagues. Thank you to Laura Mood, RN, MSN, PhD candidate, primary peer-debriefer and incredibly supportive colleague, for the diligent reviews and feedback she has provided on my dissertation research. Thank you to Hiromi Hirata, PhD, RN, for her friendship and humor throughout the years in the doctoral program. Thank you to my supportive colleague, Connie Nguyen-Truong, PhD, RN, PCCN, for her mentorship and confidence in my work.

A very special thank you to my compassionate, patient, and joyful daughter, Isabella Helena Garrigues McHenry, to Jonah Sutherland for his perspective and balance, and to my ever-supportive parents, Dr. Stephen and Machiko Garrigues. I could not have completed this research without your inspiration, encouragement, and love.

ABSTRACT

Title: Pressure Ulcer Prevention: Attitudes and Experiences of Undergraduate Nursing Students

Author: Layla Garrigues

Approved: _____
Juliana C. Cartwright, PhD, RN, Associate Professor, OHSU, SON, Dissertation Chair

Pressure ulcers are a widespread and expensive problem that people with impaired mobility of all ages face in both acute care and community settings. Nurses have the primary responsibility for ensuring patients do not experience pressure ulcers. Nurses perform an instrumental role in the assessment and evaluation of pressure ulcers and their risk management. Nurses are initially taught about pressure ulcers and pressure ulcer prevention (PUP) during their basic nursing education. If nurses are insufficiently educated or ill prepared to effectively prevent pressure ulcers, the patient ultimately suffers. For this reason, nursing students must be well educated and knowledgeable about pressure ulcer prevention to improve patient outcomes and collaborate efficiently with other healthcare professionals in preventing pressure ulcers. The purpose of this study was to analyze senior undergraduate nursing students' attitudes about and experiences with pressure ulcer prevention. The research methodology was qualitative exploratory descriptive design. The primary data sources were 16 undergraduate nursing students in a baccalaureate program. Eight participants completed the first two years of nursing courses through affiliated associate degree programs, and eight completed all their

nursing courses in the baccalaureate program. Data were collected through face-to-face, semi-structured interviews with email follow-up. Interviews were digitally recorded and data transcribed and subsequently analyzed to identify salient themes using a generative coding strategy.

Six themes were identified from the data: 1) Experiences associated with pressure ulcer prevention practices; 2) Attitudes towards pressure ulcer prevention; 3) Experiences of passionate and committed nursing students; 4) Conspicuous lack of focus about pressure ulcer prevention; 5) Patient autonomy—a challenging concept for nursing students; and 6) Student recommendations specific to learning pressure ulcer prevention.

The implications of this study may serve as a resource for schools of nursing to revise and incorporate PUP education into their curricula. Nursing faculty should develop and incorporate evidence-based educational materials and activities about PUP and pressure ulcer management that target meaningful learning activities using immersive, hands-on experiences in pressure ulcer prevalence studies, engagement in activities with "skin champion" preceptors, and clinical experiences targeted at PUP. Nursing faculty should collaborate with wound care nurses, clinical preceptors, and clinical staff to involve nursing students in PUP learning activities and direct exposure to severe pressure ulcers.

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

TABLES

FIGURES

CHAPTER I

Introduction: Background and Significance

Each year 2.5 million people suffer from pressure ulcers in the United States (U.S.), and about 60,000 patients die due to pressure ulcer complications, such as sepsis and osteomyelitis (Berlowitz et al., 2011; Kayser-Jones, Beard, & Sharpp, 2009). Costs associated with pressure ulcer management account for at least $18.5 billion annually in the U.S. (APIC, 2008; Fogerty et al., 2008) and it can cost approximately $129,000 to heal one full-thickness pressure ulcer (Brem et al., 2010).

While pressure ulcers affect people of all ages, those most at risk for pressure ulcers are frail, older adults (Redelings, Lee, & Sorvillo, 2005). Approximately 80% of the deaths due to pressure ulcer complications occur in people over 75 years of age (Redelings, Lee, & Sorvillo, 2005). The vulnerable population of older adults is increasing in the U.S. Currently, 36 million Americans are over the age of 65; and this population is projected to increase to 72 million by 2030 (Federal Interagency Forum on Aging-Related Statistics, 2010). These older adults represent 50% of hospital days, 60% of ambulatory visits, 70% of home care services, and 85% of nursing home residents (National Center for Health Statistics, 2004).

Prevalence and Incidence of Pressure Ulcers Across Care Settings

The National Pressure Ulcer Advisory Panel (2012) defines *prevalence* as a rate or the "proportion or percentage of people in a defined population with a pressure ulcer at a particular moment in time" (p. 19) and *incidence* as "the number of new cases of pressure ulcers appearing in a pressure ulcer-free population over a period of time" (Cuddigan, Ayello, Sussman, & Baranoski, 2001, p. 206). The prevalence and incidence

rates in research are interpreted with caution due to the varying ways studies have defined these terms, variations in the range of prevalence rates across organizations such as nursing homes or hospitals, and methods of calculation (Cuddigan, Ayello, Sussman, & Baranoski, 2001). There are complications when attempting to compare results from different prevalence and incidence studies as they may define the population of interest differently (WOCN, 2005). Keeping this in mind, the prevalence and incidence rates are presented here for general understanding of pressure ulcers in the U.S.

Patients suffer from pressure ulcers in hospitals as well as in long-term care and community settings. In U.S. hospitals pressure ulcers are of growing concern, with a 63% increase of pressure ulcers from 1993 to 2003 (Russo & Elixhauser, 2006). More recently the incidence has risen 78.9% in hospitals (see Figure 1) (AHCQ, 2012; Russo, Steiner, & Spector, 2008).

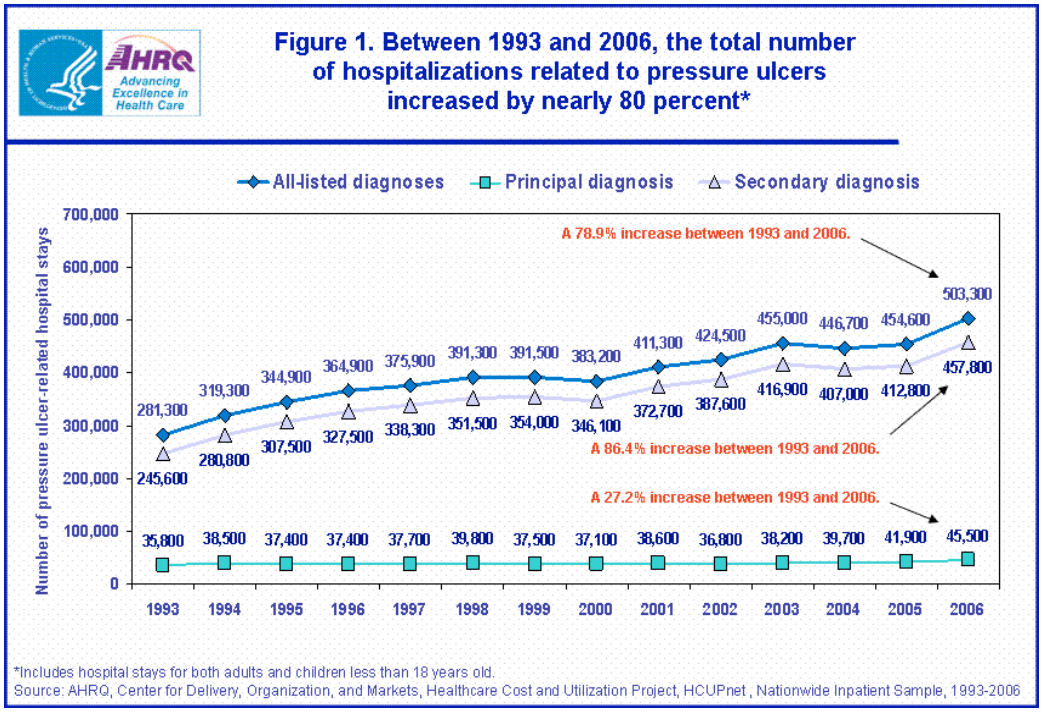


Figure 1. Pressure Ulcer Incidence in U.S. Hospitals from 1993 to 2006. Reproduced with permission (Russo, 2006).

Pressure ulcers in the community setting are a growing concern. It has been estimated that 30% of new admissions to home care were at serious risk for the development of pressure ulcers (Ferrell, Josephson, Norvid, & Alcorn, 2000). Fifty percent of pressure ulcers developed within 26 days after patients were discharged from hospitals to their homes and 30% of pressure ulcers developed within seven days of discharge (Berquist & Frantz, 1999). In another study, 30% of older adults discharged home after hip surgeries developed pressure ulcers (Baumgarten et al., 2009). The prevalence of pressure ulcers in homecare has ranged from 0% to 29% and the incidence has ranged from 0% to 17% (Cuddigan, Ayello, Sussman, & Baranoski, 2001).

The prevalence of pressure ulcers in long-term facilities ranges from 2.5% to 24% in the U.S. (AHRQ, 2012). The incidence rates in long-term care ranges from 2.3% to

23.9% (Cuddigan, Ayello, Sussman, & Baranoski, 2001). The prevalence rates from eight long-term care facilities declined from 4% to 2.3% (about 1.5 to 2 pressure ulcers/100 beds) after implementation of PUP protocols from 2006 to 2007 (AHRQ, 2012).

Cause of Pressure Ulcers

The exact process by which pressure ulcers are formed is not fully understood (Kottner, Blazer, Dassen, & Heinze, 2009; Pierce, Skalak, & Rodeheaver, 2000; WOCN, 2010). A review of the literature by Kottner, Blazer, Dassen, and Heinze (2009) identified four main theories of pressure ulcer development: 1) ischemia (capillaries are occluded resulting in cellular injury and death due to lack of vascular perfusion and tissue anoxia); 2) cellular reperfusion injury due to a harmful release of oxygen free radicals; 3) mechanical deformation (volume changes in cellular tissue causes cellular structures to rupture or undergo lysis resulting in irreversible damage); and 4) impaired lymphatic function (pressure to blood supply decreases oxygen flow causing hypoxia damaging lymphatic vessels and impairing lymphatic waste removal, resulting in tissue necrosis). It is quite possible that all four mechanisms contribute to pressure ulcer development (Berlowitz, 2007; Bouten, Oomens, Baaijens, Bader, 2003; Kottner, Blazer, Dassen, & Heinze, 2009). Generally, it is thought that pressure ulcers form primarily at bony prominences of the body that are exposed to sustained and constant pressure or pressure in combination with shear, leading to tissue necrosis (NPUAP, 2009). Pressure ulcers can develop in as little as two to six hours (NPUAP, 2009).

Healthy capillary pressure ranges from 20 to 40 mm Hg, with 32 mm Hg considered as average pressure that can occlude blood flow (Bryant & Nix, 2007). The capillary pressure a patient can withstand is individualized, depending upon factors such

as severity of illness, comorbidity, duration of compression, presence of moisture, angle, and shearing forces; given these confounding factors, it is possible that for some individuals less pressure may obstruct capillary blood flow causing pressure ulcer damage (Rithalia & Kenney, 2001).

Classification of Pressure Ulcers

Kottner, Blazer, Dassen, and Heinze (2009) completed a critical review of the literature about definitions and classification of pressure ulcer. They identified that the terms "bedsores" and "decubitus ulcers" were used prior to 1970. Thereafter, the more descriptive term "pressure ulcer" was used. The term "pressure ulcer" was introduced into the medical subject heading (MeSH) in 2006.

Currently, there is debate about the classification and definitions of pressure ulcers, specifically those categorized as stage I and stage II (Kottner, Blazer, Dassen, & Heinze, 2009). The conceptual definitions of pressure ulcers stages I and II are not consistent and there is no empirical evidence supporting a specific pressure ulcer classification system (Kottner, Blazer, Dassen, & Heinze, 2009).

Stage I pressure ulcers are described as nonblanchable erythema in light hued skin and darker hued or deep red/purple in dark skin. There is debate whether the intact skin of Stage I pressure ulcers can actually be called "ulcers" as they are not "open" wounds (Sibbald, Krasner, & Woo, 2011). The classifications of deep-tissue injuries and stage I pressure ulcers have also been confusing. Deep tissue injuries often do not manifest visibly for hours or days after injury, and sometimes are incorrectly classified as stage I pressure ulcers (Kottner, Blazer, Dassen, & Heinze, 2009). Not all deep-tissue injuries

progress to a full-thickness open wound (Kottner, Blazer, Dassen, & Heinze, 2009) and remain with an intact skin.

There is also debate about the superficial stage II pressure ulcer and the difficulty in determining whether the superficial skin breakdown is a pressure ulcer or a moisture-related skin lesion (such as incontinence associated dermatitis) (Gray et al., 2012; Kottner, Blazer, Dassen, & Heinze, 2009). There is less confusion between stages III and IV. Stage III is described as full thickness tissue damage possibly involving the subcutaneous fat but not muscle and stage IV as full thickness tissue damage involving muscle and possibly bones and tendons (NPUAP & EPUAP, 2010).

Consequences of Pressure Ulcers and Symptoms

Between 37.1% and 87% of pressure ulcer patients have reported suffering from pain directly due to their pressure ulcers (Dallam et al., 1995; Lindholm et al., 1999; Szor & Bourguignon, 1999). Patients with pressure ulcers can experience debilitating pain (severe, intermittent, or chronic pain), discomfort, swelling, heat/warmth, redness (or purple hues in dark skin), infection, purulent or serous drainage, foul odor, bleeding, undermining of tissue, abscesses, and maceration of surrounding skin (Berlowitz et al., 2011, Jaul, 2010; Hew de Laat, Scholte op Reimer, & Achterberg, 2005).

Primary Prevention

Although the initial concept of prevention primarily addressed disease and medical problems, prevention has expanded to incorporate other societal problems that affect well-being and health (Cohen & Chehimi, 2007) including emotional, social, and environmental aspects of both individuals and populations. Prevention is distinguished into different levels that include primary, secondary, and tertiary prevention (Cohen &

Chehimi, 2007). Primary prevention was initially coined in the 1940s and focuses on protecting health and the prevention of disease or illness due to the fact that these illnesses are caused by behavioral or external factors (environmental factors) (Cohen & Chehimi, 2007). Secondary prevention focuses on early detection and action that intervenes in the progress of a disease in order to prevent complications, and tertiary prevention consists of measures such as treatment or rehabilitation that reduce further complications of a problem (Cohen & Chehimi, 2007). This study focuses on the experiences and attitudes of nursing students related to primary PUP to ensure pressure ulcers do not form in the first place, rather than the diagnosis of an existing pressure ulcer.

In addressing the importance of primary prevention for PUP the concept of universal precautions for pressure ulcers was developed by placing particular precautions into a "care bundle" (AHRQ, 2011). These "care bundles" or pressure ulcer bundles are used in performance or quality improvement where best practices by nurses are performed in combination or bundled together (not alone) for better patient outcomes; they are vital for the care and protection of patients (AHRQ, 2011; Ayello & Sibbald, 2012). The pressure ulcer care bundles have been successfully implemented in several hospitals throughout the U.S. with the guidance of such organizations as the National Pressure Advisory Panel, Agency for Health Care Quality and Research (AHRQ), and the Institute for Healthcare Improvement (Sullivan & Schoelles, 2013).

The pressure ulcer bundles are different from "checklists" in that a nurse is held accountable for implementing the entire bundle; there is no partial credit and any components that are missed increase a patient's risk for serious complications (IHI,

2011). The bundle concept was initially developed by the Institute for Healthcare Improvement (IHI) in their "plan, do, study, act" Model for Improvement, where experts test and implement best practices (evidence-based interventions) in collaboration and through sharing what is learned across organizations (Gibbons, Shanks, Kleinhelter, & Jones, 2006).

Creating and implementing a specific PUP bundle that is packaged and non-negotiable is an important standard of care. AHRQ (2011) identified three critical components that are vital to prevent pressure ulcers: 1) completing a comprehensive skin assessment, 2) performing standardized pressure ulcer risk assessment, and 3) providing care planning and implementation that addresses risks for pressure ulcer development. In 2004, a pressure ulcer bundle called the SKIN (an acronym for Surface, Keep moving, Incontinence, Nutrition) bundle assessment tool was created as an initiative to reduce the incidence of pressure ulcers at St. Vincent's Medical Center a 528-bed hospital in Florida.. This tool was found to be simple, easy to use, resulted in "sustained improvement" (no Stage III and IV facility-acquired pressure ulcers from August 2004 to February 2006) and was adopted into the hospital system by 67 acute care hospitals of Ascension Health in the U.S. (Gibbons, Shanks, Kleinhelter, & Jones, 2006). The hospital was not satisfied with the traditional view that pressure ulcers were unavoidable in critically ill patients and so they changed their expectation from "…'critically ill patients will leave the organization alive' to 'critically ill patients will leave the organization alive and without a pressure ulcer.' The culture changes were incorporated during hand-off communications, in which the caregivers began to include the status of patients' skin" (p. 490). Despite their efforts, they found that some complex, critically ill

patients with multiple comorbities had skin breakdown (stages I and II) even when all aspects of the SKIN bundle were implemented (Gibbons, Shanks, Kleinhelter, & Jones, 2006).

Pressure Ulcer Prevention Guidelines and Relevance to Nursing

Evidence-based guidelines for prevention have been developed and used by institutional settings including hospitals and nursing homes (Acumentra Health, 2011; National Pressure Ulcer Advisory Panel [NPUAP], 2009) since most pressure ulcers are considered preventable (Black, 2011; NPUAP, 2009). Two independent not-for-profit professional organizations composed of experts from different health care disciplines, the National Pressure Ulcer Advisory Panel (NPUAP) in the U.S. and the European Pressure Ulcer Advisory Panel (EPUAP), have collaborated to develop pressure ulcer prevention and treatment guidelines. The National Pressure Ulcer Advisory Panel (2009) practice guidelines for health care providers include educational, application, and nursing supervisory components. State and national organizations have developed campaigns related to PUP, early detection and management in the institutional setting. In long-term care and inpatient settings there have been efforts to decrease pressure ulcer incidence with implementation of Pressure Ulcer Prevention (PUP) guidelines, protocols, documentation, and close collaboration between staff and quality improvement teams (AHRQ, 2012).

Practicing nurses have a vital role and responsibility in caring for and protecting their patients from pressure ulcers (Zulkowski, Ayello, & Wexler, 2010). Pressure ulcers are a nursing-sensitive indicator of quality of care (ANA, 2012). The term nursing-sensitive indicators was originally conceived by Maas, Johnson, and Morehead (1996) to

reflect the process (nursing assessments and intervention), structure (education and skill of nursing staff, supply of staff), and patient outcomes of nursing care (pressure ulcers, nosocomial infections, medication errors, and patient falls) (ANA, 2012). In 1995, the American Nurses Association (ANA) responded to the increasing demand from legislators, the public, and payers for proof of quality patient care and developed the National Database of Nursing Quality Indicators (NDNQI) in order to collect and evaluate nursing care and patient outcomes data from over 1,500 hospitals in the U.S. (ANA, 2012).

These campaigns raise critical questions about the relationships between nursing education and practice. As the majority of pressure ulcers occur in the older adult population, it is essential for nursing education programs to prepare students to address health issues that impact older adults. Yet, nursing education lacks a sufficient integration of gerontological content across curricula and widespread ageism exists among nursing students and faculty (Wendt, 2003). A 1997 Hartford Institute study of undergraduate nursing programs in the U.S. revealed that schools are not adequately preparing nursing students to care for the growing older adult patient population and there is a lack of gerontology expertise among faculty (Rosenfeld, Bottrell, Fulmer, & Mezey, 1999). Further, there "has been a serious mismatch between the urgent need for knowledge and innovation to improve care and the nursing profession's ability to respond to that need, as well as a limitation on what nursing schools can include in their curricula and what is disseminated in the clinical settings where nurses engage" (IOM, 2011, p. 199).

Nurses' attitudes, competence, and education may have an impact on the development of pressure ulcers in their clients (Beitz, Fey, & O'Brien, 1999; Culley,

1998). Behaviors are influenced by attitudes (Azjen & Fishbein, 2005) and attitudes, skills, and knowledge are developed and learned in communities of practice (Wenger, 2008). The concept of communities of practice is a relatively new term for a phenomenon that is found throughout the world and throughout history. Communities of practice are formed by people with joint concern or passion and engage in collective and shared learning endeavors (Wenger, 2008). Therefore, how nurses apply their knowledge, their attitudes towards PUP, and their performance in preventing pressure ulcers are influenced by their backgrounds and communities of practice (including their nursing education). Although knowledge can raise awareness about pressure ulcers and PUP, attitudes towards PUP (accepting responsibility and intervening to prevent pressure ulcers) and experience with PUP are part of successful prevention (Moore, 2004). The majority of research has focused on practicing registered nurses and their perceptions, attitudes, and experiences related to PUP, and there is a lack of research exploring undergraduate nursing students in the U.S.

Purpose of the Study

The purpose of this study was to explore undergraduate pre-licensure nursing students' attitudes and experiences related to pressure ulcer prevention (PUP) practices within the framework of Communities of Practice social learning theory (Wenger, 2008).

Research Design

A qualitative exploratory-descriptive research design was used for this study. This study used the theoretical framework of Communities of Practice social learning theory (Wenger, 2008) to develop a guide for interview questions and to in interpret conceptual themes that were identified in the analysis.

Specific Aims

1. Describe undergraduate nursing students' experiences with PUP practices during their undergraduate coursework as well as experiences outside of nursing school (e.g. personal or work).
2. Describe undergraduate nursing students' attitudes towards PUP.

Significance to Nursing

This study has considerable significance to nursing education in preparing students for preventing pressure ulcers in their patients. The short-term goal for this study was to understand nursing students' experiences with PUP and how they decide whether pressure ulcer prevention is important to consider in patient encounters. This study provides insight into nursing students' attitudes towards and experiences with PUP. The long-term goal is to improve the quality of nursing care for people at risk for developing pressure ulcers. This study provides the basis for developing and incorporating appropriate evidence-based educational material and learning activities about PUP and pressure ulcer management into the curricular content of schools of nursing. PUP should be a high-priority clinical practice, and the quality of care for preventing pressure ulcers will be enhanced by educating nursing students about the vital importance of PUP in their practice.

CHAPTER II

Literature Review: Overview of Chapter

This chapter presents a review of the literature and an assessment of Wenger's (2008) Communities of Practice social learning theory as it relates to nursing students engaged in their Communities of Practice (nursing education) regarding pressure ulcer prevention. Literature relating to practicing nurses' and nursing students' experiences and attitudes about pressure ulcer prevention is the focus of this review. This chapter starts by reviewing a controversy surrounding pressure ulcers and then describes the theoretical background of attitudes and the conceptual framework of Wenger's (2008) Communities of Practice theory. In addition, the concepts of spiral curriculum and scaffolding are described as they relate to teaching nursing students about PUP. The final section of this chapter is the literature review of practicing nurses' and nursing students' attitudes towards and experiences of pressure ulcer prevention.

The topic of PUP has been of increasing importance and is situated within the broad concept of quality health care. Pressure ulcers are a key nursing-sensitive indicator and a "never event" (AHRQ, 2012). The term never event was coined in 2001 by Ken Kizer, former CEO of National Quality Forum, and is in reference to medical errors that should never occur and that are reported to the Joint Commission (AHRQ, 2012). The National Quality Forum (NQF) endorses a quality measurement framework to prevent pressure ulcers across clinical care settings in the U.S. with the mission to improve healthcare quality (NQF, 2011). As nurses have the responsibility to prevent pressure ulcers (Zulkowski, Ayello, & Wexler, 2010) this study explores how nurses are prepared to provide PUP in their undergraduate nursing education.

The Institute of Medicine (2011) asserts that a priority in reforming health care in the U.S. is to educate baccalaureate nursing students in a manner that will meet the growing need to provide and coordinate complex and high quality care for a wide variety of patients. The initial formation of practicing nurses' skills and attitudes occurs in their nursing education. The Institute of Medicine (2011) reports that undergraduate nursing education is where "attitudes about nursing and nursing care are first formed" (p. 559). This chapter describes a theoretical framework for the formation of attitudes related to PUP and reviews empirical reports about PUP attitudes among nurses. The scant empirical literature on student attitudes towards PUP is also included.

Controversy About Prevention of Pressure Ulcers

A controversy exists about whether all pressure ulcers are preventable. An argument purports that since the skin is an organ, it has the potential to breakdown like any other organ. Therefore not all pressure ulcers are preventable. The other frame of reference views all pressure ulcers as preventable with diligence, the best resources, and preventative tools and measures. This stance considers pressure ulcers as never events (Black et al., 2011; Thomas, 2001; Thomas, 2003; WOCN, 2009). The significance of the debate is underscored by the 2008 change in policy of the Centers for Medicare and Medicaid Services (CMS) to no longer reimburse hospital-acquired Stage III and Stage IV pressure ulcers (Black et al., 2011; Jankowski & Nadzam, 2011). If a pressure ulcer is found and documented 24 hours after hospital admission then it is considered a hospital-acquired pressure ulcer. The action by CMS is viewed as an attempt to contain the increasing costs of health care (Jankowski & Nadzam, 2011). Regulation can be a

powerful motivator but whether the goal of being able to prevent a pressure ulcer in the hospital setting is realistic is debatable (Jankowski & Nadzam, 2011).

When precautionary standards of care are followed most pressure ulcers are preventable (Olshansky, 2005), however, frail, older adults often develop pressure ulcers that do not heal and many persist as chronic stage III and stage IV ulcers for the rest of their lives (Jaul, 2003; Garcia & Thomas, 2006). According to CMS an unavoidable pressure ulcer in long-term care facilities is a pressure ulcer that occurred despite best practices and interventions for the client in preventing the pressure ulcer occurrence (Jankowski & Nadzam, 2011) but this definition does not extend to the hospital setting.

In 2010, a NPUAP consensus panel agreed that an unavoidable pressure ulcer means that the patient developed a pressure ulcer even though the health care provider had evaluated the patient's "clinical condition and pressure ulcer risk factors, defined and implemented interventions that are consistent with individual needs, goals and recognized standards of practice, monitored and evaluated the impact of the interventions, and revised the approaches as appropriate" (Black et al., 2011, p. 26). The consensus panel recommended that this definition could be applied to all care settings and not limited to only long-term care (Black et al., 2011). However, CMS currently does not recognize this stance as demonstrated by the reimbursement policy in hospitals (Black et al., 2011; Jankowski & Nadzam, 2011).

In addition to the NPUAP consensus panel about unavoidable pressure ulcers, a Wound, Ostomy, and Continence Nurses Society (WOCN) consensus panel defines an unavoidable pressure ulcer as when a resident has developed a pressure ulcer:

> Even though the facility had evaluated the resident's clinical condition and pressure ulcer risk factors; defined and implemented interventions that are consistent with resident needs, goals, and recognized standards of practice; monitored and evaluated the impact of the interventions; and revised the approaches as appropriate (WOCN, 2009, p. 1).

Examining and being aware of the controversy between the two frames of reference towards PUP is important since potential role models such as a nursing faculty or clinical staff nurses may influence the formation of attitudes by students towards PUP. Faculty and staff beliefs and attitudes about whether or not all pressure ulcers are avoidable may influence the amount and nature of attention that faculty and staff have towards PUP, and how they discuss PUP with students. Since evidence about PUP is currently evolving (Kottner, Blazer, Dassen, & Heinze, 2009) the perspectives of nursing faculty and clinical staff, and the information and emphasis shared by them may have an effect on students' attitudes towards PUP.

Theoretical Background

Attitudes Influence Behavior

The concept of attitude is complex and involves values, beliefs, feelings, experience, motivations, intentions, and behavioral intent (Fishbein & Ajzen, 1975; Moore, 2004, Pickens, 2005). Attitudes have cognitive (beliefs/thoughts), affective (emotions/feelings) and behavioral (actions) components (Pickens, 2005). Attitudes involve consistent predispositions that involve particular beliefs and inclination towards a

situation or an object, as well as both favorable and unfavorable evaluations of a situation or object (Fishbein & Ajzen, 1975).

Attitude is defined as the "mindset or tendency to act in a particular way due to both an individual's experience and temperament" (Pickens, 2005, p. 44). Attitudes are shaped by one's perception of experiences (Pickens, 2005). Perception is the process by which people "interpret and organize sensation to produce a meaningful experience" (Pickens, 2005, p. 52) and is defined as "the way in which something is regarded, understood, or interpreted" (Oxford Dictionary, 2012).

Beliefs or "internal cognitions" involve information one has on a particular subject and may involve biases, stereotypes, and prejudice (Fishbein & Ajzen, 1975). Beliefs are internal components of attitudes, but are displayed outwardly by a person's behavior (Fishbein & Ajzen, 1975; Pickens, 2005). Attitudes can be displayed by both verbal and non-verbal behaviors (Fishbein & Ajzen, 1975). Values, on the other hand, are defined as an "enduring belief" that a specific way of existence is of more value than another way of existence (Rokeach, 1973) and reflect "cultural criteria or evaluative standards for judgment with regard to what is ideal" (Hayden, 1988, p. 416). Based on the literature, a conceptual diagram of how the concepts of values, beliefs, attitudes, experiences, and behaviors are interrelated is presented in Figure 2.

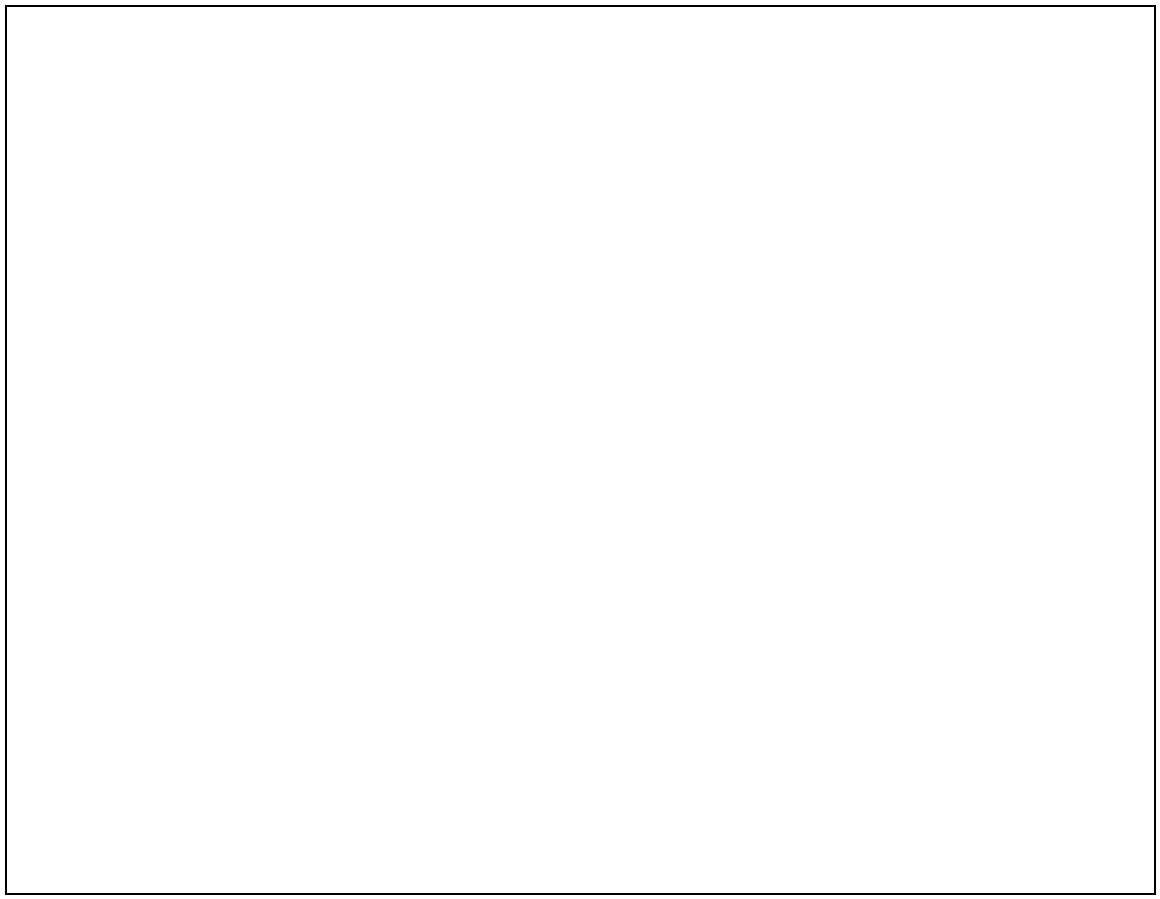


Figure 2. Conceptual Diagram of Values, Beliefs, Attitudes, Experiences, and Behaviors.

Attitudes are learned, formed, and influenced by experience, socialization, and interaction with modeling others (Fishbein & Ajzen 1975; Pickens, 2005). In addition, attitudes can be changed, although changing attitudes can take time, determination, and effort (Pickens, 2005).

Attitude theorists and researchers have been studying the complexities of how attitudes influence behavior for several decades (Fazio, 1986). Ajzen and Fishbein (2005) investigated the assumption that attitudes can be used to predict and understand behavior. Attitudes "influence our decisions, guide our behavior, and impact what we selectively remember (not always the same as what we hear)" (Pickens, 2005, p. 48). Theorists have determined that behavior is influenced by perception, interpretation, and definition of a

situation and when attitudes influence perceptions this determines the degree to which behaviors are influenced (Fazio, 1986). “Attitudes determine for each individual what he will see and hear, what he will think and what he will do” (Allport, 1935, p. 806, as cited in Fazio, 1986, p. 209).

Communities of Practice Social Learning Theory

The concept of “Communities of Practice” was originated by Etienne Wenger and Jean Lave (1991) when they described situated learning that takes place in an apprenticeship model. Wenger (1994, 2008) further developed the Communities of Practice social learning theory (see Figure 3). Situated Learning and Communities of Practice theories are based upon the educational philosophy of John Dewey (1938) who identified the importance of authentic experiences on learning and constructivist notions that learning occurs through social interactions, experience, reflection, and transformation (Rogers & Freiberg, 1993). The concept of constructivist learning (upon which Communities of Practice and Situated Learning is based) is that learners interact with the social as well as physical world rather than absorb knowledge passively (Yukawa, 2010).

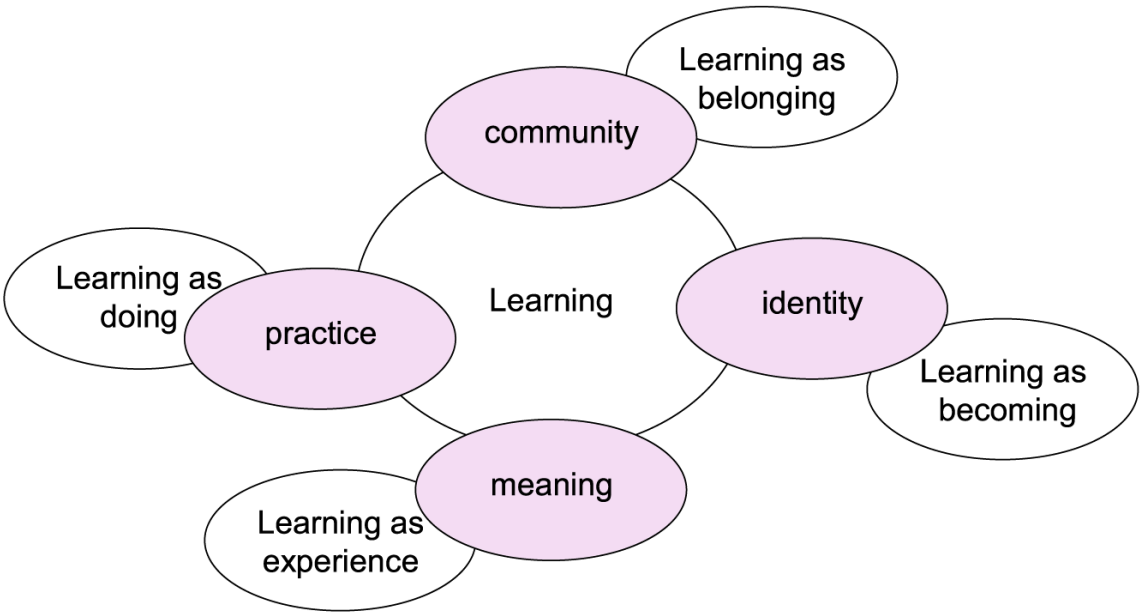


Figure 3. Wenger's (2008) Model of Communities of Practice Learning Theory. Reproduced with permission of the author (Wenger, 2008).

Lave and Wenger (1991) introduced the concept of identity formation and stated that learning is a situated activity and is an aspect of all activities. Thus learning involves social co-participation in both social and physical contexts. Learning is not just about factual knowledge (Lave & Wenger, 1991) but involves the whole person including beliefs and values that are a part of attitudes (Pickens, 2005). "Identities combine competence and experience into a way of knowing. They are the key to deciding what matters and what does not, with whom we identify and whom we trust, and with whom we must share what we understand" (Wenger, 2000, p. 239). Within the communities of practice a person learns from a shared culture where he or she negotiates meaning of experiences. Also, within the communities of practice the formation of identity occurs (Wenger, 2008). Individual attitudes are shaped and shared (see Figure 4) in communities of practice. Figure 4 is adapted from Wenger's (2008) Communities of Practice social

learning theory model. Experiences in the communities of practice influences a person's learning, which in turn influences and shapes attitudes; attitudes also influence the experiences a person has (Ajzen and Fishbein, 2005). In other words, within the community of practice of an undergraduate nursing school, the individual nursing student experiences identity formation through learning experiences in being educated as a nurse. The nursing student is exposed to and is influenced by communities of practice cultures and attitudes towards PUP.

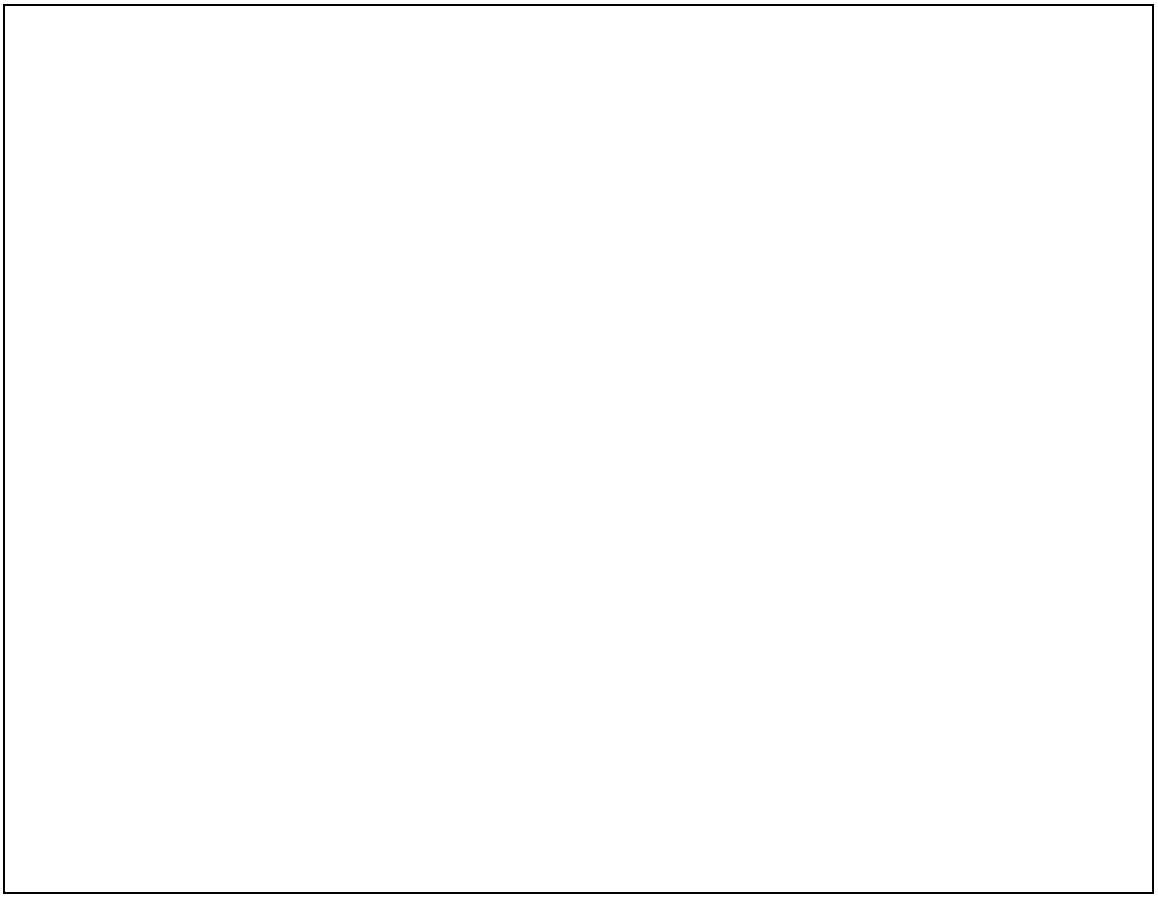


Figure 4. Adapted Model of Communities of Practice – Learning Interaction (2013). Adapted with permission from the author (Wenger, 2008).

Lave and Wenger's (1991) approach to learning is from an analytic perspective (a way to understand learning) and involves the theory of social practice and co-

participation where learning occurs in specific contexts and is embedded within distinct social and physical environments—not isolated in an individual's mind. The "notion of participation thus dissolves dichotomies between cerebral and embodied activity, between contemplation and involvement, between abstraction and experience: persons, actions, and the world are implicated in all thought, speech, knowing, and learning" (Lave & Wenger, 1991, p. 52). Learning is highly interactive and occurs by an individual engaging in the skills and practice of a particular community (Wenger, 2008).

Learning is an engaging, dynamic, and interactive process called "legitimate peripheral participation" (p. 34) by Lave Wenger (1991). In this conceptualization there is no official periphery and no particular center, all individuals participate in varying degrees, and learning occurs by increased access to "participating roles in expert performances" (Lave & Wenger, 1991, p. 17). Novices or newcomers become part of the community in which they learn; there is a movement to full participation as they increasingly become more engaged and skilled (Lave & Wenger, 1991). This concept also involves apprenticeship (learning by doing) that leads to the broader concept of situated learning (Lave & Wenger, 1991) where the learner gains access to understanding with growing involvement. The concept of apprenticeship goes beyond the formal or narrow form of apprenticeship that is seen in feudal Europe. It includes the wide variety of apprenticeship forms found in human history, from diverse cultures, and throughout the world (Lave & Wenger, 1991). "Learning is an integral and inseparable aspect of social practice," (Lave & Wenger, p. 31) and they place an emphasis on the "sociocultural transformations with the changing relations between newcomers and old-timers in the context of a changing shared practice" (Lave & Wenger, 1991, p. 49).

Unfortunately, the concept of situated learning has been misunderstood as being confined within specific contexts and that is why Wenger (2008) developed communities of practice as a more encompassing concept.

The underlying theme of the theory of Communities of Practice involves a duality between an individual and social involvement in a community that is inseparable (Wenger, 2008). Assumptions of the Communities of Practice theory include: 1) students are social beings, 2) knowledge concerns the mastery or expertise of important endeavors (Wenger, 2008), 3) learning and knowing are linked to actively participating in the community, and 4) learning is due to meaningful or significant experience in the world and community (Wenger, 2008). What a person views as meaningful is influenced by his or her attitudes, perceptions, beliefs, and values as well as the communities of practice's overall culture and attitudes. Participation in specific communities is a form of belonging or action where identities are formed (Wenger, 2008). "Such participation shapes not only what we do, but also who we are and how we interpret what we do" (Wenger, 2008, p. 4)—in other words, nursing students who engage actively in school are shaped by those whom they are in contact with and the material they cover, including exposure to the culture, and the attitudes (beliefs and values) of their peers, nursing faculty, clinical staff, and other people with whom students encounter. Wenger (2008) continues, "We pay attention to what we expect to see, we hear what we can place in our understanding, and we act according to our world views" (p. 8). This is tied into a person's beliefs and values that form his or her attitudes (Pickens, 2005).

In the Communities of Practice theory there are four components that are necessary for social participation and learning: 1) meaning: learning as experience in

meaningful engagement, 2) community: learning as belonging/a worthwhile social configuration of nursing where competence is recognized, 3) practice: learning as doing in mutual engagement, and 4) identity: learning as becoming, where learning changes who we are and we have personal histories in context of our communities (Wenger, 2008). These four components are essential characteristics of a community of practice. Knowledge and skills are gained through active participation in activities that experts of that community would perform (Wenger, 2008). In other words, nursing students obtain nursing skills and knowledge by participating in clinical, simulated laboratory, unfolding case-studies, and concept-based learning activities. As the students become more involved in their community of practice, they acquire certain beliefs and behavior (Wenger, 2008). For example, instructors may act as practicing nurses and expose the students to the process of grappling with authentic problems in the simulated laboratory and also expose students to their own values and beliefs (attitudes).

Wenger (2008) explains that theories of social practice "are concerned with everyday activity and real-life settings, but with an emphasis on the social systems of shared resources by which groups organize and coordinate their activities, mutual relationships, and interpretations of the world" (p. 13). Students in nursing school are exposed to a wide range of nursing possibilities related to everyday activity in specific practice settings including hospitals, to long-term care, and community settings. Nurses work in their social systems where emphasis is placed on maintaining relationships, sharing resources, and organizing and coordinating activities.

In this dissertation research, the community of practice is conceptualized as the broad community of the nursing school that includes nursing students, staff, faculty,

clinical staff, patients, and patients' families and caregivers. Learning in this community is not limited to acquiring knowledge but also about social involvement and interaction. Learning changes "who we are and what we do, it is an experience of identity. The experience is not just an accumulation of skills and information, rather, it is a process of becoming: "to become certain kind of person, or conversely, to avoid becoming a certain person" (Wenger, 2008, p. 215).

Summary of Communities of Practice Social Learning Theory

The Communities of Practice social learning theory in the application to this dissertation research involves facilitating and spreading of attitudes and assumptions in social interaction among nursing students, nursing faculty, staff, and clinical staff and practitioners. This learning theory emphasizes collaboration in preparing nursing students to become skilled practitioners.

Spiral Curriculum

The concept of a spiral curriculum is important for the development of student nurses as they learn more advanced skills. Implications for teaching using a spiral curriculum are obvious (Dreyfus & Dreyfus, 1980) in that instructors designing the courses need to be aware of the students' developmental stages and how to facilitate further advancement and development in learning increasingly complex information (Dreyfus & Dreyfus, 1980). The instructors must not introduce too advanced or complicated knowledge that is not suitable for students at a particular stage because this may actually hinder progression of the student to the next stage of knowledge development (Dreyfus & Dreyfus, 1980). Within the spiral curriculum instructors use a technique and interactional support called scaffolding, a concept originally coined by

Jerome Bruner in 1975 (Foley, 1994) and based on some of philosopher Vygotsky's original work (Foley, 1994; Vygotsky, 1978). Scaffolding is a support structure where the educator is knowledgeable and facilitates the processes, building of skills, and strategies for learning in order to motivate students to accomplish learning (Lave & Wenger, 1991). Scaffolding is a form of role modeling and helps students reflect. As students progress in their learning through the months and years of education this scaffolding support is reduced as students gain increasing control and responsibility and are able to perform skills/tasks without support (Lave & Wenger, 1991). Within the spiral curriculum an assumption is that PUP content would be taught throughout the nursing curriculum in preparing nursing students for their final year to enter the clinical field of nursing practice and take on the important task of PUP.

Pressure Ulcer Prevention

The following section provides a synthesis of empirical data related to the current literature about practicing nurses' and nursing students' attitudes towards PUP. The search strategy for pressure ulcer prevention attitude literature is described. After this, literature regarding attitudes of practicing nurses and nursing students in the U.S. and then internationally are described.

Search Strategy for Pressure Ulcer Prevention Attitude Literature

Search strategies were developed with a Senior Reference and Instruction Librarian, and included medical subject headings (MeSH) and keywords. Language restriction of English was applied to the search. The initial search was conducted in three computerized databases from January 1960 to December 2012: Cumulative Index to Nursing and Allied Health Literature (CINAHL), Ovid MEDLINE ®, and PubMed.

Keywords and MeSH terms used included: pressure ulcer(s) (includes decubitus ulcers), student(s), nurse(s)/nursing, faculty/teacher(s)/instructor(s), education, training, attitude(s), belief(s), experience, perception, performance, behavior, prevention, barriers, facilitators, and risk factor(s). A broad approach was developed that combined terms relating to population (nurses and nursing students) as well as topic of interest (pressure ulcer prevention) that resulted in 280 references. CINAHL, Ovid MEDLINE ®, and PubMed yielded 178, 48, and 53 articles, respectively.

Of the 280 retrieved, 59 articles were duplicated among the computerized databases, and thus 221 retrieved references remained. These were further screened through abstract or full text excluding 179 non-research articles and 31 research articles that did not address attitudes towards PUP resulting in 11 research articles. A total of 11 studies were used in this summary on attitudes towards PUP among practicing nurses and nursing students (see Figure 5). Eight of these were international research studies (eight studies about practicing nurses and one of the articles also investigated nursing students) and three were U.S. studies (all three focused on practicing nurses) (see Figure 6). No U.S. studies were located about nursing students' attitudes towards PUP. See Appendix A for a summary of the 11 reviewed studies. Particular focus was placed on the studies in the U.S. as this dissertation research took place in the U.S. Nursing faculty was an initial search term, however, no U.S. or international reports on nursing faculty attitudes towards PUP were located.

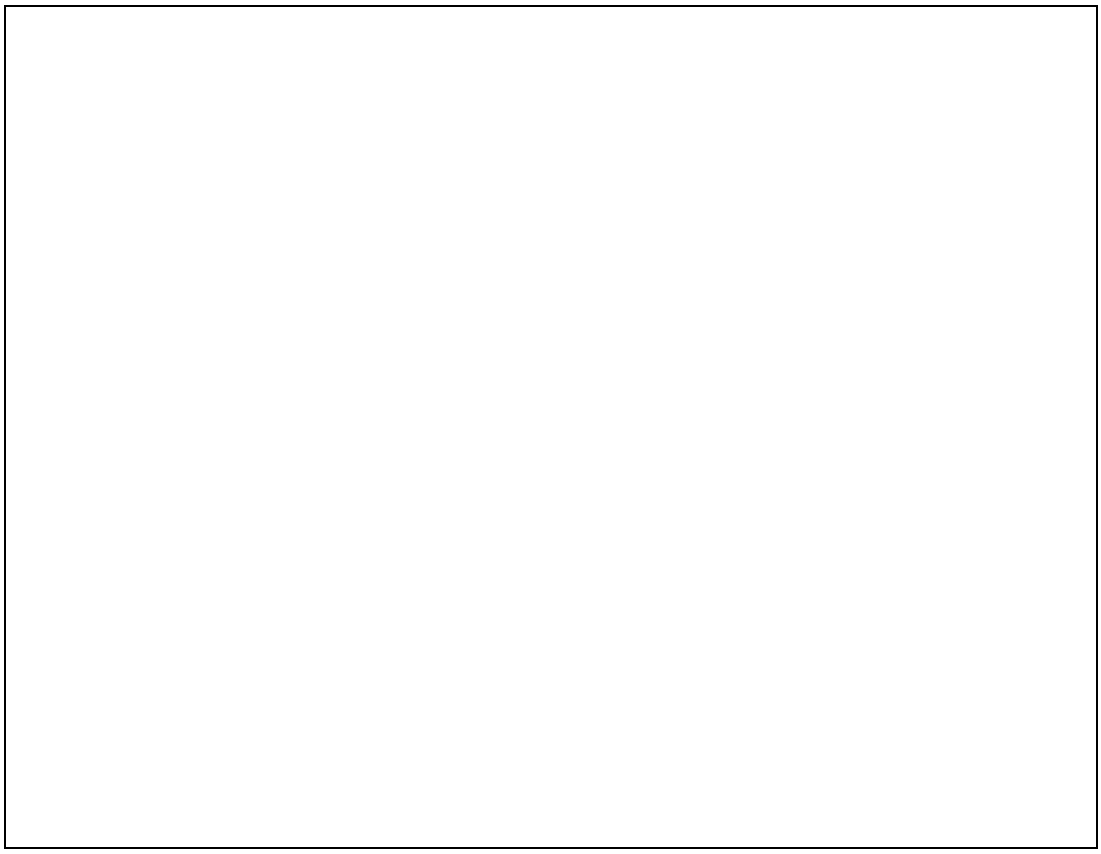


Figure 5. Literature Search Strategy.

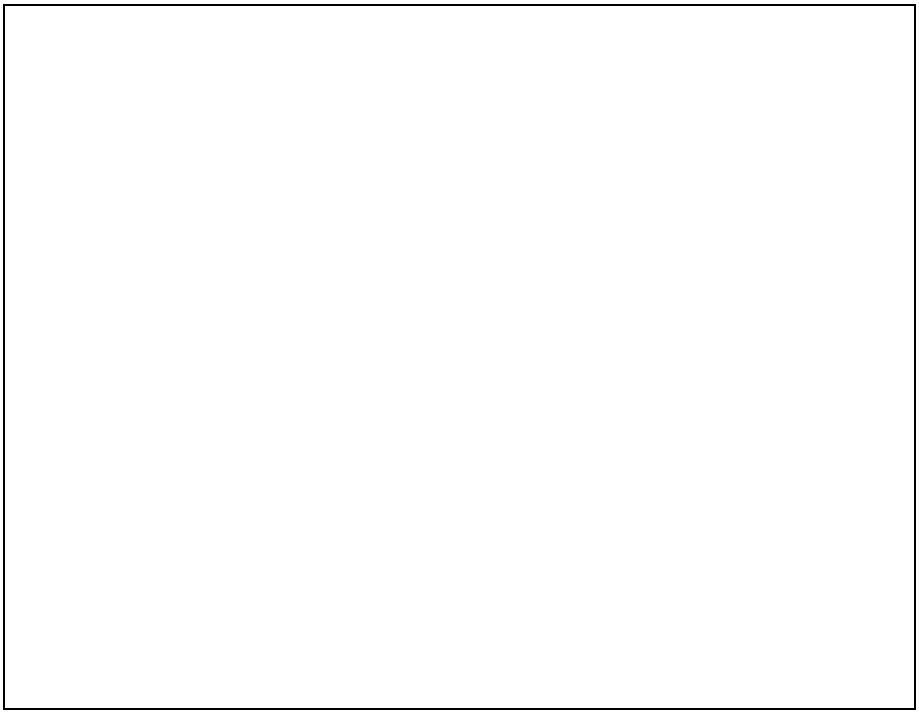


Figure 6. Research Studies Focused on Attitudes.

Pressure Ulcer Prevention Attitudes

U.S. Studies about Attitudes Towards Pressure Ulcer Prevention

No U.S. studies were found about nursing students' attitudes towards PUP. Three studies investigated practicing nurses' perceptions towards PUP. The oldest in this literature review, a study conducted by Bostrom and Kenneth (1992), assessed nurses attitudes towards PUP through open-ended questions. The researchers used a random sample of 245 nurses from five hospitals and 40 nurses from a homecare agency in California. The study indicated the practicing nurses considered PUP interventions as low priority activities (Bostrom & Kenneth, 1992).

The second study examined PUP position changes and long-term care (health personnel perceptions of barriers for PUP using a survey with four questions about time interval for turns, whether PUP practices were used, who turned clients, and perceived barriers in providing PUP (Helme, 1994). A convenience sample at 40 long-term care facilities was used with a total of 86 nurses and licensed practical nurses, 198 certified nursing assistants, and 40 administrative/supervisory nurses. The findings were discussed by combining all the reports of participants as a group and not differentiated by role. Sixty-eight percent of the staff placed the PUP repositioning responsibility and assumption on someone else and only 29% felt it was their responsibility (Helme, 1994). Helme (1994) concluded PUP as not highly valued and was considered a low priority measure since most of the staff assumed someone else was responsible for PUP.

A third study investigated practicing nurses' attitudes towards PUP using a quasi-experimental design. Fitzpatrick et al. (2004) found that nurses' attitudes towards care of older adults and pressure ulcer management improved with an intervention. They

investigated the impact of an intervention on attitudes about aging and caring for hospitalized older adults. The intervention had seven different topics of which one topic included pressure ulcers. The study sample included 48 nurses pre-intervention and 40 nurses post-intervention. Twenty-one training modules were used in the intervention and content included attitudes about aging and pressure ulcers in older adults (Fitzpatrick et al., 2004). Pre-test and post-test evaluation involved assessments of attitudes using the Geriatric Institutional Assessment Profile (5-point Likert-type scale from strongly agree to strongly disagree). There are no reports of reliability or validity of this instrument. These results were compared to 12,592 nursing staff from 10 hospitals within the Nursing Care Quality Initiative Project who had completed the Geriatric Institutional Assessment Profile. After training, the interventional nurses had significantly more positive attitudes towards PUP when compared to all other nurses ($p = .05$) (Fitzpatrick, et al., 2004). It is not known how these positive attitudes towards PUP last over a longer time period.

In summary, there were only three studies that investigated nurses' attitudes towards PUP. One of these focused on nurses' attitudes concluding that nurses considered PUP as low priority (Bostrom & Kenneth, 1992). The other two more recent studies focused on either nurses' perceptions of barriers to providing PUP or an intervention study on providing pressure ulcer management for older adults (Fitzpatrick et al., 2004; Helme, 1995). Both of these studies included nurses' attitudes as part of their investigation. Helme (1995) concluded that nurses' also considered PUP as low priority. The third study by Fitzpatrick et al. (2004) found that after the intervention nurses' attitudes improved towards PUP. There were no studies that investigated nursing students

and pressure ulcer prevention in the U.S., and specifically no studies about nursing students' attitudes towards PUP.

International Studies about Attitudes Towards Pressure Ulcer Prevention

Eight studies described practicing nurses' attitudes about PUP (Athlin, Idvall, Jernfält, and Johansson, 2010; Beeckman, Defloor, Schoonhoven, and Vanderwee, 2011; Källman & Suserud, 2009; Maylor and Torrance, 1999; Moore and Price, 2004; Samuriwo, 2010; Young, Williams, Lloyd-Jones, and Pritchard (2004). Only one study included nursing students in their sample. Samuriwo (2010) conducted a grounded theory study on 13 nurses and three nursing students' attitudes towards PUP in 14 Welsh hospitals. Two of the students were in their second year and one in the third year of education. Participants were asked open-ended questions about their experiences of caring for patients with pressure ulcers. Although participants were not explicitly asked about their attitudes regarding PUP, Samuriwo (2010) found that the nurses who placed a high value on PUP were more proactive in protecting patients from pressure ulcers. However, the nurses' PUP efforts were impeded by colleagues who had low values for PUP. The study shares one nursing student's response that the nurses she observed relied on nursing assistants to keep them informed of patients' skin status and nurses did not complete skin checks themselves. The nurses appeared to have an overall dismissive attitude towards PUP. One nursing student indicated she was able to experience skin checks in the clinical setting, stating, "I've done it loads of times, you turn a patient, and you see they've got a mild or worsening pressure ulcer. When you ask the qualified (nurse) to have a look at the patient's skin, the nurse just says: 'oh, pop a dressing on it'" (Samuriwo, 2010, p. S13).

In general, participants reported placing a high value on PUP, but this could be due to the fact that all participants volunteered to be interviewed about PUP (Samuriwo, 2010) and were possibly more motivated and enthusiastic about PUP. Samuriwo (2010) found that participants felt that valuing pressure ulcer prevention had a "direct impact on the care that was delivered to maintain the patients' skin integrity" (Samuriwo, 2010, p. S12). One practicing nurse participant stated, "…you either love wounds like pressure sores or you hate them. Some nurses, like myself, are interested in wound care and prevention, but other nurses are not interested, because it's not a sexy subject." Another practicing nurse stated, "Some nurses like pressure ulcers, but others don't. The nurses who are enthusiastic about pressure ulcers prioritize pressure ulcer prevention and management in their workload compared to the nurses who are less enthusiastic about pressure ulcers" (Samuriwo, 2010, p. S13). One nurse manager stated, "I don't know if the nurses' prioritization, especially the low priority attached to pressure area care, is related to the amount of time that they have spent in nursing, or if nurse education nowadays does not highlight the importance of the fundamentals of nursing care" (Samuriwo, 2010, p. S13).

Moore and Price (2004) used a survey design to investigate the attitudes, behaviors, and perceived barriers to PUP by 121 acute care nurses in Ireland. Although the authors indicated nurses in Ireland had a general positive attitude towards PUP, this was not reflected in their actual practice of PUP, with 51% indicating PUP as not high priority, 41% believing PUP was time consuming, and 28% less interested in PUP than in other nursing clinical work. Moore and Price (2004) discuss the possible limitation that participants may have felt they needed to portray socially desirable answers in the survey

by a positive attitude towards PUP. Their study shows the complexity of the relationship between attitudes and environmental barriers such as low staffing levels that impede PUP (Moore & Price, 2004).

The third study was conducted by Beeckman et al. (2011) in Belgium. They investigated 553 nurses from 14 hospitals using a validated instrument, the Attitude towards Pressure Ulcer Prevention tool (APuP). The 13-item instrument uses a 4-point Likert-scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) and has five subscales: 1) personal competency to prevent pressure ulcers, 2) priority of pressure ulcer prevention, 3) impact of pressure ulcers, 4) responsibility in pressure ulcer prevention, and 5) confidence in the effectiveness of prevention (Beeckman et al., 2011). Higher scores reflect a more positive attitude. An average (≥75%) attitude score was considered to be satisfactory for a positive attitude towards PUP. Previous validation research indicated the content validity index of the items was between 0.87 and 1.00 (Cronbach's α = 0.76 – 0.81) (Beeckman et al., 2011). In addition, they investigated nurses' knowledge using a survey with 26 items and had trained nursing supervisors conduct clinical observations on each of the units using a data collection instrument. The data collection instrument gathered general data (such as type of hospital unit), patient data (age, gender, and whether incontinent), risk assessment (Braden Scale), skin observation (stage, location, and whether there was presence of incontinence-associated dermatitis), and prevention of pressure ulcers (materials used for repositioning and frequency of use while patient was in bed or seated) (Beeckman et al., 2011).

Beeckman et al. (2011) concluded only half of the nurses in the study showed positive attitude towards PUP by scoring 75% or greater on the Attitude towards Pressure

Ulcer Prevention scale, although they mention the results may have been more positive than what is normally experienced as participants could have felt they needed to provide socially desirable answers. Overall, this study indicated that a positive attitude towards PUP is significantly correlated with actual application of PUP measures. A positive correlation was found between nurses' attitudes about priority to PUP and their total PUP knowledge score ($p < .001$), PUP attitudes and application of PUP ($p = .016$), and total attitudes score and total knowledge score ($p < .001$) (Beeckman et al., 2011). In regards to the application of PUP, the authors found that only 13.9% of all patients at risk of pressure ulcers received any preventive measures. The investigators suggest creating interventions that target and improve attitudes and nursing practice as they found no correlation between knowledge and PUP application ($p = .71$) (Beeckman et al., 2011), similar to the study by Moore and Price (2004). They also state the importance to target nursing supervisors regarding improving PUP attitudes as they can have a strong influence over the newer, more novice nurses (Beeckman et al., 2011).

The fourth study was conducted in the United Kingdom. Maylor and Torrance (1999) used a survey to investigate practicing nurses' beliefs about pressure ulcer outcomes. Questionnaires that were first piloted with 17 nurses were distributed to nursing staff in the national health system. Out of the 625 questionnaires distributed, 439 were completed and returned. Maylor and Torrance (1999) found that the more nurses believed they had control over pressure ulcers (strong locus of control), the higher the prevalence of pressure ulcers on that specific unit. Although this may seem counterintuitive, the finding showed that the less nurses felt they had control, the more they worked at ensuring patients received PUP. There were 70.5% of nurses who

considered PUP as low priority compared to other nursing practice and 78.7% of the nurses felt they were not interested in PUP (Maylor & Torrance, 1999). Limitations to this study, including participants being aware of the research topic, may have motivated the nurses to respond to certain measures for PUP that they normally would not have done, and many nurses did not state their opinion or attitude about PUP in the survey (Maylor & Torrance, 1999). It is possible that participant awareness generated response bias in favor of PUP. Mayor and Torrance (1999) admit that investigating nurses' values and beliefs via an interview may have revealed more including why they may not want to address their attitudes towards PUP.

The fifth study was a qualitative study of 15 nurses from two hospitals and 15 nurses from a community care setting in Sweden. Athlin, Idvall, Jernfält, and Johansson (2010) found that practicing nurses had an overall negative attitude towards PUP. The nurses considered PUP as "low status work" and although the nurses had primary responsibility for PUP it was the healthcare assistants who were directly involved in PUP.

In the sixth study, Källman and Suserud (2009) investigated attitudes of nursing staff and nursing assistants (n = 154) regarding PUP in Sweden. A previously validated survey was modified for this study; one was a questionnaire created by Moore and Price (2004) to assess for staff nurses' attitudes towards PUP. It was translated into Swedish and pilot-tested. Only 37% of participants felt there was an agreed upon strategy for PUP on their unit (Källman & Suserud, 2009). In general, 94% felt pressure ulcers could be prevented and 95% felt they should be concerned about PUP, but 41.5% felt their personal clinical judgment was better than any pressure ulcer risk assessment tool, whereas 24.3% disagreed with this and 34.2% were neutral (neither agree nor disagree)

(Källman & Suserud, 2009). The authors discuss possible limitations to the attitudes survey in the way people interpret the statement; for instance, "Pressure ulcer prevention is time consuming for me to carry out." If participants agreed with this statement then they would have a negative attitude towards PUP according to Moore and Price (2004), although it is possible that participants who consider PUP as important and are willing to be engaged and take a longer time in preventing pressure ulcers view PUP as time consuming.

Although the specific aim of the seventh study by Young et al., (2004) was not to investigate attitudes towards PUP, they conducted a qualitative observational study in Europe about nurses' PUP practice and found a disconnect between practice and theory: the nurses were not interested in PUP, the majority of PUP practices were delegated to "unqualified staff" and nursing students, and nurses spent very little time assessing and monitoring the skin of patients. Over 100 observations of four hours each took place in three different hospital units to gather general information about nursing practice related to PUP and pressure ulcer treatment (Young et al., 2004). This information was then used to create a survey that was sent out to 391 members of the European Pressure Ulcer Advisory Panel of whom 86 completed the survey (of this group, 78% were nurses). They were asked to place each of the observational practices (toileting, hygiene, nutrition, positioning, skincare, and miscellaneous) into one of four categories: 1) PUP; 2) pressure ulcer treatment; 3) combination of all three: PUP, treatment, and general nursing care; or 4) unsure (Young et al., 2004). Participants categorized toileting as part of general nursing care (64%). Whereas, nutrition (61%), repositioning (50%) and use of pressure-relieving surfaces (68%) were categorized as a combination of all three PUP, treatment,

and general nursing care. Only 33% categorized pressure-relieving surfaces specifically as PUP (Young et al., 2004). The researchers were concerned that the importance of PUP as an entity in itself may be lost due to the nurses' views that it is of low status rather than PUP practices being incorporated into a holistic approach of general nursing care and not visibly evident. Certain nursing practices, such as providing nutritional supplements and repositioning were categorized as a combination of all three: PUP, treatment, and general nursing care. From these results the researchers determined that specific nursing care practices in pressure ulcer prevention and treatment were assimilated with general nursing care and not viewed as a distinct practice. It is not known whether this loss of distinction can be seen as a step towards providing holistic care or whether PUP is progressively being viewed as low status and unimportant. New nurses learned the importance of PUP by observing role model nurses perform PUP (Young et al., 2004). A limitation of this study was the small sample with a low return rate of the surveys that were distributed.

In the eighth study, Strand and Lindgren (2010) conducted a descriptive study with questionnaires to investigate intensive care nurses' attitudes and knowledge of PUP in Sweden (n = 146). They found that the participants indicated a lack of PUP risk assessment routine in their work and yet reported they felt PUP was important and that pressure ulcers should be avoided. One hundred and twenty two participants (83.6%) strongly disagreed with the statement "I do not need to concern myself with pressure ulcer prevention in my practice," and 52 participants (35.9%) strongly disagreed with "In comparison with other areas of nursing care, pressure ulcer prevention is a low priority for me." A limitation of this study involves not exploring whom the nurses considered as

being responsible for PUP. There was the possibility that since the questionnaire was voluntary, participants who considered PUP as important may have been more interested and responded to this study, and participants may have completed the questionnaires together: sharing information and influencing each other as they had two weeks to complete the forms.

Summary Review of Pressure Ulcer Prevention: Attitudes

Overall, there is a lack of information about nursing students' attitudes about PUP. Of the international studies one included a sample of three nursing students along with practicing nurses. However, the findings were reported for students and practicing nurses combined. The international studies indicate that practicing nurses have negative attitudes towards PUP. In the U.S. only three studies investigated practicing nurses' attitudes. Two of these studies found that nurses' considered PUP of low value and low priority. The third study found that an intervention improved nurses' attitudes towards PUP but it is unknown whether the effect was lasting on impact on PUP behaviors.

Conclusion

Evidence suggests that in the U.S. and internationally practicing nurses consistently consider PUP as low priority and low importance (Athlin et al., 2010; Beeckman et al., 2011; Bostrom & Kenneth, 1992; Fitzpatrick, et al., 2004; Helme, 1994; Källman & Suserud, 2009; Maylor & Torrance, 1999; Moore & Price, 2004; Provo, Piacentine, & Dean-Baar, 1997; Samuriwo, 2010; Smith & Waugh, 2009; Young et al., 2004). It is important to keep in mind that attitudes determine behavior (Ajzen & Fishbein, 2005). Attitudes are learned through experiences in certain contexts such as environmental settings, communities, and cultures (Moore, 2004). According to Wenger

(2008) learning is interactive where an individual engages in the practice and skills of a particular community while learning and incorporating meanings, attitudes, values, and behaviors of other community members and role models. Possible influences on nursing students could be nursing faculty or nursing role models' attitudes towards PUP. This points to the importance of investigating how nurses' form their attitudes in their undergraduate nursing education, since formation of attitudes and skills occur in these communities of practice (Wenger, 2008).

CHAPTER III

Methodology

This qualitative descriptive study describes undergraduate nursing students' experiences with and attitudes towards pressure ulcer prevention (PUP). The specific aims for this study were to: 1) Describe undergraduate nursing students' experiences with PUP practices during their undergraduate coursework as well as experiences outside of nursing school (e.g. personal or work) and 2) Describe undergraduate nursing students' attitudes towards PUP. As discussed in the previous chapter, little is known about undergraduate nursing students' attitudes about and experiences with PUP, therefore a qualitative exploratory-descriptive research design (Brink & Wood, 1998; Sandelowski, 1995, 2010) was selected in order to identify and describe nursing students' experiences and attitudes.

Study Design

The qualitative exploratory-descriptive design is appropriate for obtaining detailed, contextual descriptions of the phenomenon of interest (Brink & Wood, 1998; Sandelowski, 1995, 2010), in this case, undergraduate nursing students' attitudes about and experiences with PUP. The goal of qualitative description is to provide a thorough description of the phenomenon of interest with minimal interpretation of the data to present data as close to their natural state; "data near" or close to the meanings that participants share (Sandelowski, 2000, p. 78). The product is basic description and a comprehensive summary of nursing students' experiences and attitudes associated with pressure ulcer prevention.

The qualitative exploratory-descriptive design is based in naturalistic inquiry, a process used to understand the participants' perspectives in the context of where and how they experience learning (Lincoln & Guba, 1985). Naturalistic inquiry seeks to identify the everyday experience of the phenomenon of interest from the participant's perspective (Lincoln & Guba, 1985). Participants talk about what they believe are important aspects of the experience being studied and the investigator is open to exploring the various ways that participants experience and talk about the phenomenon of interest (Corbin & Strauss, 2008; Lincoln & Guba, 1985).

A key assumption underlying this philosophical approach is that it requires rich, detailed descriptions (Lincoln & Guba, 1985) of how the participants understand and create meaning in their experiences. Other assumptions underlying naturalistic inquiry include that there are multiple versions of reality or truth, and that people differ in their views and make sense of situations based on many influencing factors including past experiences, upbringing, values, and interactions with others (Lincoln & Guba, 1985; Patton, 2002). How people respond to situations reflects what they perceive as important (Pickens, 2005).

In this study, a goal was to identify the multiple ways that undergraduate nursing students experience caring for patients with pressure ulcers or at risk for developing pressure ulcers and the students' attitudes towards PUP. There is no one right way that undergraduate nursing students experience these situations and the goal for this study was to identify both common and unique ways (Lincoln & Guba, 1985; Patton, 2002) that nursing students made sense of the care needed by patients at risk for pressure ulcers, how they provided that care, and what their attitudes were towards PUP.

The theoretical framework of Communities of Practice social learning theory (Wenger, 2008) guided development of interview questions and data collection. This theoretical approach was selected because it consists of concepts that support this study including social learning, identity formation through social interactions and experiences, and group dynamics. It was discovered that deductively generating descriptions using the Communities of Practice conceptual model (a process described by Hsieh and Shannon, 2005) did not fit with the interview data and therefore open coding was primarily used to find the themes and categories. The Communities of Practice framework helped inform the connections between themes and conceptual categories in the discussion in Chapter V.

Main Concepts/Variables of Interest

The concepts of interest for this research were attitudes and experiences of undergraduate nursing students (see Appendix B). Attitudes and experiences inform each other: people have attitudes going into an experience, and experiences influence their attitudes (Fishbein & Ajzen 1975; Pickens, 2005). The semi-structured open-ended interview guide focused on PUP, then addressed whether participants cared for someone (e.g. patient, family member, friend) with a pressure ulcer and inquired more details about management and treatment of the pressure ulcer.

Definition of attitude. An attitude is the "mindset or tendency to act in a particular way due to both an individual's experience and temperament" (Pickens, 2005, p. 44). Concept of attitudes involves values, beliefs, feelings, experience, motivations, and behavioral intent (Fishbein & Ajzen, 1975; Moore, 2004, Pickens, 2005). Attitudes are learned, formed, and influenced by experience, socialization, and interaction with

"modeling others" (Fishbein & Ajzen 1975; Pickens, 2005). In assessing attitude Ajzen (2005) states it is useful to separate the nonverbal responses from the verbal responses; this was accomplished in the interviews where the investigator made field notes of nonverbal responses of participants while they were responding to questions. Mannerisms and demeanors of participants were included in analysis.

Definition of experience. Experience involves "negotiation of meaning" or how people experience the world and their engagement in it as meaningful (Wenger, 2008). Experience involves physical, tactile, and tangible activities, all aspects of interactions among topics, subjects, and contexts, conscious and unconscious acts, and reflection (Fenwick, 2000).

Pilot Phase

A pilot test was used to test feasibility of the semi-structured interview guide (see Appendix C), usability of the demographic questionnaire (see Appendix D) and gauge length of time to conduct interviews. The pilot test was conducted with five undergraduate pre-licensure nursing students who were not included in the full study. The pilot testing checked the clarity and usability of the interview guide and allowed the investigator to practice asking the interview questions. The average length of time of 45 minutes was determined by pilot-testing the interview questions with the five participants. Minimal modifications were made to the semi-structured interview guide and the demographic questionnaire was simplified based on feedback from pilot interview participants. During the pilot phase an Information Sheet, Screening Script, Lay Language Protocol Summary, Announcement for Faculty, and Announcement for Students were used (see Appendices E – I).

Sampling Plan

In this study, purposive sampling was used to identify senior undergraduate nursing students in an accredited school of nursing. Criteria for selecting study participants included nursing students who were: 1) enrolled in a baccalaureate pre-licensure nursing program, 2) in their senior year of course-work, 3) had successfully completed Health Promotion, Pathophysiology, Pharmacology, Chronic I and Chronic II, and Acute I and Acute I courses, 4) able to speak and understand English, and 5) 18 years of age or older.

The reason senior baccalaureate students were targeted for this study was that they had completed their core courses and had two years of clinical experiences. They were more likely to have had more contact with PUP content than sophomore or junior students. The target population was all senior undergraduate nursing students at a university relatively accessible to the investigator. The sampling plan was purposeful (Patton, 2002) targeting undergraduate nursing students who where in a baccalaureate program and students who completed their first two years at partner community colleges before transferring into the baccalaureate program. The plan was guided by the principle of maximum variation sampling (Patton, 2002) in order to obtain rich descriptions of a range of nursing students' experiences and attitudes towards PUP. The goal was to target participants who could elaborate about their experiences and articulate their attitudes towards PUP. Because these students all had two years of clinical experiences in different settings with different faculty on different campuses, they were likely to have had a wide range of experiences related to pressure ulcer prevention in their clinical and didactic courses.

Recruitment

The participants were recruited from the senior class of a pre-licensure baccalaureate nursing program in an accredited school of nursing. The senior class comprised 63 students in their final year of a three-year curriculum at a baccalaureate school of nursing. Thirty-two students were on the university campus throughout their nursing coursework. The remaining 31 students completed their first two years of similar didactic and clinical coursework at partner community colleges before matriculating at the university for their senior year.

Initially, an announcement was sent via email to 63 senior undergraduate pre-licensure nursing students describing the study, its purpose, and inviting participation. Included in the emails were the investigator's contact phone number and email and a statement that participants would receive a $10 gift card upon the completion of their interview in appreciation for their participation (see Appendix J). Also, information sheets were posted in the student lounge and other public areas where students were likely to gather (see Appendix K).

To gain access to students, the investigator contacted the faculty who taught the clinical preceptorship course that all seniors took in the winter term to explain the study (see Appendix L). Initially, the investigator coordinated with the instructors of each senior preceptorship by email to schedule appointments to make announcements and hand out information sheets (see Appendix M) and Lay Language Protocol Summaries (see Appendix N) to students at the end of two senior preceptorship post-conferences. The information sheet described the purpose of the study, explained that participation was voluntary, and provided the investigator's contact information. The investigator

attended the last five minutes of two post-conferences to present the study and answer questions. A total of 21 students were recruited. Twelve students were recruited at the two post-conferences. Eight of these students participated in the study. Two students voluntarily posted announcements about the study on their student nursing Facebook page for their class. Five students were recruited via the Facebook announcements and all five participated in the study. Initially, most of the students who were recruited had completed all their nursing education in the baccalaureate program. In order to recruit more associate degree transfer students the investigator individually emailed associate degree transfer students who were not at any of the post-conferences or who had not responded to previous emails. Four more students were recruited via email and participated in the study.

All potential participants were screened by phone or email to ensure they met inclusion criteria using a screening script (see Appendix O). Potential participants who met the criteria reviewed the information sheet. The investigator arranged individual interviews with each student for a time, date and place that were mutually convenient. The investigator sought participants who were willing to describe their experiences in detail and share their perceptions.

Data Collection and Instruments

Sixteen nursing students participated in private in-depth interviews and completed the demographic questionnaire. According to Guest, Bunce, and Johnson (2006) a sample size of 15 to 20 participants is sufficient for a qualitative descriptive research design in order to gain informational saturation. For this study eight participants were associate degree transfer students and eight participants had completed all their coursework at the

baccalaureate school of nursing. These numbers provided a variety of experiences and attitudes from students who had different clinical and didactic experiences. This number also provided both a range of perspectives and informational saturation in the interview data (Guest, Bunce, & Johnson, 2006).

The investigator used a semi-structured interview guide with open-ended questions (Munhall, 2007; Rubin & Rubin, 2005) to learn about nursing students' experiences and their attitudes towards PUP, with the goal of acquiring in-depth descriptions and details about their experiences (Patton, 2002; Rubin & Rubin, 2005). The semi-structured interview guide ensured consistency in asking similar questions to all participants, while also allowing the investigator to examine contextual factors from the perspective of the nursing students (Patton, 2002). Using open-ended questions allowed the participants to share detailed information that was important to them (Patton, 2002). In the semi-structured interview guide additional probing questions were incorporated that targeted specific information when a participant had not responded to the more general open-ended questions related to the research question. The investigator did not ask leading questions or attempt to direct the interview in such a way that influenced participants' answers. This was achieved by understanding one's own personality, biases, and preconceptions through self-reflection and evaluation (Rubin & Rubin, 2005) with qualitative seminar colleagues and a methods expert (dissertation chair). In addition, a short introduction was used to set the mood for the interviews and balancing between empathy and openness towards the participants (Rubin & Rubin, 2005). Interviews lasted from 30 minutes to 60 minutes with a mean of 40 minutes.

This semi-structured interview guide was organized and guided by the key concepts from the Communities of Practice learning theory (Wenger, 2008) focusing on four components: 1) Meaning—what participants learned in meaningful experiences related to PUP in the nursing school environment and in their personal lives. For example, "Will you tell me about a time you cared for a person who was at risk for a pressure ulcer? I would like to hear as much as possible that you recall about this experience—the patient situation and the clinical setting, who else was involved in the care, how decisions were made and what was done to prevent pressure ulcers." 2) Community—what participants learned due to a sense of belonging in the social configuration of nursing school. For example, "What experiences have your classmates had in caring for a patient at risk for developing a pressure ulcer?" and "Now I'd like to learn about where in your nursing program pressure ulcers and pressure ulcer prevention are discussed?" 3) Practice—what nursing students learned and experienced as part of engaging in mutual skill and knowledge building related to PUP. For example, "In your role as a future registered nurse, how will you prioritize pressure ulcer prevention given all your responsibilities you will have as a new nurse?" 4) Identity—what participants learned as part of developing their identities as novice nurses in PUP prior to graduation. For example, "How was this experience helpful in preparing you to be a nurse?"

The order of the semi-structured interview questions started with broad questions regarding the students' learning experiences and then became more focused. A question asked early in the interview was, "Tell me about a time when you took care of a patient where you really felt you learned a lot?" A probe for that question was, "What do you think contributed to your learning in this situation?" See Appendix C for all questions.

An emergent design (Lincoln & Guba, 1985; Patton, 2002) was used allowing the investigator the flexibility to explore new avenues of inquiry when new ideas were identified in early interviews and data analysis. The investigator incorporated new probes into subsequent interviews with participants to explore new categories and themes that were identified in earlier interviews. As an example, in the first two interviews students revealed the challenging concept of patient autonomy related to PUP that had not been expressed in previous research related to PUP. The investigator incorporated additional probes around patient autonomy into the semi-structured interview guide. Data were collected until no new categories about nursing students' attitudes and experiences with PUP were identified which indicated that information saturation had been achieved.

Data Analysis

Interviews were digitally recorded by the investigator, transferred in the MP3 format to a computer, and then transcribed verbatim by a paid transcriptionist. The investigator rechecked each transcription against the interview recording twice to ensure accuracy. Data collection, analysis, and verification occurred concurrently. This iterative process allowed the investigator to explore ideas from earlier interviews through subsequent interviews (Sandelowski, 2000). Data analysis involved returning to and examining the data to confirm themes and categories to ensure conclusions were not deviating from the original data.

A qualitative data analysis software tool, Dedoose (Sociocultural and Research Consultants LLC, Manhattan Beach, CA, USA), was used to help facilitate the organization of the data. Dedoose is a highly secure Internet-based application, password protected, and has a fully encrypted database. Thorough summaries for the first four

interviews were written to begin the data analysis. The investigator analyzed these four summaries before conducting additional interviews. All 16 transcripts were carefully read for participants' descriptions about their experiences with and attitudes about PUP and key concepts and themes were identified from the data.

Initially, the investigator attempted to use the Communities of Practice social learning theory framework to deductively analyze the data. It was found that the Communities of Practice framework did not fit well with preliminary data analysis. Therefore, the investigator analyzed and coded all the transcripts using inductive thematic analysis (Hsieh & Shannon, 2005; Patton, 2002; Saldana, 2013). The goal of inductive analysis is to identify and address "core consistencies and meanings" (Patton, 2002, p. 453) of the content while retaining participants' intention and perspectives. The investigator conducted open coding of salient passages without categorizing the codes. As analysis progressed codes were defined and arranged into hierarchical tree-nodes. Similar codes were easily identified in the tree-nodes and grouped together. Comparisons were made within and across interviews analyzing codes, categories, and themes. The data were examined for an array of experiences and attitudes by analyzing the content of interview data and also determining whether students were articulate, enthusiastic, curious, vigilant, systematic, respectful, or valued PUP in the spectrum of nursing care. Selected transcripts and codes were shared with a methods expert (dissertation chair) for a second opinion and additional discussion. The coded information was also analyzed by the methods expert.

Theoretical memos were written throughout the analysis process exploring first impressions, questions, patterns, themes, and concepts regarding participants' attitudes

about and experiences with PUP. The investigator also wrote methodological memos regarding the recruitment process, semi-structured interview guide, interviewing process, coding and analysis process, and decisions made throughout the study. Initial analysis of the data focused on the specific aims of the study, first looking at the wide variety of student experiences with PUP which were separated into two categories: nursing school related experiences or personal experiences such as work. Analysis also focused broadly on student attitudes about PUP. Through analysis of the data, varying levels of attitudes were discerned. The investigator organized the spectrum of attitudes into three distinct categories. The investigator created concept maps to analyze themes and interconnections between student attitudes and experiences with PUP. The data were sorted using the categories and themes with theoretical memos associated with each theme. This material served as the basis for writing the results.

Regular weekly meetings were held with the methods expert (dissertation chair) to review the initial codes, themes and categories. The investigator and methods expert conducted independent interpretations and collaborated in finalizing the themes for the study. In addition, colleagues in a qualitative dissertation seminar reviewed the codes and thematic categories to ensure confirmability of the data.

Verification of Analysis

Lincoln and Guba's (1985) criteria for establishing methodological rigor and validity in qualitative inquiry guided this analysis. Lincoln and Guba (1985) formulated their criteria in term of trustworthiness as evidenced by qualities of credibility, transferability, confirmability, and dependability. Reasons for choosing Lincoln and Guba's (1985) criterion include the fact that their methodological criteria are used widely

in qualitative research (Morse, Barrett, Mayan, Olson, & Spiers, 2002) and complements qualitative descriptive methodology in staying "data near" and close to participants' intended meanings and perceptions (Sandelowski, 2001, 2010).

Credibility involves internal validity of the findings or how well the investigator can represent the participants' perspectives (whether the data are believable from the perspective of participants) (Lincoln & Guba, 1985). A strategy called "peer debriefing" was used to ensure that identified codes, themes, and categories accurately represented the data (Corbin & Strauss, 2008; Crabtree & Miller, 1999; Lincoln & Guba, 1985). According to Lincoln and Guba (1985) the peer debriefer must be a disinterested peer who keeps the investigator honest, probes biases, explores and clarifies meanings (p. 308). Peers in a qualitative seminar served as peer debriefers who reviewed the transcripts, coding schema, theoretical memos and summary descriptions, and provided feedback on prominent categories and patterns in the data. One qualitative seminar colleague was the primary peer debriefer and played the devil's advocate, listened carefully, and provided thoughtful and thorough feedback throughout the research process and during data analysis. In addition, credibility was addressed by a process called member checking that involved verifying and reviewing participants' answers from the interviews during data analysis. The investigator obtained permission from participants to contact them by phone or email to clarify any information they provided that was confusing. The investigator emailed three participants for clarification and received prompt feedback that the interpretation of the data represented the participants' ideas.

Transferability involves external validity or the degree to which the results can be transferred to other contexts (Lincoln & Guba, 1985). Transferability was addressed by providing detailed descriptions of the students' reports as well as the participant demographic data and setting information. Descriptions that are clear and detailed will enable readers to determine the extent to which the findings are applicable or transferable to the readers' populations, settings, or contexts (Lincoln & Guba, 1985). In addition, purposive sampling for students who completed their first two years in different settings may enhance the transferability of the findings to both the baccalaureate and associate degree transfer students.

Confirmability deals with objectivity and to what extent findings are shaped by participants and not by the investigator's motivations and bias (Lincoln & Guba, 1985). There is an assumption that the investigator approaches qualitative research from a unique perspective (Lincoln & Guba, 1985) that needs to be addressed. Confirmability was met by the investigator documenting the procedures by keeping an audit trail (Lincoln & Guba, 1985) for checking and rechecking the data throughout the study. The audit trail demonstrates that the investigator systematically collected and analyzed data (Hsieh & Shannon, 2005; Lincoln & Guba, 1985). This involved keeping a theoretical journal with memos, discussing the categories and ideas, lists of codes and their definitions, patterns identified, and any relationships across patterns and examples of data illustrating specific categories (Corbin & Strauss, 2008) with the methods expert. The investigator kept notes about each interview experience and a reflexive journal about personal responses such as personal thoughts, and immediate impressions during data collection and analysis. In the reflexive journal the investigator examined her biases and

took into account how personal perspectives influenced the analysis (Caelli, Ray, & Mill, 2003; Patton, 2002). The methods expert and colleagues in the qualitative dissertation seminar helped clarify the investigator's thinking and alerted her to any issues related to personal bias or assumptions that were interfering with analysis. Also, the audit trail included new questions and probes that arose during analysis of the data that were incorporated into the interview guide and formed the basis for subsequent interviews. The investigator reviewed these and compared them to the data (Corbin & Strauss, 2008).

Dependability involves consistency or stability of the inquiry process used during data collections and analysis (Lincoln & Guba, 1985). Dependability was achieved by keeping an audit trail and a thorough description of methods used (Lincoln & Guba, 1985) that included methodological memos on how the research was approached and analyzed. Data collection and analysis were monitored by the dissertation committee to ensure accuracy of the investigator's interpretation of data. In particular, the methods expert guided data collection, challenged the investigator's thinking, oversaw the analysis process, examined transcripts, coded data, themes, categories, and theoretical memos. In addition, qualitative dissertation seminar colleagues provided critique and feedback of the data and analysis throughout the inquiry process.

Human Subjects Protection

Approval for the study was obtained from the Oregon Health and Science University Internal Review Board (IRB). The IRB waived the requirement for written consent since this research presented no more than minimal risk to participants. The IRB approved information sheets for both the pilot study and full study. The information sheets explained the purpose of the study, how the data would be used, that

confidentiality of data would be maintained, whom to contact about the study, basic description of the study, time required for participation, nature of data recorded, voluntary participation, questions could be skipped or not answered, and contact information for the IRB.

Informed verbal consent was obtained from all participants before their interviews. The investigator reviewed the purpose of the study with each participant who was informed that they had the right to voluntarily withdraw from the study at any time. Before each interview the investigator reviewed with participants not to state identifying information such as their names or their patients' names. None of the participants revealed personally identifying information in their interviews. Only the investigator and dissertation committee had access to the raw data. Any information containing a participant's name was kept separately in a locked cabinet. All electronic data (including digital recordings) were password protected. After data analysis had been completed the digital recordings were destroyed. Confidentiality during transcription was maintained since the digital recordings did not have any personally identifying information. Transcribed data were electronically stored and password protected. Printed data had no identifying evidence such as names or addresses.

Participants could have experienced some undue distress during the interviews. The risk of potential distress was clearly stated in the information sheet, with the understanding that participants could withdraw from the study at any time without repercussion and that they could be referred to appropriate mental health resources. During this study no participants indicated that they experienced emotional distress.

Summary

Sixteen participants were recruited to complete in-depth interviews about their attitudes and experiences related to PUP. Collectively, these nursing students described a range of attitudes and experiences with PUP based on their clinical and didactic experiences during the prior two years of nursing education. The following chapter will present the findings of this research.

CHAPTER IV

Results

The specific aims of this qualitative exploratory-descriptive study were to: 1) describe undergraduate nursing students' experiences with pressure ulcer preventative practices during their undergraduate coursework as well as experiences outside of nursing school (e.g. personal or work), and 2) describe undergraduate nursing students' attitudes towards pressure ulcer prevention (PUP). This chapter presents the results of the interviews with 16 undergraduate nursing students to understand their attitudes towards and experiences with PUP. In this study, PUP is defined as the care performed by nurses in preventing pressure ulcers including assessing each patient for the risk for developing pressure ulcers, creating a plan of action, and implementing the plan for preventing pressure ulcers. The nurses reassess, reflect upon, and revise each individualized plan to ensure pressure ulcers do not develop in patients at risk for pressure ulcers. Attitude is defined as the mindset of an individual who behaves in a specific way, and is shaped by experience, socialization, and interaction with role models (Fishbein & Ajzen, 1975; Pickens, 2005). Students in this study discussed their experiences with PUP as well as their observations of other students, faculty, and clinical staff regarding PUP.

The theoretical framework of Communities of Practice learning theory (Wenger, 2008) guided development of interview questions, data collection, and initial coding of data analysis. It was found that the Communities of Practice theoretical framework did not fit with the data for initial coding and therefore open coding was used to organize and categorize the data. After open coding and analysis, the Communities of Practice

framework was helpful to inform and explain the links between different conceptual categories; these conceptual connections will be discussed in Chapter V.

Participant Characteristics

Student Characteristics

Characteristics of the students were collected through a demographic survey at the completion of each interview (see Appendix D). The reason participants completed the questionnaire after the interview was to ensure participants would not be influenced by items in the questionnaire during the interview. Participants answered demographic questions that included 1) gender, 2) age, 3) ethnicity, 4) where students completed their first two years of nursing course work, 5) employment, 6) previous experience caring for anyone at risk for pressure ulcers, and 7) any classes/training in PUP.

The students were primarily Caucasian (*n* = 14, 87.5%) females (*n* = 14, 87.5 %) between the ages of 31 to 40 (*n* = 6, 37.5%). Half the students had completed their first two years in a four-year school of nursing (*n* = 8, 50%) and the other half in a community college (*n* = 8, 50%). Currently employed (*n* = 5, 31.3%), previous experience working as a CNA (*n* = 5, 31.3%), held a bachelor's degree in a field other than nursing (*n* = 6, 37.5%), held an associate's degree other than nursing (*n* = 5, 31.3%). Most students were completing their senior preceptorship in the inpatient hospital setting (*n* = 13, 81.3%). Over half of the students (*n* = 13, 81.3%) indicated they wanted to work in a hospital setting after graduation. Most students indicated they had some experience with a stage I – II pressure ulcer wound (*n* = 14, 87.5%), half of the students had experience with a stage III pressure ulcer (*n* = 8, 50%), and about half had experience with a stage IV pressure ulcer (*n* = 7, 45.8%). Characteristics of students can be seen in Table 1.

Table 1. *Characteristics of Participants*

Characteristics	Number (% of sample) *N =16*
Gender	
Female	14 (87.5%)
Male	2 (12.5%)
Age in Years	
20 to 30	4 (25%)
31 to 40	6 (37.5%)
41 to 50	5 (31.3%)
51 to 60	1 (6.2%)
Race	
Caucasian	14 (87.5%)
Asian	2 (12.5%)
Ethnicity	
Hispanic	1 (6.2%)
First Two Years of Nursing School	
Baccalaureate school of nursing	8 (50%)
Community college	8 (50%)
Previous Degree	
No previous degree	5 (31.3%)
Bachelor's degree other than nursing	6 (37.5%)
Associate's degree other than nursing	5 (31.3%)
Employment	
Currently employed	5 (31.3%)
Work experience as CNA	5 (31.3%)
Previous Degree	
Bachelor's degree	6 (37.5%)
Associates degree	4 (25%)
Current Senior Preceptorship Clinical Site	
Inpatient setting (hospital)	13 (81.3%)
Long-term care/Nursing home	2 (12.5%)
Community setting	1 (6.2%)
Desired Future Clinical Work Setting	
Inpatient setting (hospital)	13 (81.3%)
Long-term care/Nursing home	2 (12.5%)
Community setting	1 (6.2%)
PUP Experience	16 (100%)
Pressure Ulcer Wound Experience	
Stages I - II	14 (87.5%)
Stage III	8 (50%)
Stage IV	7 (45.8%)

Sixteen participants were interviewed in their final term in a baccalaureate school of nursing prior to graduation. The interviews were conducted over a four-month period. Eight participants were associate degree transfer students and eight completed all their nursing courses in the baccalaureate program. Fourteen students were female and two students were male. Ages of participants ranged from 23 years to 53 years, with a mean age of 36 years. Thirteen participants self-identified themselves as Caucasian, one as Caucasian/Hispanic, one as Caucasian/Asian, and one as Asian. Eleven students had previous degrees (six students had bachelor's degrees and five had associate degrees).

Major Themes

Major themes identified in this study include: 1) types of students' experiences with PUP practices, 2) a range of attitudes towards PUP, 3) experiences that impacted passionate and committed students' attitudes about PUP and their identification that PUP was worthwhile to pursue, 4) a lack of curricular influence on PUP, 5) a challenging concept for students regarding patient autonomy and PUP, and 6) students' recommendations about PUP for the nursing curriculum.

Theme 1: Experiences Associated with Pressure Ulcer Prevention Practices

Theme 1 describes all the types of students' experiences associated with PUP practices. There were a variety of PUP experiences that the nursing students encountered during their clinical education and a few experiences in their personal lives. Student learning opportunities involved observation of clinical nursing staff engaging in PUP. Students learned about the nurse's role in PUP by observing staff nurses conducing pressure ulcer preventative risk assessments and engaging in PUP. Most students did not recollect learning about PUP in any theory course, simulation, or skills lab activities. A

few students learned about PUP in their personal lives by working as certified nursing assistants (CNAs), from family members, or from peers who had experiences with PUP. These experiences are referred to as background experiences. The following section discusses students' PUP experiences in their educational program and through background experiences.

Nursing Education

Clinical sites and populations. Most students primarily learned about PUP in clinical sites. Hospital based clinical sites included the operating room, and medical-surgical, trauma, neurology, and intensive care units where students interacted with patients of various ages, backgrounds, and comorbidities. Clinical sites in long-term care where students learned about PUP included skilled nursing facilities, nursing homes, and memory care where they focused on gerontological nursing issues.

Pediatric inpatient unit clinical experience. One student discussed her experience in the inpatient pediatric unit where family involvement prompted nurses to be more attentive to requests and concerns related to PUP. She participated in PUP for a chronically ill six year old patient who had a nasogastric tube and an oxygen saturation line that were pressing into his skin. The student made sure the lines and tubes were repositioned in order to relieve pressure to various skin sites and to prevent pressure ulcers from forming. She also stated a privately paid caregiver sometimes held the patient in her lap to help relieve pressure. She felt the families of the pediatric patients demanded attention for their children for all aspects of care including PUP.

Operating room. Two students had experience with PUP in operating room settings. Both described their experiences as focused on PUP using a team approach. One

student stated that PUP was a "big deal" in the OR and the trauma unit, and that PUP as a top item on the nurse's list to address for every surgical patient. Experiences in the operating room are discussed in detail later in this chapter under Theme 3.

Long-term care. Eight students had clinical experiences in long-term care (LTC) with PUP. These students discussed coordinating with CNAs in the LTC settings regarding PUP. The students observed how frail, older adults who were immobile were assessed frequently for pressure ulcers. Four students observed stage IV pressure ulcers in LTC. One student observed a stage IV pressure ulcer on the hip of a resident that required negative-pressure wound therapy. The student discussed how the impact of observing the stage IV pressure ulcer, smelling the "horrible" wound, and witnessing the resident suffering from pain had an impact on her about the importance of PUP.

Skills lab. Ten students stated faculty in skills lab focused more on wound care and sterile technique rather than PUP. Six students stated they practiced packing a pressure ulcer wound on an adult manikin in skills lab although this activity focused on sterile technique and faculty did not point out that the wound was a pressure ulcer. Students later realized the manikin's wounds were stage IV pressure ulcers upon reflecting on their experiences throughout the nursing curriculum. After three students observed stage IV pressure ulcers, they realized that they had been packing stage IV pressure ulcers on mannikins in the skills lab. The other three students who did not witness a stage IV PU reflected upon their skills lab experiences of packing a manikin's wounds and wondered whether those wounds were possibly "severe" pressure ulcer wounds. Some students recalled photos/posters of stage IV pressure ulcers exhibited in the skills lab room.

Pressure ulcer risk assessments and protocols. Eight students mentioned learning about the Braden pressure ulcer risk assessment scale in their nursing curriculum. Five recalled learning about the Braden scale from clinical faculty and using the tool in clinical rotations. The other three students briefly mentioned the Braden scale but did not elaborate during their interviews. Eight students did not recall a pressure ulcer risk assessment scale or protocol for preventing pressure ulcers. Three of these students had limited experiences with PUP in general.

Experiences with nursing faculty. Five students stated they learned about PUP from nursing faculty. They learned about basic PUP concepts from nursing faculty in clinical. No students recalled learning about PUP in theory courses. Only one student felt she learned about PUP from a "passionate" clinical instructor in the community college. This experience triggered the student's interest in pressure ulcers, but not PUP in particular. She created a concept map about pressure ulcers that she presented to her class. For one other student the consequences of not providing PUP were evident during her clinical observation in the LTC settings where she witnessed a severe stage IV pressure ulcer on a patient's coccyx and buttocks. It was so large "you could stick your hand in it."

Skin champions. Three students engaged in hands-on PUP with their clinical preceptors who also were designated "skin champions." The skin champion title is given to specially trained nurses in inpatient settings who conduct daily rounds on the unit where they work and educate their colleagues about PUP, pressure ulcer staging and identification, and proper documentation. Skin champion nurses work closely with

certified wound care nurses , consulting and at times rounding with the wound care nurses on a regular basis.

Skin audit team. Four students participated on skin audit teams that conducted pressure ulcer prevalence surveys. The audits are completed in approximately four to six hours. The audit results are sent to the National Database of Nursing Quality Indicators for national evaluation.

Post-conferences. Two students learned about PUP in clinical post-conferences where colleagues who experienced PUP and/or pressure ulcer wound packing shared their observations and thoughts. The post-conferences were in small groups of four to eight students. One of these two students learned about PUP during clinical post-conferences by listening to other students who had experience working in skilled nursing facilities or who had worked as CNAs in a hospital. From her peers she learned that pressure ulcers can develop relatively quickly and that they can get "big" and "nasty." Another student learned about PUP from a peer who worked at a skilled nursing facility. She remembered several conversations and described her peer as "passionate" about PUP. She stated:

> I have known her for quite a while, she is fabulous. She is very 'no excuses.' Pressure ulcers can be prevented in my nursing facility...I have heard her mention a couple times about sheets being all wrinkled underneath people that have really frail skin or improper lifting techniques. I think she is very…passionate about preventing pressure ulcers. She is very passionate about her nursing facility setting so I think that just kind of goes hand in hand…She has a passion for working with

> the geriatric community and I think that the nursing program in general now is starting to focus on prevention of illnesses and diseases in general …and that is probably what sparked [her passion].

Clinical preceptors. Two students reported their clinical nurses or preceptors also addressed the importance of PUP. In one case a preceptor noticed a patient had a blood pressure cuff left on from the emergency department. This preceptor was concerned that the blood pressure cuff could have been on the patient for approximately 20 hours. When the blood pressure cuff was removed the preceptor pointed out a "little red spot." The preceptor taught the student about bony prominences and areas on the body that often get missed for PUP such as the elbows and the back of the head. The other student learned about PUP by observing a stage IV pressure ulcer on the coccyx of a patient with her preceptor in an inpatient setting. She then debriefed with her preceptor about what they witnessed and discussed the importance of PUP.

Wound care nurses. Eleven students had experiences with certified wound care nurses. Most experiences involved shadowing the wound care nurse for a day in an inpatient setting. Nine experiences with a wound care nurse primarily focused on ostomies. Only six wound care nurses mentioned PUP. Four of these experiences were brief PUP interactions including a phone call regarding a patient at risk for pressure ulcers and about basic nutrition and repositioning. The other two student experiences were more involved and included in-depth education about PUP as part of skin audits via pressure ulcer prevalence surveys. One of these two students observed a wound care nurse educate clinical nursing staff about proper boot placement on a patient during the skin audit check. The other student witnessed a stage IV pressure ulcer on a resident's

foot in LTC while rounding with the wound care nurse. The pressure ulcer was so severe, "half of his foot was gone." He observed the wound care nurse provide wound care and learned about the importance of PUP.

All students expressed they were impressed by the wound care nurses. For example one student stated she found the wound care nurses to be "phenomenal" and that through them she had access to different continuing education courses for nurses. However, wound care nurses were not identified as a resource for learning about PUP.

Students learned about PUP in experiences outside of their formal education. The following section discusses students' background experiences with PUP that includes personal and work experiences.

Background Experiences

Background experiences informed what a student noticed about PUP. Background experiences included personal and work experiences. A few students learned about PUP in their personal lives either in a social situation with a nursing peer or with family members who were at risk for pressure ulcers or developed a pressure ulcer wound. Students also experienced PUP working as a CNA in either long-term care or hospital settings.

Personal experiences. Two students discussed PUP in a social context with their peers. One student recalled talking after class in a parking lot with her peer who had an experience with a patient who had diabetes who was suffering from a stage IV pressure ulcer wound. She learned about pressure ulcer wound care and the consequences when PUP was not provided. She stated the other student felt it was a, "really valuable experience…doing a huge wound care and dressing change and everything, plus also the

complexity of the patient." The second student who had informal discussions about PUP with her peers stated:

> You can't have all of the experiences in all of the various care settings. And being able to share things like that with your fellow students is very helpful so there were people who continued to work with the geriatric population especially throughout their [senior preceptorship] and I definitely spoke with them a few times about what the climate around skin breakdown prevention was in their facilities.

The majority of students though could not think of any circumstance where they talked about PUP with peers in either a social or even in a formal context.

Work experiences. Four students had previous work as a CNA and experienced PUP in the LTC setting. One student worked as a CNA 6 months prior to nursing school and described repositioning residents in LTC. She also witnessed one pressure ulcer wound that was a "fairly superficial grade 2" pressure ulcer on one of the resident's sacrum and observed a nurse apply a protective paste on site. Her experience while working as a CNA involved learning that her CNA colleagues were not as curious as she was and were only task oriented.

Another student worked as a CNA at two different LTC facilities. She felt it was the nurse's responsibility to educate the CNAs about PUP. She stated some LTC nurses taught her basic information about PUP and other nurses did not discuss PUP with CNAs at all. She described an educational in-service occurring every month for the CNAs, but could not remember any coverage on skin or PUP.

In summary, students learned about PUP in various settings and circumstances. All students stated they learned something about PUP, whether general instructions about repositioning or more detail involving pressure ulcer risk assessment. Some of these experiences impacted students in developing an awareness of PUP and some experiences influenced students' commitment to PUP. The following section focuses on the range of attitudes students had towards PUP.

Theme 2: Attitudes Towards Pressure Ulcer Prevention

There was great variation in the students' attitudes towards PUP, ranging from passionate to ambivalent. Students were grouped into four categories of attitudes towards PUP: 1) passionate; 2) committed; 3) emerging awareness; and 4) ambivalent. The criteria for grouping students into the four different categories included students' levels of enthusiasm or interest in PUP, and perceived ability in preventing pressure ulcers.

The following section details the four categories with examples of associated codes within each category and exemplary quotes. Three students were categorized as being passionate about PUP, seven students as being committed, three students as having emerging awareness of PUP importance, and three students with ambivalent attitudes.

Category 1: Passionate About Pressure Ulcer Prevention Practices

There were three "passionate" nursing students who were dedicated and committed to PUP and were viewed as student role models by their peers. These student role models were referred as participants for this study because they were publically known among their peers as being very interested in PUP. One role model's demeanor was somewhat reserved, yet she was articulate, thorough, and described her thoughts in

detail during the interview. She considered advocacy for PUP as part of every nurse's practice. She stated:

> I think it's equally important to everything else I'm doing because like I stated earlier we're there to help people, not add new complications. So, I think it will just be a part of my care is taking care of all the systems, and skin is one too.

Another passionate student role model who was committed to PUP was very enthusiastic and emphasized the importance of PUP. She saw PUP as foundational, skin as a "huge issue," and that the majority of students will come into contact with older adults who could be at risk for developing pressure ulcers. During the interview her voice amplified and she leaned forward in her chair while talking and stated, "I think it has to be first! I really do. Patient safety and skin integrity have to be first!"

The students who were passionate about PUP perceived that each individual patient needed to be assessed for pressure ulcer risk despite diagnoses, comorbidities, age, background, or setting. The passionate students role-modeled enthusiasm and the importance of PUP to their peers.

Category 2: Committed To Pressure Ulcer Prevention

Seven out of sixteen students were classified as being committed. These students were interested in the topic and were curious and eager to learn more. The students recognized that carrying out pressure ulcer risk assessments and PUP interventions are complex yet achievable, and a necessary part of their nursing role. They had a broader vision about how PUP could be managed than the students with emerging awareness or who were ambivalent about PUP. Students who were committed to PUP did not focus on

only needing to reposition patients from one side to their other side, rather, they felt PUP was achievable by providing micro-repositioning such as repositioning heels, NG tubes, or small shifts to the body using pillows. These students discussed how repositioning patients could be achieved quickly, efficiently, and even without assistance from other healthcare staff.

The students expressed their thoughts and described their experiences in detail, and needed less specific prompting to talk about PUP during the interviews than the other students. They talked extensively about their experiences, their feelings, and their thoughts associated with PUP, giving detailed descriptions about PUP. Some students were expressive and their voices and tone changed, such as amplifying their volume, becoming excited about PUP, and emphasizing words related to PUP. They changed their posture (e.g. such as leaning forward or sitting up straighter) and used their hands to gesture as they talked. All of these students were articulate and detailed in describing their commitment and interest in PUP. In addition one of the reserved, articulate students was considered to be a student role model by her peers. Overall, these students verbalized "respect for the skin," conceptualizing it as an essential organ requiring constant surveillance and protection. They felt PUP was important. These students described pressure ulcers as "shocking" or "eye-opening," and felt their experiences with PUP and pressure ulcers had left a significant impression on them.

Committed students consistently talked about how important it was not to discharge patients with a hospital acquired pressure ulcer wound. They discussed the long-term implications of hospital acquired pressure ulcer wounds as well as the issue about non-reimbursement from the Centers for Medicare and Medicaid for stages III-IV

pressure ulcers that develop in the hospital. This was in contrast to students who were ambivalent or developing an awareness of PUP and who did not discuss hospital-acquired pressure ulcers or "never events." One committed student expressed concern about patients after they were transferred from her care:

> It would be really unfortunate to send [patients] home with a new wound that was started at the hospital. They are there to get better from sometimes an acute exacerbation of a chronic disease, and us giving them something else is not really helping them out. So, like hand hygiene and infection prevention and pressure ulcer prevention, I think all of it is really important.

These students considered PUP important for every patient despite the setting or age of patient. Students expressed awareness about how pressure ulcers can occur in the least expected situations and body parts. High priority for PUP was tied to a sense of accountability for the patients' safety. Students understood that the registered nurse's scope of practice includes health promotion and injury/illness prevention. One student stated:

> You have to consider for every single patient that you're caring for. Even someone who's completely active and independent, if they have an NG tube that is sitting on their nose and the site's not being rotated, the tape is not being rotated, that could form a sore. You have to use your judgment and say, "Is this patient at risk for something like that?" And you have to consider each patient individually.

Committed students felt empowered and confident in providing PUP. These students described a sense of confidence in PUP through their involvement in PUP with their preceptors who were "skin champions," or by participating in skin audit teams conducting pressure ulcer prevalence audits. These students became familiar with providing PUP by both witnessing and practicing how to provide excellent PUP. One student mentioned that providing PUP is part of all nurses' responsibilities and although complex is achievable. She felt it was vital to assess patients carefully to ensure no problems, that is pressure ulcers, would occur.

One committed student voiced her concern about differing ways of implementing of PUP practices. She had observed some nurse assessments involved minimal PUP. She noted the nurses did not assess the patient directly, they did not look under the covers and did not check their skin, although they documented that they did.

Five students were concerned that nursing students in general consider PUP as "uninteresting," "low priority," "not exciting," "not glamorous," and "boring." They felt most students were only interested in "fixing problems" rather than preventing health care issues. They stated that most students preferred future careers in acute care and did not anticipate having to be involved with PUP. These students mentioned how only a few students who choose a nursing career in LTC or hospice may focus on PUP as high priority.

Nursing students wanted to be involved in doing tasks that had visible outcomes. One student who was committed to PUP discussed how PUP is essentially invisible and does not seem like a nurse is actually "doing" anything when engaged in PUP for a patient. She stated:

> [PUP] is not a common discussion. I think people are so excited about exotic diagnoses and nursing skills that they'd rather talk about, 'I got to place a Foley!' than 'I prevented a pressure ulcer!' There is nothing glamorous there…I think we want to do things. It's like it's good that you didn't create one, but I think people are more on the changes you make rather than the prevention you can't see.

The students who were committed to PUP perceived that all patients were at risk for PUP, and PUP monitoring was essential across all practice settings. Overall, all the concerned, committed students felt that other students did not anticipate caring for patients who are at risk for pressure ulcers and therefore considered PUP is of low priority on the spectrum of nursing tasks.

Category 3: Emerging Awareness

Three students were classified as having an emerging awareness about PUP. They expressed some interest in PUP, yet considered PUP as time-consuming and challenging to provide. These students primarily focused on the difficulty of needing to reposition patients from one side to the other side "every two hours" with the assistance of other staff.

One student reported having few pressure ulcer preventative care experiences. This student did not observe any pressure ulcers and did not participate in a skin audit check. She did not have a nurse preceptor who was a skin champion and did not round with a certified wound care nurse. She described witnessing a "grapefruit sized, big purple spot that was charted as a wound with intact skin" but she did not know the official term for the wound. It is possible the wound was a suspected deep tissue injury.

This student also had a clinical experience in the operating room for four hours with a pediatric patient where the operating room team focused on PUP carefully preparing the patient for the lengthy open-heart surgery. This experience had a significant impact on her as evidenced by her in-depth discussion about importance of PUP in the operating room setting. During the interview she reflected on her experience that it made her more aware of the risk and consequence of pressure ulcers.

> We were working with older adults and they may be at the highest risk, but they're not the only ones at risk, and that took just time in the hospital to see that we're protecting the skin of a 12-year-old girl. So, she's at risk too and it's age really, and while age has other factors that can contribute, they are not the only ones at risk. So it's really, everyone has skin.

She stated the operating room nurses role modeled PUP importance and told her, "You're always conscious of their skin," a new concept for this student. She stated, "You need to think about [patients] laying there for four to five hours, that that puts them at risk for skin breakdown." This student learned about focusing on PUP prior to an operation and was impressed by the interdisciplinary roles of the operating room team coordinating pressure ulcer preventative care; she stated:

> We had the sequential compression devices put on and we had to put washcloths where they were touching the skin to cushion it. And then we had gel pads that were probably under the sacrum and shoulders and heels…where the most pressure was being put. And then if there were tubes or something going across the patient's skin, then we had to put a washcloth or something to protect that.

Besides this experience, she did not have other significant PUP experiences. She discussed how she did not follow patients after discharge and stated, "I'm just with people such a short time…oh well, hopefully [the pressure ulcer] doesn't get worse, as they leave and go to their [long-term care facility] or whatever."

She felt that PUP was "hard" and inconvenient because of the care coordination, timing, and whether the patient was ready for repositioning. She stated:

> You have to plan your day and the time when somebody else can help you to do that. And even though the goal was to reposition the patient every two hours,that sometimes didn't happen because, one, the patient would be sleeping and didn't want to wake up, didn't want to move because he hurt too much, wanted to wait until later. So, you still have to try to convince him it was time and then if you were in there by yourself, it was really hard because you weren't going to be able to do it yourself and so you'd wait until two nurses came in.

A second student had only observed a stage II pressure ulcer five years prior to nursing school while working as a CNA, had no experiences in the operating room, no experiences with a skin audit team, or with a skin champion preceptor. She described her CNA work experiences prior to nursing school and compared those experiences with what she learned in nursing school. She stated she was learning more about PUP importance in her clinical experiences. Although she personally did not have a preceptor who was a skin champion, she was aware of them, having heard about them during her clinical experiences. She felt all nurses should be concerned about PUP and stated:

> You know how we have skin champions nurse on our unit, but I feel like every nurse should be a skin champion. There shouldn't be just specific people that are skin champions. We're all about prevention. That's the number one thing. Nursing is prevention!

A third student was also categorized as having an emerging awareness of PUP. She had not participated in a skin audit team check and did not shadow a wound care nurse. She did not know about pressure ulcers prior to starting nursing school but her awareness and appreciation about PUP and pressure ulcers grew during her education. She primarily learned about the importance of PUP after seeing photos of real patients with pressure ulcer wounds on a poster. In her senior preceptorship she observed a patient with a stage II pressure ulcer on his coccyx. She had not witnessed a stage III – IV pressure ulcer wound. She stated:

> It can be easy to dismiss a small sore on somebody's skin as something that's rather inconsequential but I think definitely my understanding of the severity that pressure ulcers can develop into and the issues that they can cause. I was definitely not aware of that before I began the program so I feel like my knowledge and my appreciation for how important keeping the skin intact has definitely grown.

She briefly mentioned that nutrition was important for PUP and that she had observed nurses use the Braden Risk Scale on admission and on a daily basis. She stated providing PUP was challenging and time-consuming. She had an experience with a skin champion who presented about PUP during her senior preceptorship in the ICU. She stated PUP was:

> A very big deal in the ICU so we did a lot of turning of patients. There's a lot of floating of the heels and different apparatus, different boots and things like that they'd use for people who are particularly at risk. When I first started there, one of the skin champions came and did a presentation for us about the new…dressings…used for prevention as well as to cover a partial sore that's already developed.

She stated she was still learning about PUP and how she hoped to take her new developing awareness of PUP into her future career as a nurse.

In summary, students who had an emerging awareness about PUP briefly described their experiences with PUP and their concerns. Although they did not elaborate on PUP as much as the students who were passionate or committed to PUP, they reflected on their clinical experience. These students expressed a developing awareness of PUP importance and that PUP was difficult to accomplish. During the interviews they reflected on their clinical experiences and expressed that they were still becoming aware of the importance of PUP.

Category 4: Ambivalence

Three students were ambivalent about PUP. These three students had so little experience with PUP they could not elaborate on PUP. They were vague in their descriptions about PUP experiences, practices, guidelines, protocols, and risk assessment tools. None of these students could recall a pressure ulcer risk assessment tool (e.g. Braden Scale) or using a protocol for preventing pressure ulcers in their clinical education. Students without a sense of urgency for PUP did not have much to say. They struggled to think about something to say and needed many prompts during the interview.

It is possible that it is difficult to determine their attitudes about PUP because it was something they had not thought about.

These students had no experience on a skin audit team or pressure ulcer prevalence survey, they did not have a preceptor who was a skin champion, did not have an operating room experience, and had very little experience observing or practicing PUP or caring for someone with a pressure ulcer. None of them had any experiences with a stage IV pressure ulcer. Each of these students briefly observed stage I – II pressure ulcers. One student was unsure if she observed a stage III pressure ulcer and her description was very vague. All three students shadowed wound care nurses who primarily focused on ostomy care with no PUP discussion. These three students considered PUP as challenging to provide as they imagined the care to be very difficult. They also stated that PUP is a priority depending upon the setting where the patient is located, rather than individual patient circumstances.

One student who witnessed a superficial stage I pressure ulcer discovered she did not like wound-care, stating it was "disgusting." She wanted to only work with healthy people and chose to avoid settings with ill patients. She decided to complete her senior preceptorship in community care with healthy maternal-child populations (i.e. Head Start). PUP was of low importance to her because she believed she would not have to deal with PUP in her future career as a nurse in community settings. The one influential source about PUP importance for her was listening to a "passionate" peer discuss her experiences about PUP. This conversation took place in a parking lot after their clinical experience. Other than that encounter this student did not have much to say about PUP as she considered PUP an unimportant topic.

Another student who was also ambivalent about PUP did not have much to say about PUP. He did not elaborate on any experiences and was cursory and brief when he talked. In one of his first clinical experiences in nursing school, an acute care course, he observed a nurse provide wound care on a pressure ulcer but it was a brief and "hands off" experience. It was the only experience with pressure ulcers and PUP that he could recall. He stated it "opened his eyes" to what a pressure ulcer could be like, yet he felt he lacked experience with pressure ulcers and PUP in general. After his very brief encounter with the pressure ulcer wound he only witnessed a couple superficial stage I pressure ulcers but could not elaborate on any of the experiences as these were also brief and hands-off experiences. He was vague about PUP and stated he did "not want to push" patients to reposition and turn to prevent pressure ulcers from developing. He felt PUP was not something he would want to engage in with patients, even if they had pressure ulcer wounds and needed to keep pressure off the wounds to allow them to heal or if the patients were at risk for developing pressure ulcer wounds. He talked about not wanting to "disappoint" his patients if they could not participate in PUP and patient autonomy was more of a priority than preventing pressure ulcers.

A third student briefly stated she had one hands-off experience with a "brand new, stage I pressure ulcer," but described it as a superficially "open wound" on a patient's coccyx. It is possible the wound was a stage II pressure ulcer. She briefly stated the nurses were providing dressing changes to the pressure ulcer wound twice a shift although she did not observe the dressing changes. She did not elaborate about pressure ulcer risk assessment and PUP.

Summary of Students' Attitudes to Pressure Ulcer Prevention

In summary, students had a spectrum of attitudes toward PUP. Students were clustered into four categories of attitudes ranging from passionate, committed, emerging awareness, and ambivalence to PUP. The students were grouped into the categories by how they expressed their interest in PUP, importance of PUP, and perceived ability in providing PUP. Students who were ambivalent towards PUP did not articulate about their experiences with PUP. The lack of discussion points to a lack of experience about PUP. Students who identified PUP as important had certain learning experiences that impacted them in developing a passionate or committed attitude towards PUP. The following section discusses how students who were passionate and committed to PUP identified whether PUP was worthwhile to pursue.

Theme 3: Experiences of Passionate and Committed Nursing Students

Theme 3 identifies specific experiences associated with passionate and committed students' identification and recognition of PUP as integral to nursing practice. The passionate and committed students all shared one common experience: they had interactions with nurses who demonstrated and advocated the importance of PUP. Students identified that PUP was important and worthwhile to pursue when they had spent some time with nurses who modeled the importance of PUP in their practice.

The nurse role models influenced these students' identification about whether PUP was worthwhile to pursue during nursing school such as in clinical, and to a certain extent in their personal lives working as a CNA in LTC or inpatient care settings. Students who were passionate and committed to PUP observed nurses discuss or provide PUP care or observed a severe pressure ulcer wound. Students who were passionate and

committed to PUP had one or a more of the following experiences: 1) Hands-on experience as a member of a skin audit team with a pressure ulcer prevalence survey; 2) clinical assignment with a nurse who practiced PUP, "skin champions," or identified as a nurse role model; 3) participation in the operating room setting; and 4) observation of at least one severe pressure ulcer wound, specifically a stage IV pressure ulcer. These two conditions involved nurses role-modeling the importance of PUP.

The ten students who were passionate about PUP or committed to PUP recalled experiences that led them to conclude that PUP was important for their professional practice. These experiences included participating in a skin audit team check (n = 4), witnessing a stage IV pressure ulcer (n = 7), having a clinical nurse preceptor who was a skin champion (n = 3), other nurse role model (n = 2), and senior preceptorship in a pediatric operating room (n = 1) (see Table 2. Five students were associate degree transfer students and five completed all their nursing course work in the baccalaureate program.

Table 2. Students Passionate About and Committed to Pressure Ulcer Prevention

Student	**Senior Preceptorship in OR**	**Skin Audit Team**	**Preceptor Skin Champion**	**Observed Stage IV Pressure Ulcer**	**Other Nurse role model**
A		X	X		
B				X	X
C		X	X		
D		X	X		
E		X		X	
*F				X	
*G				X	
*H				X	
*I	X			X	X
*J				X	

*Associate degree transfer students

There were no pattern differences with attitudes of associate degree transfer students and students who completed had their first two years in the baccalaureate program. There was a difference in experiences for passionate and committed students: all the associate degree transfer students who were passionate or committed to PUP (n = 5) observed stage IV pressure ulcers and none of them collaborated in a skin audit team. Only two of the students who completed all their course work in the baccalaureate program experienced stage IV pressure ulcers.

Hands-on Experiences in Prevention

Students learned about the importance of PUP when they were immersed in hands-on PUP activities. These hands-on experiences included: 1) participation in a skin audit team (pressure ulcer prevalence survey), 2) clinical rotation in the operating room, and 3) assignments to work with staff nurses who were designated skin champions. The following covers each of these types of immersive, hands-on experiences.

Skin audit team pressure ulcer prevalence survey. Four students identified that PUP was important to pursue after reflecting upon their experiences conducting skin audits with skin audit teams. Three of these students had completed all of their nursing course work at the university and one was a community college transfer student. Three of these students did not have any experience with a stage IV pressure ulcer; the fourth student had witnessed a stage IV pressure ulcer with a wound care nurse. These students believed that PUP was important, and expressed commitment to PUP. PUP was described as “cool,” “helpful,” “fascinating,” and “really neat.” These students were passionate and committed to PUP and viewed it as high priority, complex, important, and achievable.

One student described her skin audit team check as a "great learning activity" in the undergraduate nursing curriculum. This occurred in her senior preceptorship in her last year of nursing school. She had two preceptors who helped organize the skin audit team and pressure ulcer prevalence survey. She accompanied her preceptors to four different units and described her experience as "cool." She focused exclusively on PUP for eight hours. She discovered that other staff nurses learned about PUP from the skin audit team nurses. She observed her preceptors educate staff nurses about using products and dressings prophylactically for PUP, not necessarily for open wounds. This student participated in assessing multiple patients' skin, watching for tubes and lines that pose a risk for some patients, providing preventative care, and documenting appropriately. She stated that the hands-on, immersive experience of the skin audit team with multiple patients was very helpful in understanding the importance of PUP. Even though this student only saw stages I – II pressure ulcers (and a one inch tunneling wound on a patient's gluteal cleft but stated, it "probably wasn't a pressure ulcer"). She felt preventing pressure ulcers is very important, "…these poor patients already have enough going on, you don't need to give them a hospital acquired anything."

The second student participated in a skin audit team check and partnered with a wound care nurse for a day in cardiac, step-down units, and general medical-surgical units. She recalled that this experience had a profound effect on her because she focused for several hours on PUP and learned about one organ, the skin, in-depth. She worked with nurses who were very diligent and detailed in their skin assessments, turning each patient, thoroughly assessing all their skin, even looking behind their ears to ensure there were no pressure ulcers. She stated:

> In a six hour time span I learned more about skin and hydration and nutrition and relieving skin issues [and] learned more about one particular organ [skin] than any other examples that I can give you in nursing school! [We were] focused! It would be like going around and listening to 50 different lung sounds in 50 different people. I mean that's the way to learn it! So it was really, really neat!

The third student participated in a skin audit and spent some time with a wound care nurse during this experience. The wound care nurse dealt with a boot that was improperly applied to a patient's foot; it was supposed to float the heel to prevent pressure ulcers from forming. The student assisted the wound care nurse to correct the situation and then she observed the wound care nurse educate staff nurses about PUP and proper placement of the boot. In addition to this, she joined in a skin audit team at a pediatric hospital. About her skin audit team experience she recalled:

> It's really been reinforced to use your critical thinking skills. Use your clinical judgment and not just be task-based. So, I feel like in this experience, it was a really good way for me to… be noticing something. And saying, "Okay, why is this happening? What can we do to prevent this in the future? Let's make sure that we're making a note of this, that it's being identified as an issue." So, I feel it's a lot of clinical judgment process is really being reinforced in a census like this. That you're not just going in there and adjusting it, and not doing anything about it for the future.

The fourth student experienced different approaches to skin audit checks at two different hospitals. One skin audit team involved skin assessment of patients but did not review any patient charts whereas the other skin audit team involved focused, thorough, and diligent skin assessments and chart reviews looking at patient diagnoses, background, nutritional status, and other factors that may affect risk for pressure ulcers. She reflected upon these experiences and decided the more thorough audit with chart review should be part of all skin audit team checks to ensure accurate assessments and reporting.

One of these students discussed her curiosity about PUP and how she wanted to learn more about PUP and pressure ulcers. She stated:

> I think the skin is the most vital organ. …I remember when I went to Body Worlds (exhibit) and I saw the skinless human being, and how much it protects your whole body from everything, from every toxin, and you start chopping off legs, or having surgeries, and opening up your skin, and you're open, it's like living in a bubble, so like the skin is your bubble and you live inside of it. Every organ, everything inside of it, and they need to be protected from infections, and all kinds of stuff on the outside world.

Again she stated about PUP:

> I feel that it can almost sometimes be a very overwhelming thing to have to focus on because it can happen very quickly and then it can degrade very quickly, I guess. You know it can go south very quickly…There are a couple of residents now that have just some crazy skin stuff, ulcers going on. My feeling is how in the world, one do you get to this point…is this

ever going to get any better? It kind of seems like a really big black hole.

Like once you get a pressure ulcer, that's it.

The following section describes another type of hands-on experience where students learned about the importance of PUP.

In the operating room. Two students had experiences in the operating room setting that influenced them regarding the importance of PUP. One student had two terms of senior preceptorship in the operating room setting and the other student had four hours prepping one patient for surgery.

The student who spent two terms of in the pediatric operating room setting had repeated exposure to PUP and believed that PUP was of high priority and importance. She perceived her pediatric operating room preceptors as excellent role models exhibiting the importance of PUP. Her preceptors worked on a cardiac team where surgeries often lasted many hours. She stated they constantly taught her about PUP, including positioning, how each pediatric patient was different, and to be cognizant of intravenous lines, and various drains and tubes that may cause pressure ulcers.

This student discussed how there were multiple health care providers involved in PUP who ensured the patient was positioned in a fashion that ensure pressure relief. She said PUP was a whole team approach and that everyone on the team checked and rechecked to ensure each patient was well protected and padded in order to prevent any PUs from forming during lengthy surgeries. The student learned to address PUP for each surgical patient while working with the team that included the scrub nurse, circulating nurse, anesthesiologist, and surgeon. The circulating nurse was responsible for patient safety from the start of each surgical procedure, but overall there was a team approach;

even the anesthesiologist assisted in repositioning the patient, and the surgeon joined in and rechecked the patient to ensure no pressure ulcers would occur during surgery. The surgeon did this even before prepping the skin to make sure the patient was thoroughly ready for surgery and in the proper pressure relieving position because once surgery started the patients were essentially "invisible" under the drape.

This student talked about the importance of PUP for patients who were immobile during surgery. She described how patients are unable to move for hours, their circulation altered, and they were at increased risk for developing a pressure ulcer. She learned that she needed to ensure every line and drain should be padded and kept separate from a patient's skin to protect them from developing a pressure ulcer. She discussed how some patients needed to be in the prone position and required a great deal of pressure relieving equipment, including cut outs for their faces, gel rolls under their shoulders, hips, knees, as well as ankles to ensure their toes were floating and not touching the surgical table. These patients also needed to have their necks at a certain level for surgery with arms tucked in a specific position to relieve pressure. Even a small blood pressure cuff could cause a pressure ulcer. She stated the pediatric patients were:

> Anesthetized, they literally can't move! There's no movement and their body is just dead weight on the table. And the circulation changes a little bit with anesthesia and they're in a situation where they really could be compromised. Then you have a surgeon who's got them draped who could be leaning over them and putting pressure on them. There's a lot of potential—little sharp corners on even the cardiac leads and the blood pressure cuffs and I.V…everything has to be well padded and protected or

else a pressure ulcer is likely to occur. And especially in pediatric patients where their skin is pretty tender in the first place.

The other student was introduced to the importance of PUP by spending four hours in the operating room for clinical. This student had no experience with a skin audit team check, very little PUP experience besides the operating room experience, did not have a preceptor who was a skin champion, and had not witnessed any pressure ulcers except for one possible suspected deep tissue injury. She still had an emerging awareness of the importance of PUP due to her experience in the operating room which she reflected upon during the interview. She gave a detailed description of how the team strategically placed pressure-relieving materials for the surgical patient including washcloths to cushion her skin from the sequential compression devices and any lines, and gel pads under her sacrum, shoulders, and heels. She stated she was impressed by the OR team in their approach to PUP and she was able to participate in PUP with the team.

In summary, both students emphasized the importance of the team approach to PUP. The discussed how they paid careful and thorough attention to PUP in prepping patients prior to surgery because they could not provide thorough skin assessments during surgery since patients were covered with sterile drapes and difficult to assess. Clinical experiences in the OR provided in-depth opportunities for learning about the importance of PUP.

Nurse role models. Three students who had participated in the skin audit team checks had clinical preceptors who were skin champions. Skin champions are specially trained nurses who educate their colleagues about PUP, pressure ulcer staging and identification, and proper documentation. They conduct daily rounds on the unit where

they work and consult with certified wound care nurses on a regular basis. These students stated they were committed to and interested in PUP due to their experiences with skin champion preceptors role modeling importance of PUP. One of student described her preceptor as being knowledgeable and "hyper-aware" of PUP. The students perceived their preceptors as considering PUP a high priority and part of every initial and routine patient assessment. In addition, two students had PUP experiences with clinical nurses whom they identified as nurse role models who were not "skin champions." These two nurse role models were described as being vigilant with PUP.

The students completed skin assessments with their role-modeling nurses. The students described observing the nurses using the Braden pressure ulcer risk assessment scale, carefully assessing a patient's skin, and accurately documenting findings. The preceptors also reviewed patients' nutritional status, risks for shearing, and whether each patient required preventative measures such as repositioning, durable medical equipment such as pressure relieving mattresses, or supplies such as special prophylactic dressings.

In summary, the passionate and committed students learned about the importance and high priority of PUP through hands-on experiences in a skin audit team (pressure ulcer prevalence survey), in the operating room, and through interaction and observation of nurse role models. The students described these experiences in detail that focused on unique context of each patient encounter. The nurse role models included nurses in the operating room, nurses involved in skin audit teams, preceptors who were skin champions, and preceptors who were committed to PUP but not designated as skin champions.

Direct Observation of a Stage IV Pressure Ulcer

Seven students stated they learned about the importance of PUP by witnessing actual stage IV pressure ulcers and patient suffering associated with these wounds. These experiences all happened in LTC settings. Two students completed their first two years at the university and five transferred from a community college. All seven students described having an attitude change when they witnessed a stage IV pressure ulcer.

Students who witnessed stage IV pressure ulcers described their experiences as "eye-opening," "shocking," and "horrible." Students described the foul odor and witnessing patients in severe pain and discomfort. These students understood the devastating consequences when PUP was not provided. One student recalled:

> It was until I saw a stage IV, it was like, "Oh yeah, I'm going to prevent those and those are bad." But when you see someone curled up in pain and possibly going to surgery over a pressure ulcer it changes your look at them and the prevention. It's unfortunate that it takes that experience to get that attitude, but yeah, I'll never feel that same way about pressure ulcers again!

Another student stated:

> I hate it when I see one, especially on somebody who's vulnerable like an elderly person. So it's very sad especially if it's gotten to a really bad place where you can either see muscle or tendon or even bone.

Two students who packed severe pressure ulcers realized the consequences of what could happen when PUP was not provided. One student stated that seeing and providing wound care for a stage IV pressure ulcer made her realize that the patient could

be in a painful "mess" for life. The other student stated she was unimpressed with her initial introduction to pressure ulcers that included learning sterile technique on a manikin in the skills lab and witnessing superficial stage I and II pressure ulcers. She stated that until she saw a severe pressure ulcer she did not believe stage III – IV pressure ulcers could possibly occur. In regards to her initial introduction and then later observing and packing stage IV pressure ulcers, she stated:

> I honestly didn't think that much of them. They were just kind of part of the curriculum until I actually started seeing [stage IV pressure ulcers] first hand, and that made me think this is a big deal!

These students all felt that preventing pressure ulcers was essential. They understood that PUP was complex but felt providing PUP was time efficient since providing wound care was even more time consuming, painful for patients, and costly. Ignoring and not providing PUP would only create more tasks for nurses to accomplish in the long run. The attitude of being committed to PUP was illustrated by a student who stated, "Preventing pressure ulcers is like a stitch in time saves nine."

Discharge planning was a future practice behavior for students after witnessing a stage IV pressure ulcer. Students discussed how they did not want to send a patient home or to a long-term care facility with a pressure ulcer. They wanted to ensure each patient was well cared for after discharge and that included coordinating and teaching caregivers about PUP. Students talked about "holistic nursing" and treating the whole patient. This included assessing nutritional status, incontinence issues, mobility, and sensory deficit, and ensuring caregivers were taught about the vital importance of PUP. One student thought about the dire consequences of not providing PUP and reflected about the

experience from the patient's view. She stated she would want to be part of the discussion if she were a patient to understand that she could end up with a stage IV pressure ulcer if PUP was not provided and what a pressure ulcer really meant. She illustrated her point by providing an example of preventing cavities in teeth and also preventing mucositis in patients who were immunocompromised on the unit where she completed her senior preceptorship. After witnessing a stage IV pressure ulcer she was so interested in PUP that she chose to focus a class assignment on pressure ulcers because she perceived pressure ulcers to be a real threat to patients and she wanted to share her information with other nursing students.

All of these students emphasized the importance of vigilant PUP as pressure ulcers could form without warning. As one student put it, "Pressure ulcers kind of sneak up…you don't realize it's there until it's too late."

There was one student who was committed to PUP who did not directly observe a stage IV pressure ulcer. She had heard about a family member suffering from a severe stage IV pressure ulcer infected with maggots. The description and knowing it adversely affected her family member was enough to have a lasting impression on her. She discussed in detail how horrifying the infected stage IV pressure ulcer was and how her family member died from systemic infection. She was adamant that PUP was of vital importance for all patients.

Subcategory of "passionate" nursing student role models. In addition to nurse role models there was a subcategory of "passionate" students who were themselves role models to their peers as mentioned earlier in Theme 2 about attitudes towards PUP. Some of the students who were interviewed stated they were particularly impressed and

influenced by their peer role models whom they felt were expressive, dedicated, and interested in PUP. These three student role models had either witnessed a stage IV pressure ulcer or provided wound care for patient with a stage IV pressure ulcer. In addition they either had a nurse role model experience, participated in a skin audit team check, or an OR team experience.

Summary for Experiences that Impacted Passionate and Committed Attitudes

Nursing students who developed commitment to PUP learned about the importance of PUP in two ways: 1) hands-on experiences in PUP, and 2) direct observation of at least one stage IV pressure ulcer.

Students were influenced about the value of PUP by nurses who role-modeled PUP importance. Students who had hands-on learning experiences with PUP were committed to PUP. These experiences had an impact as new information was learned and reflected upon over time, and commitment to PUP and behaviors associated with PUP deepened and developed. Some of these experiences provided repeat opportunities for learning about the importance of PUP, such as a senior preceptorship in the operating room and assessing multiple patients in a skin audit team check. Student attitudes were also influenced by directly observing a stage IV pressure ulcer wound. Witnessing a stage IV pressure ulcer was a powerful motivator to provide excellent pressure ulcer preventative care. After seeing a stage IV pressure ulcer students understood the gravity of the situation and recognized that pressure ulcers were a true physiological danger to patients. They were committed to PUP because they understood that pressure ulcers caused harm, pain, and discomfort for patients.

The next section will review a fourth theme that explores a surprising lack of attention about PUP in the nursing curriculum. Students either pointed out these gaps in their interviews or these were evident gaps as students did not have much to say about PUP from the potential sources of PUP.

Theme 4: Conspicuous Lack of Focus about PUP

Conspicuous lack of attention about PUP involved missed opportunities for learning about PUP in the formal nursing curriculum. Findings from this study showed gaps in teaching about the importance of PUP in: 1) formal education from nursing faculty, clinical faculty, and preceptors who were not skin champions, 2) rounding with wound care nurses, and 3) communication among nursing students.

Conspicuous Lack of Attention about PUP in the Curriculum

Students did not recall intentionally learning about PUP from nursing faculty, clinical faculty, or staff nurses who were not skin champions. More than half of the students felt that nursing faculty did not emphasize the importance of PUP. Students felt PUP is a topic that gets "overlooked" partially because there are so many concepts that need to be covered in the nursing curriculum that the faculty feel are of higher priority. One student stated:

> I think as far as going through the nursing school and just realizing that the educational piece of [PUP] is kind of lacking…I feel like it could have been done better. Because…in the ICU or where patients are immobile, we face a lot of pressure ulcers.

Most of the students stated they did not talk about PUP with nursing faculty. They did not recall PUP as part of lectures or other planned learning activities. Ten students

stated formal nursing education focused primarily on sterile technique and wound care rather than PUP. In skills lab students learned about sterile technique and practiced packing wounds on manikins. However, the students did not realize the wound was a pressure ulcer since this was not identified in discussion by clinical faculty. Overall, students did not remember PUP education in theory courses. Through clinical experiences in hospitals and LTC settings students understood the importance of PUP.

Only a few students had any discussions about PUP with their faculty. Five students learned basic PUP concepts from nursing faculty/clinical instructors. One student recalled learning about pressure ulcers from a "passionate" clinical instructor in the community college. This experience triggered the students' interest in pressure ulcers (but not PUP in particular). One other student witnessed a severe stage IV pressure ulcer and reflected on an experience with her clinical instructor in a LTC setting, discussing the consequences when PUP is not provided. The lack of intentionally planned PUP discussions from nursing faculty points to opportunities for incorporating PUP in the nursing curriculum.

Seven students thought the school's curriculum possibly covered "a little bit," but none recalled specific information about PUP from theory courses, skills lab, or simulation lab. One student mentioned the school's "spiral curriculum" where concepts are gradually addressed over time, with increasing complexity.

Almost all students recalled little intentional emphasis on PUP by nurses who were not skin champions, skin audit team members, or operating room nurses. In two instances did two students feel their clinical nurses or preceptors who were not skin champions addressed the importance of PUP. In one case a preceptor, who was not a skin

champion, removed a blood pressure cuff that had been left on a patient from the emergency department and taught the student about areas at high risk for developing pressure ulcers. The other student learned about PUP debriefing with her preceptor after observing a stage IV pressure ulcer.

In conclusion, students recalled few or no intentionally planned learning experiences in their courses. The few instances when PUP was addressed were by clinical faculty in isolated clinical situations.

Conspicuous Lack of Focus from Wound Care Nurses Experiences

Eleven students had experiences with certified wound care nurses during their clinical rotations. Most experiences involved shadowing the wound care nurse for a day in an inpatient setting. All the experiences focused on ostomies and in only four instances very briefly covered PUP (one of these was the phone call). One student spent time with a wound care nurse who focused on PUP as they worked together on a skin audit team check. Another student observed a wound care nurse educate nursing staff about proper boot placement on a patient, also during a skin audit team check. Both of these experiences are discussed above in the section regarding the skin audit teams. Wound care nurses were underutilized for PUP education.

Besides the two experiences in skin audit team checks most students did not elaborate on their experiences with wound care nurses because they did not involve PUP or was cursory and brief. Students also lacked discussion about PUP among their peers. The following section will review the conspicuous lack of attention about PUP among nursing students.

Conspicuous Lack of Focus About PUP Among Students

Most students did not recall talking about PUP with their peers either formally in class, such as in post-conferences, or informally. Three students recalled informal discussions that had some PUP conversation. One of these students also had an informal discussion in a parking lot after clinical. Three students had discussions about PUP that occurred in clinical post-conferences in small groups of four to eight students. There were three other students who heard about pressure ulcer wounds from other students without focus on PUP.

The attitude towards PUP as being "boring" and not glamorous made PUP a topic that was not often discussed among nursing students. Five students voiced their concern that they believed nursing students in general consider PUP as uninteresting, low priority, not exciting, and boring. They felt most students are only interested in fixing problems rather than preventing health care issues. They stated that most students preferred future careers in acute care and that those students anticipated not having to deal with PUP. The concerned students believed that the few students who choose a nursing career in LTC or hospice may focus on PUP as high priority. These concerned students felt that PUP was low on nursing students' radar. They felt that other students do not anticipate caring for patients who are at risk for pressure ulcers and therefore PUP is of low priority.

One committed student discussed how PUP is essentially invisible and that it does not seem like a nurse is actually "doing" anything when engaged in PUP for a patient. She stated:

> [PUP] is not a common discussion. I think people are so excited about exotic diagnoses and nursing skills that they'd rather talk about, "I got to

> place a Foley!" than "I prevented a pressure ulcer!" There is nothing glamorous there…I think we want to do things. It's like it's good that you didn't create one, but I think people are more on the changes you make rather than the prevention you can't see.

Theme 5: Patient Autonomy— A Challenging Concept for Nursing Students

Students perceived PUP as possibly creating a dilemma between patient autonomy and the principle that "nurses should do no harm." Some students looked at PUP in an absolute manner in terms of ethical principles. Patient autonomy and ethical practice were challenging concepts for students to grasp. They expressed attitudes that ranged from identifying PUP as of such importance that patients should not have the option to refuse repositioning, to a concern that patients should have complete control and autonomy even if they were to be harmed by refusing care. Several students struggled with how to balance patient autonomy with PUP. For instance, one student had the attitude that she should ensure PUP was administered "no matter what"; this involved not considering patient autonomy and that PUP was too important to allow a patient the option to refuse repositioning or active participation in PUP. This student also struggled with developing her own personal assertiveness. She felt she was not assertive enough due to cultural upbringing and found teamwork with her peers challenging. She took special tutorial sessions in the simulation lab to learn how to be more assertive. As being assertive was a major issue for her she took the extreme viewpoint that there was no leeway for patient autonomy. She stated that she would ensure the patient was repositioned and that PUP was provided, "…so even though patient was very angry and has pain, we should do that."

Four students discussed a more balanced approach to providing PUP and patient autonomy. These four students encouraged their patients to reposition to prevent skin breakdown, and tried to educate patients to participate in their own care, such as using a tripod to reposition in bed. One student stated that she would provide clustered care such as medications, procedures, and PUP/repositioning in order to allow patients rest during other times. She did not want to "bug" patients too much with interruptions. Another student talked about being an advocate for "non-responsive patients" who could not advocate for themselves, such as patients on a trauma floor with multiple co-morbidities, fractures, and inability to ambulate without assistance. She talked about listening to patient goals and educating them about the importance of and reasons for PUP. Another student pondered about end-of-life patients who are immobile. She felt the most important thing was to ensure the patients were comfortable, but then she commented that by not repositioning to keep patients comfortable may eventually cause painful pressure ulcers to develop. She talked about how it was important to find a balance between comfort, preventing pressure ulcers, and not bothering patients too much.

On the other end of the spectrum one student felt that patient autonomy was of utmost importance and he would not want to "push" or force PUP on a patient at all;this included encouraging PUP or educating the patient about the importance of PUP because it would be considered as too invasive or forceful. This student was concerned patients may feel "disappointed" that they were not able to participate in PUP and stated he did "not want to encourage [patients] to a point where they feel disappointed because they couldn't do it."

Students wondered who was responsible for the problem of pressure ulcers, whether patients had the right to refuse to be turned, and how much a nurse needed to ensure PUP was provided. Students struggled between honoring patients' autonomy and providing excellent pressure ulcer preventative care. The following theme discusses students' recommendations for learning about PUP in the nursing curriculum.

Theme 6: Student Recommendations Specific to Learning Pressure Ulcer Prevention

Students were asked to reflect on their experiences and discuss recommendations to faculty for teaching specifically about PUP. Two students suggested using graphic photos of pressure ulcers depicting the different stages. Most students recommended the ideal way to learn about PUP were through hands-on experiences. About half of the students recommended nursing students having direct contact with stage III to IV pressure ulcers in the clinical setting. These students felt that observing stage III to IV pressure ulcers in person had more impact than reading about pressure ulcers or PUP in books or looking at photos of pressure ulcers. These students discussed seeing the reality of how bad pressure ulcers could become made students understand the importance and priority of PUP. One student stated:

> I think the more exposure people could get…their attitudes would change a lot faster….[when] you actually see [a stage IV pressure ulcer] in real life and it's like, "Oh my gosh, we've got to do something about this, this is a real problem!"

Two students with emerging awareness of PUP had not witnessed a stage IV pressure ulcer but felt they could have gained some insight about the problem of pressure ulcers if they had. Five students recommended being involved in skin audit team checks

(pressure ulcer prevalence studies) as excellent learning activities for future nursing students. One of these students had not participated in a skin audit team but had heard about them and was intrigued. Two students suggested the nursing curriculum incorporate teaching more thoroughly about hospital and site policies for PUP including instruction about timing of repositioning, use of pressure relieving devices, resources, statistics, pressure ulcer risk assessment tools, and PUP goals for each clinical setting. They emphasized teaching nursing students important aspects for PUP such as misplacement of oxygen cannulas, IV tubing, call lights, and oximeters that nurses and students may overlook.

One student suggested having a special certificate for PUP for nurses and nursing students once they completed a special training program in PUP. This student was passionate to PUP strongly believed that PUP was vital for all patients' wellbeing. She had witnessed a severe pressure ulcer wound that left a lasting impression on her. She came away from her clinical education believing all students and nurses needed certifications in skin care and PUP.

Students recommended nursing faculty and clinical nurses verbalize their reasoning and critical thinking so students could hear how they process risk situations and learn from this. A few students wondered what clinical faculty and staff nurses were thinking and assessing while interacting with patients. For example, one student stated:

> …Often it was quiet. Nurses tend to be really fast at what they do and really quick assessments. And sometimes it's hard to judge whether or not they were as thorough as you imagine yourself being and that's because I'm slower…Sometimes you're not 100% sure that they did a full

> assessment or that that's what was really on their mind, but you want to think they did because that's what you would have done. Sometimes it was kind of hard to tell.

Three students recommended having a wound care nurse give a special presentation or an in-service specifically about PUP. Two students recommended rounding with wound care nurses as part of hands-on experiences assessing patients at risk for PUP and if possible witnessing stages III to IV pressure ulcer wounds.

Several students were puzzled by vague and "fragmented knowledge" about PUP and wanted to understand the "whole picture." One student stated:

> It is kind of hard to put the pieces together in order because you get fragmented knowledge when you're first learning nursing. Luckily they don't turn you loose with a patient and you're the person responsible for their care without putting all the pieces together. It was a little bit difficult sometimes to understand how things connected…You always got these pieces and sometimes you needed to see the whole picture…following a patient case from start to finish…through the progression of what happens to a patient from healthy to "I have a pressure ulcer," or "I healed," I think would have been really helpful. To see the whole picture versus the pieces of "this is what a pressure ulcer looks like," "this is how you do positioning," and "this is how you do a head to toe assessment," but how do you put that all together?

Another student recommended using a video or an unfolding case study of a scenario to help students see the "whole picture." She suggested faculty to present a case

study of a patient from start to finish about a patient at risk for developing pressure ulcers, developing a pressure ulcer, learning about the consequences of not providing PUP, and then providing PUP with the pressure ulcer wound healing or another scenario where the pressure ulcer wound does not heal.

Chapter Summary

Students had a wide variety of clinical learning experiences with PUP. Students primarily learned about PUP from nurse role models while interacting with patients of various ages, backgrounds, and comorbidities. These experiences were not intentionally planned with a PUP focus. Rather, the students happened to be assigned to a preceptor or staff nurse, and the experience was, serendipitously, part of that nurse's plan for their day. There was a conspicuous lack of PUP content in formal education. Students felt they did not have intentionally planned learning education about PUP in the nursing curriculum, from faculty, from wound care nurses, or in discussions with their peers. Students provided recommendations for learning about PUP that focused on hands-on, immersive experiences. In addition, several students struggled with the challenging concept of patient autonomy and PUP: how to balance patient safety and avoiding harm with a patient's right to refuse care.

Students' attitudes towards PUP ranged from passionate, to committed, to emerging awareness, to ambivalence. Students who were committed to PUP had specific learning experiences that influenced their attitudes towards PUP. The passionate and committed students had interactions with nurse role models who advocated and demonstrated PUP importance. These students had at least one or a combination of hands-on experiences with PUP or direct observation of a stage IV pressure ulcer. Hands-

on experiences included being involved in a quarterly skin audit team and pressure ulcer prevalence survey, having a passionate clinical preceptor who was a designated “skin champion,” or having a senior preceptorship in the operating room setting that focused on PUP for each surgical patient.

CHAPTER V

Discussion

The aim of this exploratory-descriptive study was to describe undergraduate nursing students' experiences with and attitudes about pressure ulcer prevention (PUP). Although all 16 students had at least one experience with PUP, none could recall any intentionally planned learning experiences about PUP that they felt affected their attitudes towards PUP. Despite not recalling intentionally planned PUP learning experiences in their undergraduate nursing curriculum there were students who gained an appreciation for PUP through a range of impromptu clinical PUP experiences.

As discussed in Chapter II, the concept of attitudes involves values, experiences, feelings, and behavioral intent (Fishbein & Ajzen, 1975; Moore, 2004, Pickens, 2005). In terms of attitudes, students were categorized as either: 1) being passionate about PUP, 2) committed to PUP, 3) having an emerging awareness of PUP, or 4) being ambivalent about PUP. Students who were passionate and committed to PUP conceptualized the skin as an essential organ requiring constant protection and surveillance. The passionate and committed students were insightful, elaborated about the complexities of PUP (such as physiology, comorbidities, skin and pain assessments, nutrition, mobility, and moisture related to incontinence), yet viewed PUP as achievable (pressure ulcers could be prevented) and a necessary part of their nursing role. The passionate and committed students expressed the importance of considering the need for PUP for each patient individually, considering age, background, comorbidities, diagnoses, or care setting. Students who had an emerging awareness about PUP were brief in their descriptions of PUP, viewed PUP as challenging and time-consuming, yet expressed an appreciation for

the importance of PUP. Students who were ambivalent about PUP did not elaborate on PUP despite multiple prompts, and they had stereotypical views stating PUP was only important for specific populations such as frail, older adults.

Wenger's (2008) Communities of Practice model provides a broad framework that gives context to the findings, as will be discussed below. However, the Communities of Practice model does not emphasize the component, attitudes, that was central to these students' experiences. A more detailed conceptual model was identified that focuses on the association between attitudes and learning experiences. The new conceptual model (the Four Cs) focuses on how attitudes were formed specific to PUP. Concepts adapted and modified from the Communities of Practice model suggest how specific experiences may influence passionate and committed students' attitudes about PUP.

Students who were passionate and committed to PUP had specific learning experiences that influenced their attitudes towards PUP. The specific learning experiences involved four key experiential learning components: 1) Consequences; 2) Coaching; 3) Cooperation; and 4) Context. These four key experiential learning components are referred to as the *Four Cs* in this dissertation and are associated with social learning experiences that provided authentic and contextual insights for students who were passionate and committed to PUP (see Figure 7). Students who experienced one or more of four key experiential learning components (consequences, coaching, cooperation, or contexts of diverse settings and populations) were more passionate and committed to PUP than students with emerging awareness or ambivalence about PUP. Students with emerging awareness or ambivalence did not experience any of the four key experiential learning components.

The Four Cs model reconceptualizes the four components of the Communities of Practice model (meaning, identity, community, and practice) and places the concept of attitudes in the center.

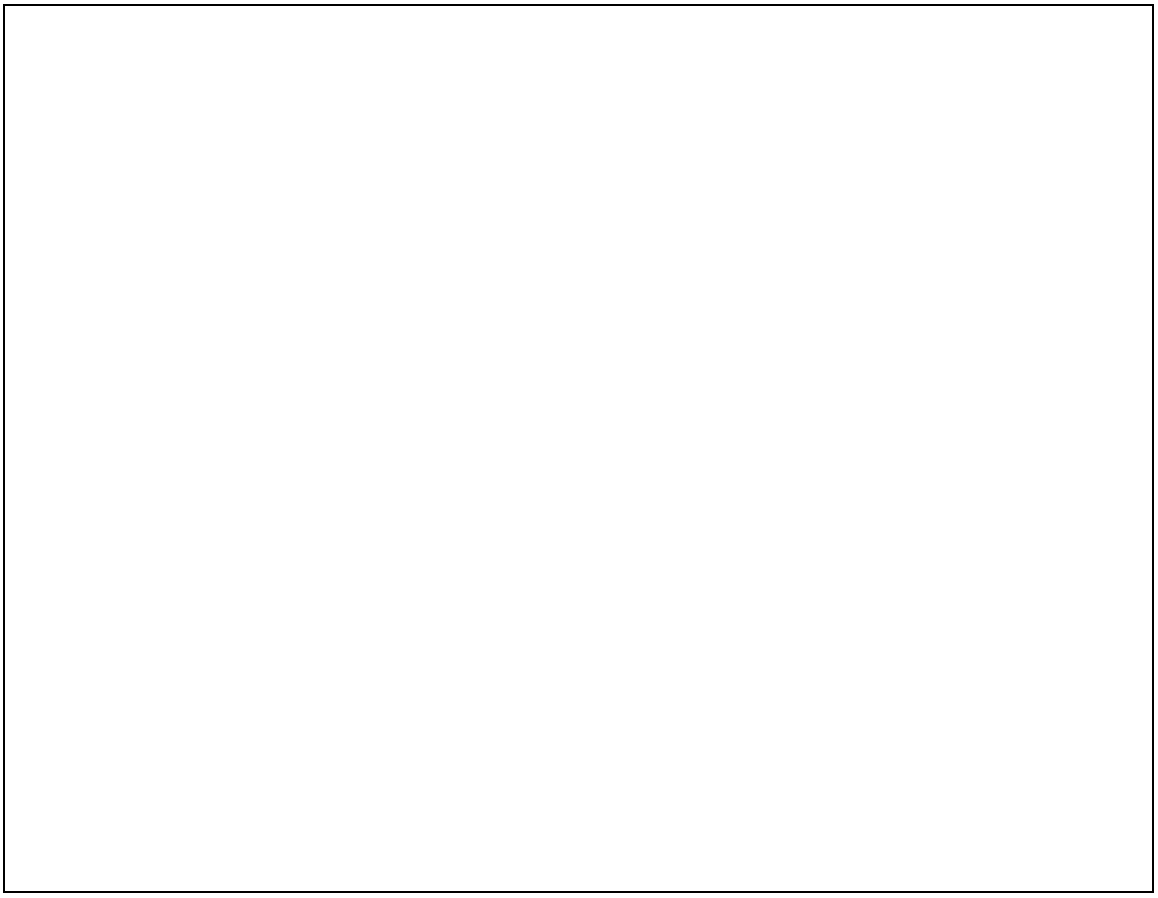


Figure 7. The Four Cs Conceptual Model: Key Experiences Associated with Students Developing Passionate and Committed Attitudes Towards PUP.

Briefly, the Four Cs are:

- Consequences: Students who observed or provided wound care for a patient with a stage IV pressure ulcer realized the adverse outcomes of not providing adequate pressure ulcer preventative care. These students learned about the formation of pressure ulcers and the importance of primary prevention by seeing the extensive

physical damage that can happen when PUP is not implemented. This component is similar to Wenger's (2008) Communities of Practice *meaning* component.

- Coaching: Students who had learning experiences with nurse role models formed proactive, enthusiastic, passionate, and committed attitudes about PUP importance. A role model is a person who "possesses certain skills and displays techniques that the individual lacks and from whom, by observation and comparison with one's own performances, the individual can learn" (Lum, 1988, p. 260). Students described their own personal commitment to PUP when they had opportunities to work with staff nurses and preceptors who they believed valued PUP as evidenced by behavior including assessments of patients' skin and any symptoms related to potential pressure damage, repositioning, and communicating with other nurses such as wound care nurses. These experiences helped students conceptualize their own identity as future nurses who were responsible for PUP. This component is similar to Wenger's (2008) Communities of Practice *identity* component.
- Cooperation: Students who interacted and worked with interprofessional PUP teams to prevent pressure ulcers described a thorough understanding of the importance of PUP that included team communication and coordination in assessing patients' skin, diagnoses, positioning, and pressure relief. Nursing students who engaged in skin team audits or with an operating room team observed the complexity of PUP. Students who observed or experienced working with these interprofessional teams (inclusive of nurses and physicians) focusing on PUP expressed attitudes towards PUP as critically important, and considered

PUP as complex, requiring critical thinking and nursing judgment. This component is similar to Wenger's (2008) Communities of Practice *community* component.

- Context: Students who had hands-on PUP experiences in a range of settings with diverse populations including pediatric units and the operating room realized that PUP was important for patients of all ages and diagnoses. Exposure in settings that provided unique and perhaps non-traditional PUP learning experiences for students helped them to translate their PUP knowledge from long-term care across multiple settings. This component is similar to Wenger's (2008) Community of Practice *practice* component.

Wenger's (2008) Community of Practice theoretical framework will be used to explain how students' attitudes were influenced by the Four Cs via an examination of the four components of the framework: 1) meaning, 2) identity; 3) practice; and 4) community. This chapter will also situate the major findings of this research within the relevant literature, present challenges inherent in teaching students about PUP, as well as discuss the limitations of this study, implications for clinical nursing education, and recommendations for future research.

The Four Cs Conceptual Model

Consequences

Consequences, the first key experiential learning component in the Four Cs Conceptual Model, involves the influence of direct observation of stage IV pressure ulcers on students' attitudes toward PUP. Some students stated that providing PUP appears to be "invisible" and "not glamorous" whereas providing care for open wounds

and watching wounds healing is more rewarding. Still, students who were passionate and committed to PUP described experiences from the Four Cs Conceptual Model that impacted their attitudes about PUP as a critical part of their practice. These experiences included observing or providing wound care for a stage IV pressure ulcer that made the students realize the severe consequences of not providing adequate pressure ulcer preventative care.

The experience of witnessing a severe pressure ulcer (stage IV pressure ulcer) galvanized students in their commitment towards PUP. Learning occurred as students engaged in experiences with stage IV pressure ulcers and witnessed the consequences of what happened when PUP was not effectively provided. Direct observation or wound care for a stage IV pressure ulcer involved the "meaning" component of Wenger's (2008) Communities of Practice social learning theory. Through these experiences students were able to conceptualize or formulate in their own minds the meaning of the terms "stage IV pressure ulcer" and "PUP." An adequate vocabulary is necessary for students to understand and make sense of their world (Wenger, 2008). Students who had experiences either observing or providing wound care for a stage IV pressure ulcer expressed an understanding of patient suffering and consequences when PUP was not provided. These students also conveyed or exhibited behaviors indicating interest, enthusiasm, excitement, curiosity, or a certain appreciation for PUP. By associating specific meaning with the language used in nursing school, these students learned what it means to be a nurse protecting a patient's skin from a pressure ulcer using clinical judgment, protocols, guidelines, and assessing skin, nutritional status, mobility, and moisture issues.

When students recognize the consequences of pressure ulcers through direct observation, they are well positioned to connect such experiences with the concept of prevention. Prevention was a difficult concept for students in this study to grasp. PUP is complex in that subtle changes in the development of pressure ulcers are often ambiguous (Horn et al., 2010). Pain usually warns patients when they are in trouble. However, patients who have comorbidities or who have impaired sensation often have a higher pain threshold, and may not perceive the formation of pressure ulcers (NPUAP & EPUAP, 2009; Schubart, Hilgart, & Lyder, 2008). Despite compelling evidence that prevention is effective in promoting positive health outcomes there is resistance among health care professionals in providing prevention (Cohen & Chehimi, 2007). Prevention of pressure ulcers is challenging for nurses to prioritize because it is difficult to conceptualize (Cohen & Chehimi, 2007; Dealey et al., 2013). In addition, nurses view prevention as a distraction, one that obstructs them from attending to the urgent care needs of people who are ill (Cohen & Chehimi, 2007). The impact of prevention is virtually invisible whereas the need to provide treatment for affected patients is usually clear (Bowers, Lauring, & Jacobson, 2001; Cohen & Chehimi, 2007; Irurita, 1996). The formation of pressure ulcers is often invisible in that the pressure ulcers are obscured by the body or some object that conceals the site of destruction (Guy, 2012).

PUP is subtle and requires continuous attention over time, a detail that not everyone notices. Glacier displacement, as a metaphor for the formation of pressure ulcers, best illustrates this point. Glaciers apply tremendous pressure and force on the surface of the earth. Glaciers are slow moving and may look stagnant or inert, yet they are powerful: they can crush rocks and move huge boulders thousands of miles, and they

carve fjords that are thousands of feet deep. Just like the formation of pressure ulcers, there are no sudden violent events that create fjords. Like glaciers shaping landscapes, pressure ulcers are formed via unrelenting pressure. Recognizing their potential takes a different type of awareness and critical thinking on the part of the nurse in terms of prevention.

PUP is complex and depends upon each individual circumstance, not exclusive of setting (NPUAP, 2009). A nurse could have several different patients who experience the same level of pressure within similar environments of care but not all of these patients would get a pressure ulcer; it takes a certain combination of vulnerabilities, intrinsic and extrinsic risk factors for a pressure ulcer to occur (NPUAP, 2009). Patients frequently do not tell nurses when they are suffering from a developing pressure ulcer (Guy, 2012; Kwiczala-Szydłowska, Skalska, & Grodzicki, 2005). Most patients are unaware of PUs and do not know they need to notify their nurses that they may be developing pressure ulcers (Guy, 2012; Kwiczala-Szydłowska, Skalska, & Grodzicki, 2005). In addition, some patients, including children and people with decreased level of consciousness have limited capacity to communicate their discomfort, concerns, and their need to be repositioned due to developmental or cognitive issues (Murray, Noonan, Quigley, & Curley, 2013). Therefore, it is vital to educate nursing students to be proactive in PUP and use critical thinking and nursing judgment rather.

Students consistently reported that seeing a real stage IV pressure ulcer on a patient had more impact on their attitudes towards the importance of PUP than seeing photos or models of wounds. Pressure ulcers were decontextualized during lab experiences that focused on sterile technique. Several students who saw stage IV pressure

ulcer wounds on manikins in skills laboratory, translated this experience into the clinical setting when they witnessed real stage IV pressure ulcers on patients. Initially, they did not comprehend that the manikin's wounds were pressure ulcers. On reflection the students realized they had practiced applying the concept of sterile technique on pressure ulcer wounds. There were students who initially thought the manikin's pressure ulcer wounds seemed too exaggerated to be real, but when they observed or packed real stage IV pressure ulcer wounds on patients they understood pressure ulcer wounds could become severe and that PUP was of vital importance.

In summary, all students who witnessed or provided wound care for a stage IV pressure ulcer reported they understood the severe consequences when PUP was not provided. They discussed that they needed to be attuned to the subtle, obscured tissue destruction that pressure can exert below the surface of a patient's skin. These students described their visceral reactions and how their attitudes of commitment to PUP were influenced by their experiential learning with stage IV pressure ulcers.

Coaching

Coaching, the second key experiential learning component in the Four Cs Conceptual Model, involves the influence of dedicated role models on attitudes toward PUP. Passionate and committed students recalled that nurses who demonstrated attention and dedication to PUP influenced their attitudes towards PUP. Nursing students who provided PUP measures with nurse role models expressed commitment to and enthusiasm about PUP, and had an appreciation for the skin as a protective organ. Clinical nurse preceptors who were identified as "skin champions," and encouraged students to reflect on PUP were particularly successful in imparting the importance and responsibility of

nurses in preventing PUP. In addition, interprofessional role models, including ward nurses and operating room staff such as surgical technologists, circulating and scrub nurses, surgeons, and anesthesiologists, who performed PUP as part of their practice influenced student attitudes about the benefits of PUP and about knowledge and skills needed to prevent pressure ulcers.

Wenger's (2008) Communities of Practice social learning theory supports the influence role models have on learners' attitudes towards PUP. Social learning involves a reciprocal interaction between a person and the social environment, and role modeling allows a student to learn new behaviors without trial and error (Bandura, 1977). This social learning is a process of becoming a certain kind of person (Wenger, 2008). Observers learn and are influenced by experts teaching by example (Spouse, 1998). In this study, students who had hands-on experiences in the presence of role models conceptualized their own nursing identities as reflecting PUP practice as a priority. Wenger (2008) refers to this experience as the "identity" component of the Communities of Practice social learning theory. Students projected an image of themselves as nurses, for instance stating, "As a nurse I will…" In the social learning process of nursing identity formation, these students developed their own personal identities and histories in preventing pressure ulcers while observing and interacting with exemplar role models. Identity formation via immersion in PUP interactions reflects the notion of "learning as becoming" (Wenger, 2008) where engaging in learning experiences effectively changes one's self-conceptualization. Students learned that expert nurses take deliberate responsibility for protecting skin. The students perceived the role models as having an appreciation for PUP and considering it a high priority. These students described what a

nurse does for PUP including using "clinical judgment and not just being task-based," using "reflection," "critical thinking," and thinking about future consequences for patients. The students incorporated the attitudes and behaviors that they felt the role models portrayed. For instance, one student described her preceptor as being "hyper-aware" and knowledgeable about PUP and identified how she wanted to be a nurse "like her [preceptor]."

In addition to interprofessional role models there was a subcategory of "passionate" students who were themselves role models to their peers. Several students stated they were particularly impressed and influenced by their peer role models whom they felt were expressive, dedicated, and interested in PUP. According to Bandura (1977) prominent role models can include peers who influence their attitudes and behaviors. Peer role models are admired and respected and are close to the professional, social, or age level of their peers (Murphey, 1996). They possess successful behaviors and attributes that other students want to imitate (Bandura, 1977). Students had PUP discussions with their role-modeling peers either in clinical post-conferences or informal conversations (e.g. in a parking lot after clinical). The student role models experienced two or more of the Four Cs. The student role models were recognized by their peers for being attentive and acutely aware of the severe damage that pressure can create on skin. The student role models shared their experiences with their peers including being aware of agency policies, using clinical judgment and critical thinking, and diligence in providing patients the best care and protection against developing pressure ulcers. These students described to their peers how prevention is virtually "invisible" and that they need to be vigilant in providing PUP that includes attention, awareness, tenacity, and

consistency. The students who had encounters with peer role models learned that pressure ulcers could form from such items as misplaced oxygen cannulas, IV tubing, call lights, oximeters, and orthopedic braces. Through these experiences and interactions, students identified that PUP was worth pursuing.

The contribution of role modeling on student attitudes is further supported by other research on student learning (Baldwin, Mills, Birks, & Budden, in press). "Enthusiasm for, and positive attitude towards nursing demonstrated in the classroom have a powerful impact on nursing students' understanding of professional behavior" (Baldwin, Mills, Birks, & Budden, in press, p. 8). Ajzen and Madden (1986) note that social pressure and personal attitude influence how people behave and their intent to perform. "The social pressure to perform encompasses the concept that 'important others' influence the likelihood of an action being carried out" (Ajzen & Madden, 1986, in Moore & price, 2004, p. 943). In this study, the findings demonstrate the influence that "important others" (expert role models who were dedicated to PUP) had on nursing students' attitudes towards PUP, whether they were nursing students, nurses, or physicians. Students did not identify certified nursing assistants, medical assistants, or medical technicians as role models. A few students stated that certified nursing assistants were involved in PUP, primarily repositioning patients, but that the extent of their PUP knowledge and awareness was limited. All of the role models were of either equal or higher "professional status" than the students. The role models demonstrated their expertise and commitment to PUP through action, conversations, and modeling, impressing upon student a holistic view of PUP.

Cooperation

Cooperation is the third key experiential learning component in the Four Cs Conceptual Model. This component affected students' commitment toward PUP and emerged through their experiences with interprofessional PUP teamwork. The students who were on interprofessional teams that focused on PUP (e.g. skin audit teams or with operating room teams preparing patients for surgeries) conceptualized the skin as an essential organ requiring constant protection and surveillance.

Students embodied their developing nursing identities by conducting skin audits and pressure ulcer prevalence studies in various inpatient settings. Students indicated their engagement in skin team audits was equivalent to taking intensive, hands-on trainings or completing lengthy learning activities focused solely on PUP. As team members, students learned about accountability, ethics, and collective responsibility for each patient's skin integrity. Engaging in skin team audit checks required not just tasks of inspection, but also critical thinking skills and clinical judgment (Benner, Hughes, & Supthen, 2008; Tanner 2006) as the skin team assessed for pressure ulcer risk, reflected upon individualized PUP requirements and procedures, and adjusted their care activities in order to meet the needs of specific patients and prevent pressure ulcers.

Wenger's (2008) Communities of Practice social learning theory explains how students develop specific attitudes about PUP as members of a PUP team. Working with and learning by being on a skin audit or operating room team demonstrates the "community" component of the Communities of Practice social learning theory. Here, students temporarily became members of a competent and highly-regarded social group (Wenger, 2008) that was explicitly focused on PUP. In the operating room, students

shared experiences with team members whose goal it was to address PUP for every patient prior to surgery. Students embedded within a team, whether an operating room team or a skin audit check and learned about PUP and its importance through "social engagement" (Wenger, 2008). By joining these proactive communities of practice students not only interacted with nurses and other role models, they were immersed in an environment whose members shared and used specific procedures, tools, images, documents, and recommended standards of practice to accomplish a specific goal: prevention of skin breakdown and/or promotion of skin integrity.

The concept of PUP was mundane and "boring" to many of the nursing students in this study and yet pressure ulcers are often life threatening for patients. In addition, previous studies consistently found that practicing nurses consider PUP as low priority and unimportant (Athlin et al., 2010; Beeckman et al., 2011; Bostrom & Kenneth, 1992; Fitzpatrick, et al., 2004; Helme, 1994; Källman & Suserud, 2009; Maylor & Torrance, 1999; Moore & Price, 2004; Provo et al., 1997; Samuriwo, 2010; Smith & Waugh, 2009; Young et al., 2004). Students in this study who were proactive, passionate, or committed to PUP noted that pressure ulcers are insidious and that if PUP is not intentionally and carefully provided, pressure ulcers can develop without warning.

In summary, learning in the skin and operating room teams occurred through belonging to a social community and engaging in a worthwhile social configuration of nursing where PUP competence was recognized (Wenger, 2008) by all members of the communities (teams). This has been identified as the importance of working in interprofessional teams to effectively function in health care delivery (IOM, 2003). Students were participants in effectively providing PUP via "mutual engagement"

(Wenger, 2008) where students worked with interprofessional team members in a joint effort to prevent pressure ulcer formation.

Context

Context, the fourth key experiential learning component of the Four Cs Conceptual Model, involves the influence of diverse clinical placements and populations on student attitudes toward PUP. Students learned about the benefits of PUP from observing stage IV pressure ulcers, interacting with nurse role models, or engaging in PUP teams in diverse clinical settings including the operating room, pediatric and trauma units, long-term care, and other settings and populations. Students who had clinical experiences in the operating room interacted with patients of different ages, diagnoses, and comorbidities. Students who had clinical placements in either the operating room or in pediatrics engaged with nurse role models in PUP, gaining a deeper understanding of the benefits of PUP for both patients and health care agencies. These students did not express preconceived ideas about patient risk for pressure ulcer risk as relevant for only specific populations or settings. Instead, they discussed the vital importance of assessing each patient individually for pressure ulcer risk, comprehensively considering age, diagnoses, backgrounds, and care settings.

Students who had PUP risk assessment experiences across varied settings gained appreciation for pressure ulcer risk across varied populations. Long-term care is the traditional setting where one would expect PUP experiences to unfold because there are typically large populations of frail older adults in such environments (Kottner et al., 2013). PUP has also been a focus in intensive care and rehabilitation units. Conversely, the operating room setting and pediatric populations are typically overlooked as resources

for learning about PUP (Armstrong & Bortz, 2001), (August et al., in press; Kottner et al., 2013; Stevenson et al., 2013). Yet, students recalled the operating room, and pediatric and neonatal intensive care units as places where they had significant learning associated with PUP.

The Wenger (2008) Communities of Practice social learning theory explains how nursing students gained an awareness of PUP across settings and populations. Context involved authentic situations and contextual learning through social engagement, the practice component of the Communities of Practice model (Wenger, 2008), such as hands-on learning with PUP teams and nurse role models working on preventing pressure ulcers with patients. Bransford, Brown, and Cocking (2000) discuss the importance for students to learn in a variety of contexts that foster the use of their knowledge and abilities to adapt to new settings and situations. In addition, "learning is influenced in fundamental ways by the context in which it takes place," (Bransford et al., 2000, p. 25). Wink (2010) discussed the importance of using diverse settings for clinical teaching including the operating room setting, stating that it has been "virtually eliminated" from most nursing education programs. This setting provides clinical learning opportunities for students to become informed about PUP. For example, a pressure ulcer that develops within three days of a surgical procedure is determined to have most likely occurred during that surgical procedure (Primiano et al., 2011). Students who engaged in PUP in the operating room and pediatrics felt these experiences influenced their attitudes towards PUP that impacted their behaviors and commitment to PUP.

Conclusion for the Four Cs Conceptual Model

Findings in this study highlight the contribution of the Four Cs to the development of a holistic view of PUP in students who became committed to PUP during the course of their educational experience. The importance of PUP is evident in the literature: pressure ulcer prevention is a nursing obligation and a federal requirement (AHRQ, 2011). In addition, PUP has been shown to be complex (AHRQ, 2011; NPUAP, 2010) and that nurses need to embrace PUP as part of their practice (AHRQ, 2011). This study's findings support the need to educate nursing students about the complexities of PUP. All four key experiential learning components, (direct observation of stage IV pressure ulcers, interactions with role models, multidisciplinary PUP teams, and diverse clinical settings and populations) involved social engagement for learning about the complexities of PUP. Nursing students need to learn how to be detectives in discerning pressure ulcer risk and work in collaboration with interprofessional team members. It takes time and effort for students to understand how various pieces relevant to PUP are interrelated. These pieces include pathophysiology (at the cellular conceptual level), PUP policies, agency protocols, nursing responsibilities, continuity of care, transitions and discharge planning, documentation, and handoffs. Students who had the most robust sense of PUP, the students who were passionate about PUP and identified as student role models by their peers, had multiple PUP reinforcements during their nursing education program. These passionate students experienced at least two or more of the Four Cs. Findings from this study suggests that multiple experiences with the Four Cs generates significant student attitudes of commitment to PUP.

In contrast, students who were ambivalent about PUP did not observe a stage IV pressure ulcer, did not interact with a nurse role model in PUP, or engage in the PUP teams. These students could not elaborate about PUP even with multiple prompts. They considered PUP of low importance, difficult to achieve, and time-consuming to provide. They thought that PUP was only important for frail, older adults and patients who were immobile. They did not consider PUP to be a concern for pediatric patients, women in labor and delivery, or newborns. Also, one of these students stated that patient autonomy was more important than PUP. This student stated he would not want to encourage PUP, because he was concerned a patient would become embarrassed if unable to participate. This group of students was comprised of novice learners and rule-based thinkers (Benner, Hughes, & Supthen, 2008). They expressed ambivalence about PUP, and considered PUP of low importance in the spectrum of nursing tasks.

Students in this study did not recall learning about PUP through their interactions with nursing faculty. They did not recall theory, simulation, or psycho-motor lab activities that addressed PUP. In addition, student experiences with wound care nurses primarily focused on ostomy care and not PUP. Students did not recall any didactic or laboratory (simulation or psycho-motor) experiences that influenced their attitudes towards PUP. In fact, several students realized during interviews that a wound packing skills lab for sterile technique actually involved a stage IV pressure ulcer. The students mentioned that they thought the low-fidelity manikin with stage IV pressure ulcers were "unbelievable," and they could not imagine actual humans having wounds that severe. They learned about sterile technique and wound packing without the context of the

patient or type of wound. Theory and lab courses were limited in teaching the contextual features of PUP; the cooperative, interprofessional team approach to PUP was missing.

The Four Cs identified in this study reflected unplanned yet effective experiences that passionate and committed students associated with their positive attitudes towards PUP. In order for students to comprehend the complexities of PUP they need to be shown by nursing faculty and role models how to recognize and associate all the variable components of PUP; this involves providing a holistic view of PUP. Student suggestions on strengthening theory and lab activities involved learning "the big picture" of the complexity of PUP. The students suggested hands-on experiences with PUP either in skin team audits, prepping patients in the operating room, providing wound care for stage III-IV pressure ulcers, or providing a holistic view of PUP in discussions or case studies.

Study Limitations and Strengths

Limitations

The primary limitations of this study relate to the sample, which had a small number of participants, from one school of nursing, and was relatively homogeneous regarding race and ethnicity; participants were primarily Caucasian (87.5%) and non-Hispanic (94%). As the findings of this study reflect the perceptions and experiences of participants who volunteered to be part of the study it is not known whether the experiences and attitudes of students who chose not to participate were substantially different. By virtue of being in a research study, participants may have expressed a commitment to PUP in order to please or impress the investigator due to social desirability. This study only represents self-reported perceptions of students and not observation of actual nursing students' behaviors. This study did not examine curricular

content or learning activities that faculty might report were deliver to students. In addition, this study only addressed students' attitudes and experiences but not their knowledge of PUP.

Strengths

Despite these limitations this study is important as it provides a beginning description of a range of undergraduate nursing students' attitudes and experiences of PUP. The depth and variety of data, including detailed and concrete descriptions from students with a wide range of experiences with PUP, allowed for the conceptualization of the findings. Further, the participants represent students who had their initial two years of instruction in different settings from different education programs, which contributed to maximum variation in sampling. Nursing students may have felt obligated to participate in the study, especially if faculty/instructors were present, therefore the investigator coordinated with faculty/instructors to step out of the classroom during recruitment. In addition, the investigator took extra precautions to ensure students knew they could choose not to participate and that there would be no consequences affecting their grades. Interviews were private and confidential, and information about which students participated or did not participate was not shared with faculty or other students.

Implications for Clinical Nursing Education

The interview data suggested that the topic of PUP was often overlooked or decontextualized by faculty. Most students in this study indicated that PUP was introduced little by little throughout the curriculum, and several students felt PUP content was so subtle that it got lost or was not noticed. In addition, students discussed how their meaningful PUP learning experiences occurred serendipitously through clinical

experiences that were not intentionally designed with PUP as part of the learning concept. This finding suggests a lack of faculty focus on intentionally creating PUP learning experiences for students.

Several students stated they wanted to learn about the "big picture" of PUP and how to apply what they had learned in a larger context. The curriculum that students in this study experienced uses a spiral model in which basic knowledge is repeatedly revisited, yet it continues to develop in increasing complexity, matching students' readiness to learn content as the curriculum unfolds (Bransford et al., 2000; Bruner, 1977; Davis & Harden, 2003; Smith, 2002). Within the spiral curriculum it is important to have intentional learning activities that tie into previous learning activities (Bransford et al., 2000; Brunner, 1977; Smith, 2002). Students may be ready to learn about PUP in more depth than assumed. When PUP concepts are vague or cursory, the intended purpose of the learning activity is lost (Smith, 2002); therefore, it is important to encourage students to connect the dots and apply their cumulative knowledge of PUP.

The findings from this dissertation study point to the importance of careful preparation in teaching about PUP and forward-thinking where faculty present the larger context of PUP. The National Quality Forum (2009) discusses the importance of teaching about safety concerns and PUP for each individual patient. It is important for faculty to teach concepts that are clearly defined and present why PUP is vital for patient well-being. By intentionally teaching students about PUP, students are prepared to think of PUP in a larger context across varied settings and populations rather than simply a collection of unrelated components. Nursing faculty can incorporate PUP concepts within

the spiral curriculum to educate students about PUP and assist them in their development as professional nurses.

A principle focus for health care agencies is patient safety and pressure ulcer prevention (AHRQ, 2011). When students are not well prepared for PUP then the burden (financial, time, personnel, and resources) for educating new graduate nurses is shifted to clinical agencies. The findings from this study suggest a correlation between students recognizing the importance and complexity of PUP when they have one or more of the Four Cs learning experiences in a range of clinical settings and diverse populations. In addition, interaction with role models whom the students perceived as experts in skin protection strengthened their attitudes towards PUP. These findings are significant as previous literature on nurses' attitudes suggests PUP is not viewed as a care priority (Athlin et al., 2010; Beeckman et al., 2011; Bostrom & Kenneth, 1992; Fitzpatrick, et al., 2004; Helme, 1994; Källman & Suserud, 2009; Maylor & Torrance, 1999; Moore & Price, 2004; Provo et al., 1997; Samuriwo, 2010; Smith & Waugh, 2009; Young et al., 2004). In addition, practicing nurses develop their attitudes during their formative years in nursing education (IOM, 2011). The major findings of how students learn about and decide that PUP is worthwhile to pursue has immediate educational application. Implications from this study suggest opportunities for incorporating authentic and intentional learning experiences in clinical education curricula that address social engagement for teaching the intricacies and complexity of PUP. Implications for clinical nursing education are presented using the four key components (consequences, coaching, cooperation, and context) of the Four Cs Model.

Implications in Consequences

Students who observed or packed a stage IV pressure ulcer witnessed the full destructive force and power of pressure on tissue and understood the seriousness of pressure ulcers. It took first-hand personal experience of seeing a stage IV pressure ulcer to concretely reinforce the significance of pressure ulcers and PUP. In this study pictures and photos did not impact the nursing students as much as direct experience with actual pressure ulcer wounds. In education realistic graphics are preferred over non-realistic graphics (Smallman & St. John, 2005) to depict realism. Manikin models of wounds are not exact replications of actual clinical wounds (Sinha, 2012) and there are always differences between simulation tools and real patients (Drews & Bakdash, 2013). Viewing a real stage IV pressure ulcer can augment student education about the importance of PUP. Faculty could intentionally seek opportunities to coordinate with wound care nurses, clinical preceptors, or clinical staff to provide opportunities for direct observation of pressure ulcers staged III – IV.

Not all nursing students can have direct observation or provide care for patients with stage IV pressure ulcers, especially as hospitals increasingly meet Joint Commission and Centers for Medicare and Medicaid Services goals of preventing hospital acquired pressure ulcers (Joint Commission, 2013) and improve healthcare quality (NQF, 2011). Findings from this study indicate that when students learned about sterile technique procedures in clinical labs they did not realize the wounds on the low-fidelity manikins were stage IV pressure ulcers. The learning material was out of context and students indicated they wanted to see the "big picture" of PUP. Faculty could contextualize pertinent information and PUP assessments by helping students convert skills from a

fixed lab environment to the more complex and changing patient care situation (Benner et al., 2010). Faculty could guide students through the sterile technique procedure to use the situation to "deepen learning" in order for students to "develop an attuned, response-based practice and capacity to quickly recognize the nature of whole situations" (Benner et al., p. 43). Faculty could clearly specify that the wounds on the manikins are models of pressure ulcer wounds and back these up with photos or videos about pressure ulcer wounds in case studies. Faculty could teach students about the severe consequences of not providing PUP by creating evidence-based exemplar case studies and embedding sterile technique concepts with high-fidelity manikin stage III to IV pressure ulcers. High-fidelity simulation wounds are as close to real wounds as possible, including texture, moisture, and odor. Faculty could incorporate photos of the various stages of pressure ulcer wounds in pathophysiology courses and then reinforce this learning activity in clinical experiences.

In addition, faculty could use the concept of scaffolding as a support structure (Lave & Wenger, 1991) to assess student understanding of PUP and help students reflect upon their experiences throughout their education related to PUP concepts. The senior year of the undergraduate curriculum may be an ideal opportunity to help students circle back to their understanding of PUP. The nursing curriculum could spiral (Dreyfus & Dreyfus, 1980) to in-depth experiences in PUP during the senior year reinforcing a comprehensive understanding of PUP. This could include holding clinical ethics discussions related to PUP, risk for developing severe pressure ulcers, and patient autonomy versus nurse beneficence and non-maleficence. In this study, learning about PUP provided a platform for students to examine the nuances related to ethical principles

for practice. Faculty could have students take a particular position related to patient autonomy, PUP, and nurse beneficence/non-maleficence with examples from literature and discuss the varying views in a post-conference discussion.

Interactive learning simulation game software could be developed incorporating the concepts and optimal components of the Four Cs conceptual model. This type of software could engage a large number of students. The software could use vivid graphics to depict detailed and complex situations where students play as avatars. Students can care for simulated patients to prevent pressure ulcers in several different unfolding scenarios with different outcomes depending upon decisions made during the interactive game. In addition, faculty can teach about the topic of PUP in an ethics course regarding patient autonomy versus doing no harm by incorporating a case study of various outcomes of not providing PUP including pressure ulcers developing, systemic infections, lawsuits, and patients recovering or dying.

Implications in Coaching

Some students in this study indicated it was often challenging to understand what clinical nurses were doing when nurses did not verbalize their thoughts and reasoning behind their actions. The students wanted to understand the nurse's clinical judgment and thinking process. Previous research have indicated the need for educators and nurse preceptors to provide quality learning-experiences due to their influence on students' behaviors, beliefs, and attitudes (Baldwin et al., in press). In addition, purposefully role modeling behaviors and attitudes is a valuable and effective strategy that engages nursing students in critical thinking (Lovatt, in press). Therefore it is important for nurses to intentionally articulate their critical thinking, reasoning, and clinical judgment out loud so

students can learn, understand, and incorporate "thinking like a nurse" into their practice (Benner, Tanner, & Chesla, 2009). Nursing faculty could intentionally cue nursing staff specifically to think out loud about PUP and to be cognizant about how students learn and about the effect of role modeling on student learning.

Faculty could arrange for students to interact with nurse role models including "skin champions" or shadow wound care nurses to learn about PUP in addition to ostomies. Wound care nurses may profoundly impact student attitudes towards PUP and pressure ulcers when they interact with students for several hours with focused hands-on client care learning experiences. Again, students could share their experiences and insights from shadowing wound care nurses with their peers in post-conferences. In addition, faculty could identify student role models who have had experiences with either stage IV pressure ulcers, nurse role models/"skin champions," skin audit checks or operating room teams in various settings and populations, share their experiences, enthusiasm, and insights about PUP with their peers during post-conferences.

Implications in Cooperation

The IOM (2011) has identified that interprofessional collaboration and social engagement are important in health care. Despite lack of recall of intentional learning about PUP in planned course activities, the ten students who did have PUP experiences with staff nurses developed attitudes valuing PUP. This reinforces the considerable influence that staff nurses can have on how students develop their ideas about what it means to be a nurse and shows the importance and utility of clinical partnerships. There was a significant contribution by staff to student learning and is an example of the importance of strong clinical placements as critical for student learning. The time

invested by clinical health agencies partnered with nursing learning experiences in working and teaching undergraduate nursing students can be a good return on investment in that less time and resources will be needed later for new graduate nurses. Influencing student attitudes and behaviors through PUP efforts and programs in the clinical setting is an achievement and a celebration of the collaborative partnerships. Educational programs can identify those clinical sites that do especially well in teaching PUP importance and incorporate these intentionally into their educational programs. Faculty could provide students with opportunities to work in close collaboration with a PUP team to learn how to incorporate PUP activities in future nursing practice. These interprofessional teams may comprise front-line nurses (clinical nurses), wound care nurses, nurse practitioners, physicians, surgeons, anesthesiologists, certified nursing assistants, nurse managers, physical therapists, occupational therapists, and nutritionists. Students could participate in skin team audit checks, operating room teams, or other types of quality improvement projects, such as faculty planned assignments where students cooperate in groups working to prevent pressure ulcers.

In addition, preparing students for nursing practice requires an ongoing academic-practice partnership where faculty are aware of current trends in PUP practice, policies, guidelines, and reimbursements related to pressure ulcers. This study may illustrate a mismatch between what faculty consider important and timely and what practitioners value. PUP might be an exemplar for one way that academics can use collaboration with clinical partners to maintain budgetary concerns and constraints regarding significant practice issues (e.g. PUP in inpatient settings) in a complex and rapidly changing health delivery environment. Faculty could collaborate with healthcare practitioners, skin

champions, participate on skin audit teams, and PUP quality improvement projects to learn the most current evident-based information about PUP.

Implications in Context

Nursing faculty could intentionally develop concept-based learning activities (Heims & Boyd, 1990) related to skin integrity and have students discuss observations across settings and populations. These concept-based learning activities would demonstrate the complexities of PUP, allowing students to explore the multi-faceted aspects of PUP. Faculty could cue students to observe or participate in PUP in an operating room experience and debrief with students in post conference to reflect on those experiences. Benner et al., (2010) describes how Pestolesi uses explicit and intentional questioning during post conferences to help students make conceptual connections across their experiences. Likewise, faculty could use this same technique and question students who have PUP experiences in operating room settings or in skin team audit checks to reflect upon and to share their insights and experiences with their peers in post conferences. Faculty could facilitate nursing students to develop clinical judgment, use culturally appropriate, relationship-centered care, and incorporate evidence-based practice by encouraging students to make salient connections between various PUP learning experiences across a range of care settings. For example, asking students who have various clinical experiences, "What is going on in the [operating room] [emergency department] [long-term care] [newborn intensive care unit] [etc…] regarding PUP?" provides an opportunity for students to compare their PUP experiences across settings and patient populations. Faculty could probe students to recognize similarities and differences among these different learning experiences.

In summary, students can learn about the complexities of PUP when they engage in one or more of the Four Cs such as hands-on learning activities with interprofessional expert role models who provide a holistic view of PUP. Nursing faculty can create positive learning environments that incorporate important concepts of PUP to educate students and assist them in their development as professional nurses. Faculty can collaborate with clinical sites, maximizing what is salient in each site by incorporating activities that particular clinicians do well in regards to PUP and ensuring students are tied to these nurse role models. Implications for nursing educators involve creating intentional, contextual, and authentic social learning experiences to help nursing students develop attitudes, beliefs, and PUP skill sets in preparation for their future careers.

Recommendations for Future Research

There is a dearth of research about nursing students' attitudes and experiences with PUP. This is the first study investigating nursing students' attitudes and experiences in the U.S. Based on the literature review, study findings, and methods used in this study, recommendations for future research are presented here:

1) As this study did not investigate curricular content there is a need for research investigating undergraduate nursing curriculum PUP content and learning activities in both theory and clinical courses. This could involve review of curricular course materials related to PUP.

2) Research is needed about educators' perspectives of PUP. Research studies could investigate nursing educators' attitudes, experiences, and teaching activities related to PUP including post-conferences held for students during clinical experiences. In

addition, observational studies of faculty teaching students about PUP in clinical, theory, and lab courses could be conducted.

3) As this dissertation research focused on in-depth interviews and students' perspectives, further research using observational methods of undergraduate nursing students' experiences with PUP in clinical settings while they engage in PUP could be conducted. These studies could include observing students while they engage in skin team audit checks, in the operating room setting working with a team preparing patients for surgeries, or while students provide wound care for a stage IV pressure ulcer. Additional research is required to better understand how specific learning experiences can influence student attitudes towards PUP and their intent to practice PUP when they become registered nurses.

4) Additional research is needed to investigate Four Cs Model looking at each key component individually and in combination to determine what elements are critical in each learning experience for developing committed attitudes toward PUP.

5) It is not known whether specific types of learning experiences (the Four Cs) and attitudes developed during nursing school are transferred or have an impact in clinical practice. In addition, it is not known whether passionate and committed attitudes towards PUP translate to proper action in practice. Further research is needed to investigate how new graduate nurses apply their experiences and attitudes developed in their nursing practice. One suggestion is to conduct a longitudinal study, investigating students while in nursing school, after they have graduated and are new in their practice (e.g. three months into practice), and then following up (e.g. nine to twelve months later) to determine whether their attitudes and behavior towards PUP have changed.

6) The findings from this study show that interprofessional role models including "skin champion" nurse preceptors were critical for influencing student attitudes towards PUP. Thus, further research is needed to investigate role models' experiences and attitudes towards PUP. For example, observational studies of nurse role models interacting with nursing students could be conducted in various settings including pediatrics, operating room, and in long-term care.

7) As this study did not address nursing students' knowledge of PUP, research is needed to investigate what nursing students know about PUP before entering their careers as new graduate nurses.

8) There is a great need for clarity regarding recommended practices for preventing pressure ulcers. The scientific community is currently not clear about what best practice guidelines should be for PUP (e.g. frequency for repositioning), further research is required on types of interventions to prevent pressure ulcers. There is a need for research and consensus about PUP practice guidelines.

Conclusion

The findings from this qualitative research study are significant to nursing educators preparing students for their professional nursing careers, specifically in preventing pressure ulcers. These findings identify types of experiences that enhance students' understanding of PUP practice and also show how specific experiences are associated with attitudes of appreciation for skin integrity and commitment to preventing skin breakdown. Diverse, and in some cases non-traditional, clinical experiences in pediatrics, the operating room, trauma units, and long-term care facilities enhanced students learning related to PUP. Nursing students developed appreciation for the skin as

a protective organ, commitment to PUP, and proactive attitudes towards PUP through hands-on learning experiences observing or providing wound care on a stage IV pressure ulcer or interacting with nurse role models and specifically with nursing preceptors who were designated as “skin champions” on their units. Students gained a sense of urgency for PUP while engaging in skin team audits and pre-surgical patient preparation activities. It is anticipated that these major findings will contribute to the science of clinical nursing education and assist schools of nursing to create effective and appropriate PUP learning experiences for future nursing students.

This study contributes to and extends the Communities of Practice model in a concrete way by reconceptualizing the four Communities of Practice components within the Four Cs conceptual model of students developing committed attitudes about PUP. The findings provide foundational material for future studies that can focus on incorporating evidence-based PUP education into schools of nursing, for example, creating concept-based learning activities or unfolding case studies about PUP to be integrated into a spiral curriculum. Since nurses form their attitudes towards PUP during their formative years in nursing school (IOM, 2011), intentionally incorporating learning activities about PUP in the nursing curriculum is recommended. These learning activities include one or more of the Four Cs such as interacting with nurse role models who exhibit high priority and importance in PUP in hands-on activities and direct observation of stage IV pressure ulcers. These learning activities could incorporate reflection and debriefing with nursing students in order to foster the development of their collective commitment to PUP. When nursing students develop interest and appreciation for PUP

they are more likely to take these attitudes into their nursing practice and ensure patients receive the best quality care.

REFERENCES

Acumentra Health. (2011). Transitional Care & Pressure Ulcers Project Toolkit. Retrieved from http://www.acumentra.org/provider/initiatives/TC-PU-Toolkit.php

Agency for Health Care Quality and Research (AHCQ). (2012). Agency for Health Care Quality and Research Healthcare Cost and Utilization Project (HCUP). *National Quality Indicators – trends*. N.D. Retrieved from http://hcupnet.ahrq.gov/HCUPnet.jsp?Id=0BB57E3C38D21C18&Form=SelPSIs1&JS=Y&Action=%3E%3ENext%3E%3E&_QITables=PSI03

Agency for Health Care Quality and Research (AHRQ). (2011). Preventing Pressure Ulcers in Hospitals: A Toolkit for Improving Quality of Care. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/research/ltc/pressureulcertoolkit/

Agency for Healthcare Research and Quality (AHRQ). (2012). Risk assessment and prevention of pressure ulcers. Retrieved from http://www.guideline.gov/content.aspx?id=34754

Ajzen, J. & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173-221). Mahwah, NJ: Erlbaum.

American Nurses Association (ANA). (2012). NDNQI: Transforming data into quality care. Retrieved from https://www.nursingquality.org/

American Nurses Association (ANA). (2012). Nursing-sensitive indicators. Retrieved from http://www.nursingworld.org/MainMenuCategories/ThePracticeofProfessionalNu

rsing/PatientSafetyQuality/Research-Measurement/The-National-Database/Nursing-Sensitive-Indicators_1

Armstrong, D. & Bortz, P. (2001). An integrative review of pressure relief in surgical patients. *Association of periOperative Registered Nurses, 73*(3). 645-674.

Association for Professionals in Infection Control and Epidemiology (APIC). (2008). CMS proposes additions to list of hospital-acquired conditions for fiscal year 2009. Retrieved from http://www.apicchicago.org/pdf/2008/CMS-ProposeHosp-AcqConditions2009.pdf

Athlin, E., Idvall, E., Jernfält, M., & Johansson, I. (2010). Factors of importance to the development of pressure ulcers in the care trajectory: Perceptions of hospital and community care nurses. *Journal of Clinical Nursing, 19*(15-16), 2252-2258.

August, D. L., Edmonds, L., Brown, D. K., Murphy, M., Kandasamy, Y. (in press). Pressure injuries to the skin in a neonatal unit: Fact or fiction. *Journal of Neonatal Nursing.* Retrieved from http://dx.doi.org/10.1016/j.jnn.2013.08.006

Ayello, E. A. & Sibbald, R. G. (2012). Chapter 16: Preventing pressure ulcers and skin tears. In M. Boltz (Ed.), *Evidence-based geriatric nursing protocols for best practice* (pp. 298-323). New York, NY: Springer Publishing Company.

Ayello, E. A., Baranoski, S., Salati, D. S. (2005). A Survey of nurses' wound care knowledge. *Advances in Skin & Wound Care*, *18*(5), 268-275.

Baldwin, A., Mills, J., Birks, M., & Budden, L. (in press). Role modeling in undergraduate nursing education: An integrative literature review. *Nurse Education Today,* Retrieved from http://dx.doi.org/10.1016/j.nedt.2013.12.007

Bandura, A. (1977). *Social learning theory.* New York, NY: General Learning Press.

Beeckman, D., Defloor, T., Schoonhoven, L., & Vanderweek, K. (2011). Knowledge and Attitudes of Nurses on Pressure Ulcer Prevention: A Cross-Sectional Multicenter Study in Belgian Hospitals. *Worldviews on Evidence-Based Nursing,* 166-176.

Beitz, J. M., Fey, J., & O'Brien, D. (1999). Perceived need for education vs. actual knowledge of pressure ulcer care in a hospital nursing staff. *Dermatology Nursing*, *11*(2), 125-6, 131-6, 138.

Benner, P., Hughes, R. G., & Sutphen, M. (2008). Clinical reasoning, decision making, and action: Thinking critically and clinically. In R. G. Hughes (Ed). *Patient safety and quality: An evidence-based handbook for nurses*. Rockville, MD: Agency for Healthcare Research and Quality.

Benner, P., Sutphen, M., Leonard, V., & Day, L., (2010). *Educating Nurses*. Stanford, CA: Jossey-Bass.

Benner, P., Tanner, C. A., & Chesla, C. A. (2009). *Expertise in nursing practice: Caring, clinical judgment, and ethics (2nd Ed).* New York, NY: Springer.

Berlowitz, D. R., & Brienza, D. M. (2007). Are all pressure ulcers the result of deep tissue injury? A review of the literature. *Ostomy Wound Management, 53*, 34–38.

Berlowitz, D., VanDeusen Lukas, C., Parker, V., Niederhauser, A., Silver, J., & Logan, C., (2011). Preventing Pressure Ulcers in Hospitals. A Toolkit for Improving Quality of Care. US Department of Health and Human Services. Retrieved from http://www.ahrq.gov/research/ltc/pressureulcertoolkit/

Black, J. M., Edsberg, L. E., Baharestani, M. M., Langemo, D., Goldberg, M., McNichol, L., Cuddigan, J. (2011). Pressure ulcers: avoidable or unavoidable? Results of the National Pressure Ulcer Advisory Panel Consensus Conference. *Ostomy Wound*

Management, 57(2), 24-37.

Bostrom, J. & Kenneth, H. (1992). Staff nurse knowledge and perceptions about prevention of pressure ulcers. *Dermatology Nursing, 4*(5), 365-368, 378.

Bouten, C. V., Oomens, C. W., Baaijens, F. P., & Bader, D. L. (2003). The etiology of pressure ulcers: skin deep or muscle bound? *Archives of Physical Medicine and Rehabilitation, 84*, 616–619.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.) (2000). *How People Learn: Brain, Mind, Experience, and School.* Washington, DC: National Academy Press.

Brem, H., Maggi, J., Nierman, D., Rolnitzky, L., Bell, D., Rennert, R.,…Vladeck, B. (2010). High cost of stage IV pressure ulcers. *American Journal of Surgery, 200*(4), 473-477.

Bruner, J. S. (1977). *The Process of Education.* Cambridge, MA: Harvard University Press.

Bryant, R. & Nix, D. (2007). Mechanical forces: Pressure, shear, and friction. In *Acute and chronic wounds: Current management concepts* (pp. 205-234). St. Louis, MO: Mosby.

Caelli, K., Ray, L., & Mill, J. (2003). "Clear as mud": Toward greater clarity in generic qualitative research. *International Journal of Qualitative Methods, 2*(2), 1-24.

CMS. Centers for Medicare and Medicaid Services (2007). Medicare Program: Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2008 Rates. Retrieved from: http://www.cms.hhs.gov/AcuteInpatientPPS/downloads/CMS-1533-FC.pdf

Cohen, L. & Chehimi, S. (2007). The imperative for primary prevention. In L. Cohen, V.

Chavez, S. Chehimi (Eds.), *Prevention is primary: Strategies for community wellbeing*. San Francisco, CA: Jossey-Bass.

Corbin, J. M. & Strauss, A. L. (2008*). Basics of qualitative research: 3e: Techniques and Procedures for developing grounded theory*. Thousand Oaks, CA: Sage Publications.

Creswell, J., & Clark, V. P. (2011). *Designing and Conducting Mixed Methods Research, 2nd Edition*. Thousand Oaks, CA: Sage Publications, Inc.

Cuddigan, J., Ayello, E. A., Sussman, C., & Baranoski, S. (2001). *Pressure ulcers in America: Prevalence, Incidence, and implications for the future*. Reston, VA: National Pressure Ulcer Advisory Panel.

Culley, F. (1998). Nursing aspects of pressure sore prevention and therapy. *British Journal of Nursing, 7*(15), 879-886.

Dallam, L., Smyth, C., Jackson, B. S., Krinsky, R., O'Dell, C., Rooney, J., Badillo, C., Amella, E., Ferrara, L. & Freeman, K. (1995). Pressure ulcer pain: assessment and quantification. *Journal of Wound, Ostomy, and Continence Nursing, 22*, 211–215.

Davis, M.H., & Harden, R.M. (2003). Planning and implementing an undergraduate medical curriculum: The lessons learned. *Medical Teacher, 25,* 596-608.

Dealey, C., Brindle, C. T., Black, J., Alves, P., Santamaria, N., Call, E., & Clark, M. (2013). Challenges in pressure ulcer prevention. *International Wound Journal,* 1-4.

Drews, F. A. & Bakdash, J. Z. (2013). Simulation training in health care. *Reviews of Human Factors and Ergonomics, 8*, 191-234.

Dreyfus, S. E., & Dreyfus, H. L. (1980). A five-stage model of the mental activities

involved in directed skill acquisition, Storming Media. Retrieved from http://www.stormingmedia.us/15/1554/A155480.html.

Fazio, R. H. (1986). Chapter 8: How do attitudes guide behavior? In Higgins, E. T. & Sorrentino, R. M. (Eds.), *Handbook of motivation and cognition: Foundations of Social Behavior* (pp. 41-62). New York, NY: Guilford Press.

Federal Interagency Forum on Aging-Related Statistics. (2010). *Older Americans 2010: Key indicators of well-being. Federal Interagency Forum on Aging-Related Statistics*. Washington, DC: U.S. Government Printing Office.

Fenwick, T. J. (2000). Expanding conceptions of experiential learning: A review of the five contemporary perspectives on cognition. *Adult Education Quarterly, 50*(4), 243-272.

Fishbein, M. & Ajzen, J. (1975). *Belief, Attitude, Intention and Behaviour: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fitzpatrick, J. J., Salinas, T. K., O'Connor, L. J., Stier, L., Callahan, B., Smith, T., & White, M. T. (2004). Nursing care quality initiative for care of hospitalized elders and their families. *Journal of Nursing Care Quality, 19*(2), 156-161.

Fogerty, M. D., Abumrad, N. N., Nanney, L., Arbogast, P. G., Poulose, B., & Barbul, A. (2008). Risk factors for pressure ulcers in acute care hospitals. *Wound Repair and Regeneration*, *16*(1), 11-18.

Foley, J. (1994). Key concepts in English Language Teaching: Scaffolding. *English Language Teaching Journal*, *48*(1), 101-102.

Garcia, A. D. & Thomas, D. R. (2006). Assessment and management of chronic pressure ulcers in the elderly. *Medical Clinics of North America*, *90*(5), 925-944.

Gibbons, W., Shanks, H. T., Kleinhelter, P., & Jones, P. (2006). Eliminating facility-acquired pressure ulcers at ascension health. *The Joint Commission Journal on Quality and Patient Safety, 32*(9), 488-496.

Gray, M., Beeckman, D., Bliss, D. Z., Fader, M., Logan, S., Junkin, J., Selekof, J., Doughty, D., & Kurz, P. (2012). Incontinence-associated dermatitis: A comprehensive review and update. *Journal of Wound, Ostomy, and Continence Nursing, 39*(1), 61-74.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59-82.

Guy, H. (2012). Pressure ulcer risk assessment: Early detection and preventive action are vital to reduce avoidable pressure ulcers. *Nursing Times, 108*(4), 16-20.

Hart, S., Bergquist, S., Gajewski, B., & Dunton, N. (2006). Reliability testing of the National Database of Nursing Quality Indicators Pressure Ulcer Indicator. *Journal of Nursing Care Quality, 21*(3), 256-265.

Hayden, F. G. (1988). Values, beliefs, and attitudes in a sociotechnical setting. *Journal of Economic Issues, 22*(2), 415-426.

Heims, M. L. & Boyd, S. T. (1990). Concept-based learning activities in clinical nursing education. *Journal of Nursing Education, 29*(6), 249-254.

Helme, T. A. (1994) Position changes for residents in long-term care. *Advances in Wound Care, 7*(5), 57-58, 60-61.

Hew de Laat, E., Scholte op Reimer, W. J., & Achterberg, T. V. (2005). Pressure ulcers: diagnostics and interventions aimed at wound-related complaints: a review of the literature. *Journal of Clinical Nursing, 14*, 464–472.

Horn, S. D., Sharkey, S. S., Hudak, S., Gassaway, J., James, R., & Spector, W. (2010). Pressure ulcer prevention in long-term care facilities: A pilot study implementing standardized nurse aide documentation and feedback reports. *Advances in Skin and Wound Care, 23*(3), 120-131.

Hsieh, H. F. & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research,* 15(9), 1277-1288.

Institute for Healthcare Improvement (IHI). (2011). Pressure ulcer prevention. Retrieved from http://www.ihi.org/offerings/MembershipsNetworks/MentorHospitalRegistry/Pages/PressureUlcerPrevention.aspx

Institute of Medicine of the National Academies (IOM). (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: National Academy of Sciences.

Institute of Medicine of the National Academies (IOM). (2003). *Health professions education: A bridge to quality.* Washington, DC: National Academy of Sciences.

Irurita, V. (1996). Hidden dimensions revealed: progressive grounded theory study of quality care in the Hospital. *Qualitative Health Research, 6*(3), 331–49.

Jankowski, I. M. & Nadzam, D. M. (2011). Identifying gaps, barriers, and solutions in implementing pressure ulcer prevention programs. *The Joint Commission Journal on Quality and Patient Safety, 37*(6), 253-264.

Jaul, E. (2003). Setting up a dedicated pressure ulcer unit in a geriatric ward. *Journal of Wound Care, 12*(4), 131-133.

Jaul, E. (2010). Assessment and management of pressure ulcers in the elderly: Current

strategies. *Drugs and Aging*, *4,* 311-325.

Källman, U. & Suserud, B. O. (2009). Knowledge, attitudes and practice among nursing staff concerning pressure ulcer prevention and treatment: A survey in a Swedish healthcare setting. *Scandinavian Journal of Caring Science, 23*(2), 334-341. doi: 10.1111/j.1471-6712.2008.00627.x

Kayser-Jones, J. S., Beard, R. L., Sharpp, T. J. (2009). Case study: dying with a stage IV pressure ulcer. *American Journal of Nursing*, *109*(1), 40-48.

Kottner, J., Blazer, K., Dassen, T., & Heinze, S. (2009). Pressure ulcers: A critical review of definitions and classifications. *Ostomy Wound Management*, *55*(9), 22-29.

Kottner, J., Hauss, A., Schlüer, A. B., & Dassen, T. (2013). Validation and clinical impact of paediatric pressure ulcer risk assessment scales: A systematic review. *International Journal of Nursing Studies,* 50, 807-818.

Kwiczala-Szydłowska, S., Skalska, A, & Grodzicki, T. (2005). Pressure ulcer prevention--evaluation of awareness in families of patients at risk. *Przegl Lek, 62*(12), 1393-1397.

Lasater, K. (2007). Clinical judgment development: Using simulation to create an assessment rubric. *Journal of Nursing Education, 46*(11), 496-503.

Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* New York, NY: Cambridge University Press.

Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic Inquiry.* Newbury Park, CA: Sage Publications.

Lindholm, C., Bergsten, A., & Berglund, E. (1999). Chronic wounds and nursing care. *Journal of Wound Care, 8*, 5–10.

Lovatt, A. (in press). Defining critical thoughts. *Nurse Education Today*, retrieved from http://dx.doi.org/10.1016/j.nedt.2013.12.003

Lum, J. L. J. (1988). Reference groups and professional socialization. In M. E. Hardy & M. E. Conway (Eds.), *Role theory: Perspectives for health professionals* (257-272). San Mateo, CA: Appleton & Lange.

Maas M., Johnson M, Moorehead S. (1998). Classifying nursing-sensitive patient outcomes. *Journal of Nursing Scholarship, 28*(4), 295–301.

McCarthy, M. C. (2003). Situated clinical reasoning: Distinguishing acute confusion from dementia in hospitalized older adults. *Research in Nursing & Health,* 26, 90-101.

Maylor, M. & Torrance, C. (1999). Pressure sore survey part 2: Nurses' knowledge. *Journal of Wound Care, 8*(2): 49-52.

Moore, Z. (2004). Pressure ulcer prevention: Nurses' knowledge, attitudes and behaviour. *Journal of Wound Care, 13*(8), 330-334.

Moore, Z. & Price, P. (2004). Nurses' attitudes, behaviours and perceived barriers towards pressure ulcer prevention. *Journal of Clinical Nursing, 13*, 942-951. doi: 10.1111/j.1365-2702.2004.00972.x

Morse, J. (1991). On the evaluation of qualitative proposals. *Qualitative Health Research, 1*(2), 147-151.

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods, 1*(2), 1-20.

Murray, J. S., Noonan, C., Quigley, S., Curley, M. A. Q. (2013). Medical device-related hospital-acquired pressure ulcers in children: An integrative review. *Journal of Pediatric Nursing, 28*(6), 585-595.

Murphey, T. (l996). Near peer role models. *Japanese association for language teaching newsletter, 4*(3), 21-22.

National Center for Health Statistics. (2004). *Health, United States, 2004: With chartbook on trends in the health of Americans*. Hyattsville, MD: Library of Congress.

National Quality Forum (NQF). (2011). *National voluntary consensus standards for developing a framework for measuring quality for prevention and management of pressure ulcers*. Retrieved from http://www.qualityforum.org/Projects/Pressure_Ulcers.aspx

National Quality Forum (NQF). (2009). *Safe Practices for Better Healthcare–2009 Update: A Consensus Report.* Washington, DC.

National Library of Medicine – Medical Subject Headings. (2012). MeSH Descriptor Data 2012. Retrieved from www.nlm.nih.gov/cgi/mesh/2012/MB_cgi?mode=&term=Pressure+Ulcer&field=entry.

NPUAP & EPUAP. National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel. (2009*). International Guideline: Pressure Ulcer Prevention and Treatment. Clinical Practice Guideline*. Washington, DC: NPUAP & EPUAP Publishing.

NPUAP. National Pressure Ulcer Advisory Panel. (2012). *Pressure ulcers: Prevalence, incidence, and implications for the future*. Washington, DC: NPUAP.

Ododo, S. O. & Gbore, L. O. (2012). Prediction of attitude and interest of science students of different ability on their academic performance in basic science. *International Journal of Psychology and Counseling, 4*(6), 68-72.

Olshansky, K. (2005). A new look at pressure ulcers and the standard of care. *Advances in Skin and Wound Care, 18*(4), 176.

Oregon Consortium for Nursing Education (OCNE). (2011). *OCNE faculty field guide: Guidelines, best practices, shared dreams, lessons learned, and other survival skills for faculty of the Oregon Consortium for Nursing Education.* Portland, Oregon.

Oxford Dictionary. (2012). Oxford University Press. Retrieved from http://oxforddictionaries.com/definition/perception

Paciella, M. E. (2009). "Bundle" up to prevent pressure ulcers: In this age of increasing accountability, your nursing care may be suspect if your patient develops a pressure ulcer. *American Nurse Today, 4*(4), 42-45.

Peirce, S. M., Skalak, T. C., & Rodeheaver, G. (2000). Ischemia-reperfusion injury in chronic pressure ulcer formation: a skin model in the rat. *Wound Repair and Regeneration, 8*(1), 68-76.

Pickens, J. (2005). Attitudes and perceptions. In N. Borkowski, Editor. *Behavior in health care* (pp. 43-76). Sudbury, MA: Jones and Bartlett Publishers.

Provo, B., Piacentine, L., & Dean-Baar, S. (1997) Practice versus knowledge when it comes to pressure ulcer prevention. *Journal of Wound, Ostomy & Continence Nursing, 24*(5), 265-269.

Patton, M. Q. (2002). *Qualitative research and evaluation methods.* Thousand Oaks, CA: Sage Publications.

Primiano, M., Friend, M., McClure, C., Nardi, S., Fix, L., Schafer, M., Savochka, K., McNett, M. (2011). Pressure ulcer prevalence and risk factors during prolonged surgical procedures. *AORN Journal, 94*(6), 555-566.

Redelings, M., Lee, N., Sorvillo, F. (2005). Pressure ulcers: more lethal than we thought? *Advances in Skin Wound Care, 18*, 367-372.

Rithalia, S. & Kenney, L. (2001). The art and science of evaluating patient support surfaces. *World Wide Wounds,* Retrieved from http://www.worldwidewounds.com/2001/september/Rithalia-and-Kenney/Evaluating-Support-Surfaces.html

Rogers, C. and Freiberg, H. J. (1993) *Freedom to learn* (3rd ed.), New York, NY: Merrill.

Rokeach, M. (1973). The nature of human values. New York, NY: Free Press.

Rosenfeld, P., Bottrell, M., Fulmer, T., & Mezey, M. (1999). Gerontological nursing content in baccalaureate nursing programs: Finding from a national survey. *Journal of Professional Nursing, 15*, 84-94.

Russo, A., & Elixhauser, A. (2006). Hospitalizations related to pressure sores, 2003. *Healthcare Cost and Utilization Project, Statistical Brief #3*, 1-7. Retrieved from www.hcup-us.ahrq.gov/reports/statbriefs/sb3.pdf

Russo, C.A. Steiner, C. and Spector, W. (2008). Hospitalizations related to pressure ulcers, 2006. *Healthcare Cost and Utilization Project, Statistical Brief #64*. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb64.pdf

Samuriwo, R. (2010). The impact of nurses' values on the prevention of pressure ulcers. *British Journal of Nursing, 19*(15), S4-S14.

Sandelowski, M. (1995). Qualitative analysis: What is it and how to begin. *Research in Nursing & Health,* 18, 371-375.

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health, 23,* 334-340.

Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing & Health, 22*, 77-84.

Schubart, J. R., Hilgart, M., & Lyder, C. (2008). Pressure ulcer prevention and management in spinal cord-injured adults: Analysis of educational needs. *Advances in Skin and Wound Care, 21*(1), 322-329.

Sibbald, R. G., Krasner, D. L, & Woo, K. Y. (2011). Pressure ulcer staging revisited: Superficial skin changes and deep pressure ulcer framework. *Advances in Skin and Wound Care, 24*(12), 571-580.

Sinha, S. (2012). Simulation based education: Models for teaching surgical skills in general practice. *Australian Family Physician, 41*(12), 985-988.

Smallman, H. S., & St. John, M. S. (2005). Naive realism: Misplaced faith in realistic displays. *Ergonomics in Design*, *13*(3), 6–13.

Smith, M.K. (2002). *Jerome S. Bruner and the process of education. The encyclopedia of information education*. Retrieved from http://infed.org/mobi/jerome-bruner-and-the-process-of-education/

Smith, D. & Waugh, S. (2009) Research study: An assessment of Registered Nurses' knowledge of pressure ulcers prevention and treatment. *Kansas Nurse, 84*(1), 3-5.

Spouse, J. (1998). Learning to nurse through legitimate peripheral participation. *Nurse Education Today, 18,* 345-351.

Stevenson, R., Collinson, M., Henderson, V., Wilson, L., Dealey,C., McGinnis, E., . . . Nixon, J. (2013). The prevalence of pressure ulcers in community settings: An observational study. *International Journal of Nursing Studies, 50*(11), 1550-1557.

Strand, T. & Lindgren, M. (2010). Knowledge, attitudes, and barriers towards prevention of pressure ulcers in intensive care units: A descriptive cross-sectional study. *Intensive and Critical Care Nursing, 26*(6), 335-342.

Sullivan, N. & Schoelles, K. M. (2013). Preventing in-facility pressure ulcers as a patient safety strategy. *Annals of Internal Medicine, 158*(5), 410-416.

Szor, J. K, & Bourguignon, C. (1999). Description of pressure ulcer pain at rest and at dressing change. *Journal of Wound Ostomy & Continence Nursing, 26*(3), 115-120.

Tanner, C. A. (2006). Thinking like a nurse: A research-based model of clinical judgment in nursing. *Journal of Nursing Education, 45*(6), 204-211.

Tanner, C. A. (2008). Clinical judgment and evidence-based practice: Toward pedagogies of integration. *Journal of Nursing Education*, *47*(8), 335-336.

Thomas, D. R. (2003). Are All Pressure Ulcers Avoidable? *Journal of the American Medical Directors Association, 4*(2), S44-S48.

Thomas, D. R. (2001). Prevention and treatment of pressure ulcers: what works? What doesn't? *Cleveland Clinic Journal* of *Medicine,* 68, 704-722.

U.S. Agency for Healthcare Research and Quality (AHRQ). (1992). Panel on the Prediction and Prevention of Pressure Ulcers in Adults. Pressure ulcers in adults: prediction and prevention. Clinical Practice Guideline No. 3. Agency for Health Care Policy and Research; AHCPR Publication No. 92-0047. Rockville, MD.

Weiss, N. A. (2008). *Introductory statistics.* 8th ed. Boston, MA: Pearson Education, Inc.

Wendt, A. (2003). Mapping geriatric nursing competencies to the NCLEX-RN test plan. *Nursing Outlook, 51*, 152-157.

Wenger, E. (2000). Communities of practice and social learning systems. *Organization, 7*(2), 225-246.

Wenger, E. (2008). *Communities of practice: Learning, meaning, and identity.* New York, NY: Cambridge University Press.

Wink, D. M. (2010). Clinical teaching in diverse settings. In K. B. Gaberson & M. H. Oermann (Eds), Clinical teaching strategies in nursing (pp. 307-339). New York, NY: Springer Publishing Company.

Wound, Ostomy, and Continence Nurses Society (WOCN). (2005). *Professional practice manual.* Mt. Laurel, NJ: Wound, Ostomy, and Continence Nurses Society.

Wound Ostomy Continence Nurses Society (WOCN). (2009). Position paper: Avoidable versus unavoidable pressure ulcers. Retrieved from http://www.wocn.org/search/all.asp?c=512&bst=Position+paper+avoidable+versu

s+unavoidable+pressure+ulcers

Wound, Ostomy, and Continence Nurses Society (WOCN). (2010). *Guideline for prevention and management of pressure ulcers.* Mount Laurel, NJ: Wound, Ostomy, and Continence Nurses Society.

Young, T., Williams, C., Lloyd-Jones, M., & Pritchard, B. (2004) A multi-centre qualitative observational study to define the nursing practices that constitute pressure ulcer prevention and treatment. European Pressure Ulcer Advisory Panel. Retrieved from http://www.epuap.org/review6_1/page9.html

Yukawa, J. (2010). Communities of practice for blended learning: Toward an integrated model for LIS education. *Journal for Library and Information Science, 51*(2), 54-76.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Zulkowski, K. & Ayello, E. A. (2005). Urban and rural nurses' knowledge of pressure ulcers in the USA. *World Council of Enterostomal Therapists Journal, 25*(3), 24-26, 28, 30.

Zulkowski, K., Ayello, E. A., & Wexler, S. (2007). Certification and education: Do they affect pressure ulcer knowledge in nursing? *Advances in Skin & wound Care, 10*(1), 34-39.

APPENDICES

Appendix A: Review of Literature Tables

Table A1

Summary of Pressure Ulcer Prevention Attitudes Studies in U.S. and Internationally

Participants	U.S. Studies	International Studies
Nursing Students	**0 studies**	**1 study (overlapped with nurses):** Samuriwo (2010)
Practicing Nurses	**3 studies:** 1. Fitzpatrick, Salinas, O'Connor, Stier, Callahan, Smith, & White, (2004) 2. Helme (1994) 3. Bostrom & Kenneth (1992)	**8 studies:** 1. Beeckman, Defloor, Schoonhoven, & Vanderwee (2011) 2. Samuriwo (2010) 3. Maylor & Torrance (1999) 4. Moore and Price (2004) 5. Athlin, Idvall, Jernfält, & Johansson (2010) 6. Källman & Suserud (2009) 7. Young, Williams, Lloyd-Jones, & Pritchard (2004) 8. Strand & Lindgren (2010)

Table A2

U.S. Pressure Ulcer Prevention Attitudes Research Articles

Source/Citation	Purpose	Sample	Design	Major Conclusion	Measures
(1992) Bostrom & Kenneth	Assess RNs' perception & knowledge about PUP	Random sample of staff nurses (total n=245): from 5 hospitals & 1 homecare agency (n=40) in California	Cross-sectional survey (30 items: some open-ended). Paper/pencil questionnaire. Site coordinators selected sample & collected data. Open-ended questions part of study	PUP not considered "high priority" activity. (Study does not discuss limitations) **Note:** *RNs,* Perception, Barriers	
(1994) Helme	LTC staff perception of PUP	40 LTC facilities – convenience sample CNAs (n=198), RNs & LPNs (n=86), admin/supervisory RNs (n=40).	Survey study	Perception of Barriers: other duties (meds, rounds, ph calls) no time. 68% placed responsibility on someone else to ensure turning & 29% felt it was their responsibility. **Note**: *RNs* Perception, Barriers; Examined PUP repositioning	Questionnaires with 4 questions (time interval turn, used, who turns, barriers)
(2004) Fitzpatrick, Salinas, O'Connor, Stier, Callahan, Smith, & White,	Intervention study about nurses' attitudes towards PUP.	Family-Centered Geriatric Resource RNs (n=25) & nurse managers (n=14) from 18 units from 10 hospitals	Pretraining/ postraining in FCGRN: assessments of geriatric knowledge & attitudes	Attitudes improved from time 1 to time 2. After training FCGRNs sig positive attitudes than all NICHE RNs about pressure ulcer (p=.05). **Note**: *RNs,* Attitude improved with intervention. Nursing Care Quality Initiative (NCQI) – Topic 7 pressure ulcer older adults	Geriatric Institutional Assessment Profile (GIAP)

Table A3

International Pressure Ulcer Prevention Attitudes Research Articles

Source/Citation	Purpose	Sample	Design	Major Conclusion	Measures
Beeckman, D., Defloor, T., Schoonhoven, L., & Vanderweek, K., (2011).	Assess RNs' attitudes & knowledge about PUP	RNs (n=553) from 14 Belgium hospital (94 wards).	Cross-sectional multicenter study of 14 Belgium hospitals. Clinical observations of PUP performance.	The application of adequate PUP prevention was significantly correlated with nurses' attitudes towards PUP (OR = 3.07, p = .05). Only half of the nurses with attitude scores of 75% +. Most nurses with low attitude towards PUP. **Note:** *RNs,* Attitudes	Attitude toward Pressure Ulcer tool (APuP) with 13 items
Samuriwo (2010)	Nurses' & nursing students' values/attitudes towards PUP	Practicing nurses (n=16) & nursing students (n=3) from 14 hospitals England	Semi-structured interviews & grounded theory Open-ended interview questions	Nurses who valued PUP were more proactive and determined to provide PUP. Nursing students provided PUP as nurses too busy **Note:** *RNs, Students* Attitudes, Values; Participants volunteered & valued PUP	
Maylor & Torrance (1999)	Nurses' attitudes & knowledge about PUP	Nurses (n=439) in the UK	Questionnaire (demographic data, PUP training, opinions & use of risk assessment scales)	Nurses did not consider important PUP interventions as high priority activities Questions whether there is a problem with individual or organizational motivation towards PUP **Note**: *RNs,* Attitudes	
Moore and Price (2004)	Nurses' attitudes, behaviors, & perceived barriers towards PUP	Practicing nurses (n=121) acute care setting urban in Ireland randomly selected from 300 nurses	Cross-sectional survey	Nurses' attitudes scores ranged from 28 to 50, median = 40) with 11 lowest possible score (negative attitude) and 55 highest score. Prevention practices were "haphazard & erratic" Complex nature of behavioral change – organization & implementation strategies are needed to empower nurses to overcome barriers to PUP **Note**: *RNs,* Attitudes	Survey (not defined)

Source/Citation	Purpose	Sample	Design	Major Conclusion	Measures
Athlin, Idvall, Jernfält, & Johansson (2010)	Nurses' perceptions about pressure ulcers, attitudes & values of PUP	Nurses (n=15) at two Swedish hospitals & nurses (n=15) from community care	Interviews using interview guide	RNs viewed PUP as low-status work & to be performed by less trained staff RNs did not take responsibility for PUP due to lack of interest **Note**: *RNs,* Attitudes, values, perceptions	
Källman & Suserud (2009)	Nurses' attitudes, knowledge, & practice concerning PUP	Sweden Nursing staff (RNs) & nursing assistants (NAs) (n=154) Random selection of 6 hospitals 6 municipal healthcare centers Not clear exact number RNs vs. NAs 37% of participants stated there was an agreed strategy for PUP	Descriptive cross-sectional survey	RNs PUP knowledge better than NAs'. Attitude about pressure ulcer risk assessment tools low & felt own clinical judgment better; practice of PUP was poor (RNs & NAs not follow hospital PUP strategies **Note**: *RNs, NAs* Attitudes, Perception, Barriers, Knowledge. Limitation: participants had 14 days, possibly conferred with each other.	Questionnaire validated by Moore & Price (2004) with 11 items
Young, Williams, Lloyd-Jones, & Pritchard (2004)	Define nursing practice related to PUP	Nurse researchers observed nurses in their practice at three acute care sites (100 episodes of 4 hrs each) in North Wales. A list was sent to EPUAP members to allocate observed practices into one of four categories	Observation of nurses practicing PUP – then having EPUAP members (n=86) allocated the observed practices	Nurses not interested in PUP & spent little time with PUP. Majority of PUP practices delegated to "unqualified staff" & nursing students **Note:** *RNs, EPUAP members* Attitudes	Checklist with four categories (PUP, PU tx, general nursing care, combo of PUP & tx & gen nursing care) was created by members of the EPUAP
Strand & Lindgren (2010)	Nurses' attitudes, knowledge, perceived barriers to PUP	Registered & enrolled nurses (ENs) in four ICUs in a Swedish hospital (n=146)	Descriptive quantitative	Nurses educated in critical or anaesthesia care had significantly more positive attitudes towards PUP than other nurses. These nurses felt all patients are at risk of developing pressure ulcers (p = 0.014) **Note**: *RNs,* Attitudes	Questionnaire

Appendix B: Definition of Concepts

Definition of Concepts

Concept	Definition	Examples of Questions from Semi-Structured Interview Guide
Attitude	An attitude is the "mindset or tendency to act in a particular way due to both an individual's experience and temperament" (Pickens, 2005, p. 44). Concept of attitudes involves values, beliefs, feelings, knowledge, experience, motivations, intentions, and behavioral intent (Fishbein & Ajzen, 1975; Moore, 2004, Pickens, 2005). Attitudes are learned and are formed and influenced by experience, socialization, and interaction with "modeling others" (Fishbein & Ajzen 1975; Pickens, 2005).	*Includes questions having to do with attitudes, beliefs, and values.* Q2. How would you describe the nurse's role in providing patient care? Probes: Can you tell me about a time you (or someone else) provided or you (or someone else) observed outstanding patient care? Probes: How did you (or the person you observed) prioritize the care needs of the patient during this experience? What helped you (or the person you observed) most in prioritizing the care of this patient? *(Tap into faculty, peers, staff; classroom, readings, seminars, observing staff)* Q4. Could you tell me about a time you cared for a person who was at risk for a pressure ulcer? Q9. I'd like to learn about your observations of nurses and other staff in your clinical rotations. Please tell me what you've observed of nurses in practice about how

		they address (or don't address) pressure ulcer prevention? Probes: How do nurses prioritize PUP in their work? Who on the staff is responsible for PUP (tell me more)? How do they communicate with others about PUP? How do nurses address PUP during admission or patient hand offs (change of shift or within the agency or discharge?) How have you seen Wound, Ostomy, & Continence Nurses (WOCN) used? What have been your experiences with WOCN nurses? How important to nurses do you think PUP is? Q10. In your role as a future registered nurse (RN), how will you prioritize PUP given all your responsibilities you'll have as a new nurse?
Experience	Experience involves "negotiation of meaning" or how people experience the world and their engagement in it as meaningful (Wenger, 2008).	*Includes questions having to do with meaning students take from certain experiences.* Q4. I am interested in your experiences taking care of people who are at risk for developing a pressure ulcer or who had a pressure ulcer. Probes: I'd like to hear as much as possible that you recall about this experience—the patient situation and the clinical setting, who else was

		involved in the care, how decisions were made and what was done to prevent pressure ulcers. Please provide as many details as you can recall. Q5. Now could you tell me about a time you cared for a person with a pressure ulcer? Q6. What other experiences have you had with PUP and pressure ulcer management? For example, these experiences may have been as a student or a nursing assistant, or even personally with a family member or friend. Q7. What experiences have your classmates had in caring for a patient at risk for developing a pressure ulcer? Q8. Now I'd like to learn about where in your nursing program pressure ulcers and PUP are discussed?

Appendix C: Semi-Structured Interview Guide

Semi-Structured Interview Guide

I'm interested in learning about your experiences caring for patients who had or who were at risk for developing pressure ulcers. However, before we get into discussion about pressure ulcer prevention, I'd like to ask some general questions about your experiences in your nursing program.

1. Tell me about a time when you took care of a patient where you really felt you learned a lot?
   Probe: What do you think contributed to your learning in this situation?

2. How would you describe the nurse's role in providing patient care?
   Probes: Can you tell me about a time you (or someone else) provided or you (or someone else) observed outstanding patient care?
   Probes: How did you (or the person you observed) prioritize the care needs of the patient during this experience? What helped you (or the person you observed) most in prioritizing the care of this patient? *(Tap into faculty, peers, staff; classroom, readings, seminars, observing staff)*

Now I'd like to focus on pressure ulcer prevention and treatment.

3. What do you know about pressure ulcer prevention (PUP)? *(Tap into definitions, identifying levels of PUP, factors contributing to PUP, guidelines, etc.)*

4. I am interested in your experiences taking care of people who are at risk for developing a pressure ulcer or who had a pressure ulcer. Could you tell me about a time you cared for a person who was at risk for a pressure ulcer? *(NOTE: IF NO EXPERIENCES, SKIP TO # 6)*

   Probes: I'd like to hear as much as possible that you recall about this experience—the patient situation and the clinical setting, who else was involved in the care, how decisions were made and what was done to prevent pressure ulcer (PUs). Please provide as many details as you can recall. *(Tap into: Setting, type of patient including his/her age, diagnoses, co-morbidities, functionality).*
   a. How was it decided that the patient needed PU prevention? How did you know what to do? What kinds of things were you doing to prevent PUs? What were resources available to help you understand and plan PUP? *(Tap into what are tools, guidelines, practice standards, assessment tools, or regulations for PUP).* With whom did you communicate about PUP? How satisfied were you at the time with your knowledge about what needed to happen to prevent PUs?
   b. What did you learn about PUP from this experience? (Probes: who does it; level of importance (if any); what is the knowledge base for PUP?)
   c. How was this experience helpful in preparing you to be a nurse? Probe: In

what way?

5. Now could you tell me about a time you cared for a person with a pressure ulcer? *(NOTE: IF NO EXPERIENCES, SKIP TO # 6)*

   Probes: I'd like to hear as much as possible that you recall about this experience—the patient situation and the clinical setting, who else was involved in the care, how decisions were made and what was done to prevent PUs. Please provide as many details as you can recall. *(Tap into: Setting, type of patient including his/her age, diagnoses, co-morbidities, functionality).*
   a. How was it decided that the patient had a PU? How was the PU classified? What kinds of things were you doing to heal the PU? What types of prevention or treatment interventions were used? How were the treatments determined? With whom did you communicate about the PU and its treatment? How satisfied were you at the time with your knowledge about what needed to happen to heal the PU, and to prevent it from worsening?
   b. What did you learn about PU and PUP from this experience? (Probes: who does it; level of importance (if any); what is the knowledge base for PUP; what are tools and guidelines for PUP?)
   c. How was this experience helpful in preparing you to be a nurse? Probe: In what way?

6. What other experiences have you had with PUP and PU management? For example, these experiences may have been as a student or a nursing assistant, or even personally with a family member or friend. *(NOTE: IF NO experiences skip to #7).*

   Probes (similar probes as #5): What were the patient(s) like? *(Tap into setting, patient/friend/family member characteristics, primary diagnosis and co-morbities; participant's comfort level)*. What types of prevention or treatment interventions were used? What resources were available for providing care (including assessment tools, policies, guidelines). How was information about the PU communicated among staff?
   a. What do you remember most from this (these) experience(s)? (Probes: who does it; how important is it to staff, what was the knowledge base for PUP; what are tools and guidelines for PUP)
   b. How was this experience helpful in preparing you to be a nurse? Probe: In what way?

7. What experiences have your classmates had in caring for a patient at risk for developing a PU? *(NOTE: IF NO experiences skip to #8)*
   Probes: What did they share about the experience? *(Tap into: Patient characteristics, setting, interventions, interactions with patient, faculty, staff, etc.)* (SIMILAR probes as #6) Where did discussion happen—post conference, informally (hallway, online, etc.) What learning did they share? How valuable did your peer perceive the experience to be?

8. Now I'd like to learn about where in your nursing program PUs and PUP are discussed?
   Probes: Tell me how (all of the ways you can recall) you've learned what you know today about pressure ulcers/prevention. What course(s) covered PUP or PUs? *(Tap into specific content, where provided: SIM lab, lab, pre/post seminar, faculty lectures, guest speakers, specific readings or other assignments.)* What types of learning activities and assignments addressed PUs and PUP?
   a. What have you learned in courses about PUP care guidelines, practice standards, assessment tools, or regulations? *(Tap into: names of guidelines, assessment tools, universal protocols, admission guidelines, etc.; looked at or used these resources or other resources r/t PUP in an assignment).*
   b. Is there any particular learning experience that stands out as being especially helpful in learning about PUP? If so, describe this experience. What made it especially helpful?
   c. How were you evaluated on your understanding of PUP?

9. Now I'd like to learn about your observations of nurses and other staff in your clinical rotations. Please tell me what you've observed of nurses in practice about how they address (or don't address) pressure ulcer prevention?
   Probes: How do nurses prioritize PUP in their work? Who on the staff is responsible for PUP (tell me more)? How do they communicate with others about PUP? How do nurses address PUP during admission or patient hand offs (change of shift or within the agency or discharge?) How have you seen Wound, Ostomy, & Continence Nurses (WOCN) used? What have been your experiences with WOCN nurses? How important to nurses do you think PUP is?
   a. What guidelines, protocols or tools have you observed being used for PUP in clinical settings? Who was using these and what happened with the information? *(Tap into guidelines, practice standards, protocols, assessment tools, or regulations used by clinical staff).*

10. In your role as a future registered nurse (RN), how will you prioritize PUP given all your responsibilities you'll have as a new nurse?

11. Thank you for your time. Those were my questions. Is there anything else you'd like to tell me or are there any questions you were waiting for me to ask?

Again, thank you so much for your time. If you have additional thoughts or you remember something else about experiences related to PUP, please feel free to email or call me.
Is it OK if I contact you if I have questions about this interview later in time?
Would you like to receive a summary copy of the findings from this study?
(If YES: get contact info). This will be kept separately from the data. No one will be able to connect your contact information for receiving summary findings with your participation in this study.

Appendix D: Demographic Questionnaire

Demographic Questionnaire

1. Where did you complete your first two years of nursing course work?
   a. ☐ School of Nursing, Oregon Health & Science University (OHSU)
   b. ☐ Community College:
      i. ☐ Portland Community College
      ii. ☐ Mount Hood Community College
      iii. ☐ Clackamas Community College
      iv. ☐ Other _____

2. Do you have a previous degree?
   a. ☐ No
   b. ☐ Yes
      i. If yes, what was your major? _____

3. Have you ever provided care (either as a student or otherwise) for someone with a pressure ulcer?
   a. ☐ No
   b. ☐ Yes

4. For the following two questions check all that apply:

		a. Have you ever been employed in any of the following roles or settings?		**b.** Are you currently employed in any of the following roles or settings?	
	Job Position	**Past Employment**	**How long? Months/Years**	**Current Employment**	**How long? Months/Years**
i.	Medical Assistant	☐		☐	
ii.	Clerk	☐		☐	
iii.	Home Health Aide	☐		☐	
iv.	Personal Care Aide	☐		☐	
v.	Caregiver	☐		☐	
vi.	Other (List)	☐		☐	
	Setting				
vii.	Hospital	☐		☐	
viii.	Long-Term Care or Nursing Home	☐		☐	
ix.	Assisted Living Facility	☐		☐	
x.	Home Care Nursing	☐		☐	
xi.	Other (List)	☐		☐	

5. For the following two questions check all that apply:

Site	**a.** What clinical settings have you experienced as a nursing student?	**b.** In what area do you want to practice? (Desired future practice area)
i. Critical care: e.g. Intensive Care Unit, Critical Care Unit	☐	☐
ii. Emergency Department	☐	☐
iii. Medical-Surgical	☐	☐
iv. Operating Room		
v. Maternal/Child (Labor & Delivery, Postpartum, Pediatrics)	☐	☐
vi. Community Health/Public Health	☐	☐
vii. Home Health/Hospice	☐	☐
viii. Long-Term Care (including Nursing Home, Assisted Living Facility, Adult-Foster Home, Residential Care Facility)	☐	☐
ix. Other	☐	☐

6. Besides what you learned in nursing courses or student clinical experiences, have you taken any classes or received training (e.g. workshops, CEUs) in caring for patients at risk for pressure ulcers?
   a. ☐ No
   b. ☐ Yes
   c. What are some topics covered:

      _____

   d. How many hours of pressure ulcer prevention classes did you take?

      _____

   Where did you take these classes (check all that apply):

   Work:
   e. ☐ Hospital
   f. ☐ Home Care/Hospice
   g. ☐ Long-Term Care
   h. ☐ Community College
   i. ☐ Conference (local, regional, national)
   j. ☐ Other (List)

      _____

7. What is your gender?
   a. ☐ Male
   b. ☐ Female

8. What is your age? _____ years

9. What is your race?
   a) ☐ Anglo/Caucasian/White
   b) ☐ African American/Black
   c) ☐ Alaskan/Native American
   d) ☐ Asian/Pacific Islander

   Is your ethnicity Hispanic/Latino?
   f. ☐ No
   g. ☐ Yes

e) ☐ More than one race
(List):_____

Again, thank you for your time in completing this demographic sheet and answering questions in the interview.

Appendix E: Pilot Phase Information Sheet

Pilot Phase: Information Sheet

OREGON HEALTH & SCIENCE UNIVERSITY

Information Sheet

IRB# 9019

TITLE: Pressure Ulcer Prevention and Undergraduate Nursing Students: An Exploration of Attitudes and Experiences

PRINCIPAL INVESTIGATOR: Juliana Cartwright, PhD, RN (541) 552-6703

CO-INVESTIGATORS:

Layla Garrigues, RN, BSN, BS, PhD Candidate (360) 600-5205

PURPOSE:

You have been invited to be in this pilot phase because you are an undergraduate nursing student in your junior or senior year of your program of study. The purpose of this pilot phase is to review, improve, and modify the semi-structured interview guide and the demographics data questionnaire that will be used for a full study investigating undergraduate pre-licensure nursing students' attitudes about and experience with pressure ulcer (bed sore) prevention.

PROCEDURES:

One-time interviews will take place at a convenient time and location mutually acceptable for you and the investigator. The investigator will interview you for approximately 30 minutes. The interview will be digitally recorded. You will then complete the demographics data questionnaire that will take approximately 5 minutes to complete. After this the investigator will ask you questions exploring whether the interview and demographics questionnaire are clear, logical, and understandable. By agreeing to be interviewed you are agreeing to participate in this study. You will receive a $5 gift card for Amazon.com after completing the interview and demographics questionnaire.

If you have any questions regarding this pilot study now or in the future, please contact the investigator, Layla Garrigues at (360) 600-5205.

RISKS:

Although we will make every effort to protect your identity, there is a minimal risk of loss of confidentiality. If you experience undue distress when discussing emotionally disturbing experiences during the interviews you will be referred to appropriate counseling resources.

BENEFITS:

You may or may not benefit from being in this study. However, by serving as a participant you may help us learn how to improve the interview guide and demographics questionnaire.

CONFIDENTIALITY:

We will not use your name or your identity for publication or publicity purposes. Data will be protected in the following ways: Any information containing your name will be kept separately in a locked cabinet. Consent forms will be locked in a cabinet and electronic data (including digital recordings) will be password protected. Any consent forms and digital recordings will be transported in a locked bag. After data analysis has been completed digital recordings will be destroyed. Printed data will have no identifying evidence such as names or addresses.

COSTS:

It will not cost you anything to participate in this study. You will receive $5 Amazon.com gift card for completing the interview and demographics questionnaire.

PARTICIPATION:

If you have any questions regarding your rights as a research subject, you may contact the OHSU Research Integrity Office at (503) 494-7887.

You do not have to join this or any research study. If you do join, and later change your mind, you may quit at any time. By completing the interview you have agreed to participate in the study.

The participation of OHSU students or employees in OHSU research is completely voluntary and you are free to choose not to serve as a research subject in this protocol for any reason. If you do elect to participate in this study, you may withdraw from the study at any time without affecting your relationship with OHSU, the investigator, the investigator's department, or your grade in any course. If you would like to report a concern with regard to participation of OHSU students or employees in OHSU research, please call the OHSU Integrity Hotline at 1-877-733-8313 (toll free and anonymous).

Appendix F: Pilot Phase Screening Script

Script for Screening Potential Participants for Pilot Phase of Pressure Ulcer Prevention Study

This script will be used for eligibility screening of potential participants for the pilot phase of the semi-structured interview guide and demographics questionnaire that will be used for the Pressure Ulcer Prevention study. This script will be used for both phone and face-to-face screenings.

Investigator: "Thank you for your interest in this pilot study that will test a semi-structured interview guide and demographics questionnaire about senior nursing students' experiences with pressure ulcers. Is this an OK time to explain the study and set up an interview date and time?"

IF NO: "All right, is there another time I could call perhaps?"

IF NOT INTERESTED: thank student for his/her time and hang up.

IF YES: "I would like to review information about this study and also see if you are eligible to participate. Is this ok to talk about this for a few minutes now?"

IF YES: "Great, this pilot phase is being done to review the clarity and feasibility of an open-ended semi-structured interview guide and also a demographics questionnaire that will be used in a full study about undergraduate nursing students' attitudes and experiences with pressure ulcer prevention. I would like to interview several undergraduate nursing students who are in their junior or senior year of course work for about 30 minutes. After the interview participants will fill out the demographic questionnaire that will take about 5 minutes, and then I will ask them some questions about their opinion about the semi-structured interview guide and the demographics questionnaire. Your interview and demographic data will not be analyzed. Again, I am interested in seeing if the questions make sense to you, and how well they work for the purpose of conducting a later study about students' experiences with pressure ulcers. Are you currently a junior or senior undergraduate nursing student at one of the OHSU, SON campuses?"

IF NO: explain he/she does not quality for the study, thank him/her for his/her time, and end conversation as he/she is not eligible to participate in study.

IF YES: continue with script

Investigator: "Are you 18 years old or older?"

IF NO: then explain he/she does not quality for the study, thank him/her for his/her time, and end the conversation as he/she is not eligible to participate in study.

IF YES: continue with script

Investigator: "Great. You are eligible to participate in this study. You should know that you do not have to enroll in this study. Also if you change your mind, you can withdraw from the study at any time and you can refuse to answer any questions that make you uncomfortable. You may or may not benefit from being in this study. However, by serving as a participant you may help us learn about pressure ulcer education for nursing students. There are small risks associated

with participation in this study. You could experience emotional distress when discussing some experiences. If this happens, you will be referred to appropriate counseling resources. Although we will make every effort to protect your identity, there is a minimal risk of loss of confidentiality."

"However, multiple efforts will be made to keep your information confidential. That you choose or don't choose to participate in this study will not be shared with anyone including your faculty or other students. Only the investigator (that's me) and my dissertation committee of three nursing faculty will have access to your interview data. All data and any personal information will be kept locked up or password protected. The audiotape transcriptions of the interview will be de-identified, meaning I will remove any identifying information such as your name, address, and date of birth. Any other names or places will also be de-identified. Do you have any questions at this point?"

IF YES: answer his/her questions

IF NO: "After you have completed the interview and demographics data, I will provide you with a $5 gift card to Amazon.com. When is a good time for you to meet for the interview?" (Set up time that is mutually agreeable and convenient, and thank him/her for his/her time).

Appendix G: Pilot Phase Lay Language Protocol Summary

Pilot Phase: Lay Language Protocol Summary

LAY LANGUAGE PROTOCOL SUMMARY

Principal Investigator:	**Juliana Cartwright, PhD, RN**	IRB#:	**9019**
Study/Protocol Title:	**Pressure Ulcer Prevention and Undergraduate Nursing Students: An Exploration of Attitudes and Experiences**		

1. Briefly describe the purpose of this protocol.

   The purpose of the pilot phase is to review, improve, and modify the semi-structured interview guide and the demographics data questionnaire that will be used for the study investigating undergraduate pre-licensure nursing students' attitudes about and experience with pressure ulcer (bed sore) prevention.

2. Briefly summarize how participants are recruited.

   Potential participants will be informed about the opportunity to participate in the pilot phase to review the semi-structured open-ended interview guide and the demographics data questionnaire via emails and an announcement made by the investigator at one of the students' undergraduate nursing classes. The investigator will describe the purpose of the study and invite the potential participants to participate in the pilot study. After the potential participant has indicated that he/she is interested in the pilot study, the investigator will determine his/her eligibility. An invitation and screening script will be used. Up to five participants will be enrolled in the pilot phase. Pilot phase participants will not be included in the full study.

3. Briefly describe the procedures subjects will undergo.

   Once a participant agrees to participate in the pilot phase, the investigator will review the information study sheet with the participant. Verbal informed consent will first be obtained. The investigator will remind the participants that participation is voluntary. Interviews will take place at a convenient time and location mutually acceptable for the participant and investigator.

   In the pilot study the investigator will interview the participants using the semi-structured open-ended interview guide for about 30 minutes while digitally recording the interview. After the interview participants will complete the demographics data questionnaire. The investigator will ask for advice and opinion about the questions in the semi-structured interview guide and the demographics data questionnaire in order to improve and clarify items. All participants will receive a $5 Amazon.com gift card at the completion of the interview.

4. If applicable, briefly describe survey/interview instruments used.

   Participants will be individually interviewed about their experiences and attitudes towards pressure ulcer prevention. A semi-structured open-ended interview guide and the demographics data questionnaire will be used. The semi-structured open-ended interview

guide has approximately 10 questions with probes exploring participants' attitudes and experience about pressure ulcer prevention. The interview guide is a flexible tool that will be adapted during data analysis with new questions or probes for subsequent interviews. The demographics data questionnaire will gather general information about participant including their employment and clinical experiences.

5. If this is a clinical trial using an experimental drug and/or device, or an approved drug and/or device used for an unapproved purpose, briefly describe the drug and/or device.

   Not applicable: not a clinical trial nor any involvement of an experimental drug or device.

6. Briefly describe how the data will be analyzed to address the purpose of the protocol.

   Information gathered from the pilot phase will be used to review, improve, and modify the semi-structured open-ended interview guide and the demographics data questionnaire to be used for the full study.

Appendix H: Pilot Phase Announcement for Faculty

Pilot Phase: Announcement for Faculty about Pressure Ulcer Prevention Study

Email: Faculty Name
Subject: Seeking Participants for Pilot Phase: Nursing Education and Pressure Ulcers

Dear Faculty Name,

My name is Layla Garrigues and I am a doctoral student at the School of Nursing, Oregon Health and Sciences University (OHSU). I am conducting a pilot study as part of my dissertation research. The purpose of this pilot phase is to review, improve, and modify the semi-structured interview guide and the demographics data questionnaire that will be used for a full study investigating undergraduate pre-licensure nursing students' attitudes about and experience with pressure ulcer (bed sore) prevention.

The information obtained from the pilot phase will used to modify and finalize the interview guide for the full study. The full study will contribute to understanding how nursing students decide that pressure ulcer prevention is important to consider in each particular patient encounter.

For my pilot phase I plan on recruiting up to 5 participants. I am planning on conducting individual interviews that will last about 30 minutes and be recorded.

May I come to your class to make a brief announcement about this pilot phase (perhaps the last five to 10 minutes of your class) to set up individual appointments for the interviews?

Each study participant will receive a $5 Amazon.com gift card upon completion of the interview. This study has been approved by the OHSU Institutional Review Board. Participation is voluntary and confidential.

If you have any questions about this research, please feel free to contact me. Your students' participation is very much appreciated!

Thank you so much.

Sincerely, Layla

Layla Garrigues, RN, BSN, BS, PhD Student
Oregon Health & Science University
School of Nursing
garrigue@ohsu.edu
(360) 600-5205

Appendix I: Pilot Phase Announcement for Students

Pilot Phase: Announcement for Students about Pressure Ulcer Prevention Study

Email: Student Name
Subject: Invitation to Participate in a Pilot Study

Dear Student Name,

My name is Layla Garrigues and I am a doctoral student at the School of Nursing, Oregon Health and Sciences University (OHSU).

I am conducting a pilot study as part of my dissertation research. The purpose of this pilot phase is to review, improve, and modify the semi-structured interview guide and the demographics data questionnaire that will be used for a full study investigating undergraduate pre-licensure nursing students' attitudes about and experience with pressure ulcer prevention.

I would like to invite you to participate in my pilot study because you are an undergraduate nursing student in your junior or senior year of your program of study.

I am planning on conducting individual interviews that will be digitally recorded for approximately 30 minutes at a location and time that is mutually agreeable or via phone. After the interview I will have you complete a demographics data questionnaire that will take approximately 5 minutes. After this I will ask you questions exploring whether the interview and demographics questionnaire are clear, logical, and understandable. You will receive a $5 gift card for Amazon.com after completing the interview and demographics questionnaire.

This study has been approved by the OHSU Institutional Review Board. Participation is voluntary and confidential.

Please contact me if you are able to participate in my pilot study. If you know anyone who might be interested in participating in this pilot study please have him/her contact me (email or phone).

If you have any questions about this research, please feel free to contact me. Your participation is very much appreciated!

Thank you so much.

Sincerely, Layla

Layla Garrigues, RN, BSN, BS, PhD Student
Oregon Health & Science University
School of Nursing
garrigue@ohsu.edu
(360) 600-5205

Appendix J: Full Study Announcement for Students

Full Study: Announcement for Students about Pressure Ulcer Prevention Study

Email: Student Name
Subject: Invitation to Participate in a Study about Nursing Education and Pressure Ulcers

Dear Student Name,

My name is Layla Garrigues and I am a doctoral student at the School of Nursing, Oregon Health and Sciences University (OHSU).

I am conducting a study about undergraduate pre-licensure nursing students learning related to pressure ulcer prevention.

You are invited to participate in this study because you are an undergraduate nursing student in your senior year of your program of study. Your experiences are very important for me to understand as part of my research.

I am planning to conduct individual interviews that will last 30 minutes to 60 minutes and will be recorded. After the interview you will complete a demographics data questionnaire that will take about 5 minutes. You will receive a $10 gift card for Amazon.com after completing the interview and demographics questionnaire.

This study has been approved by the OHSU Institutional Review Board. Participation is voluntary and confidential.

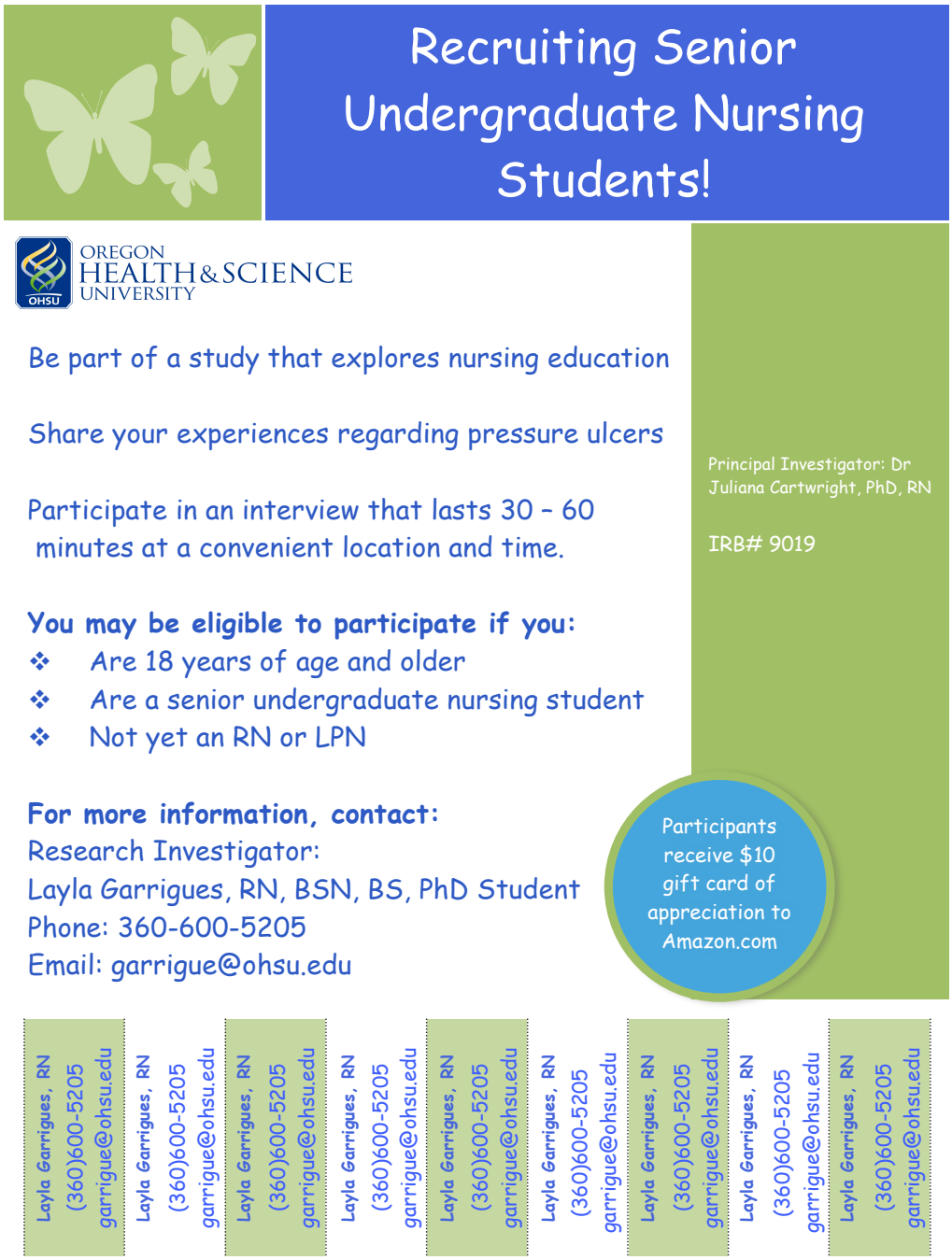
Please contact me if you are able to participate in this study. If you have any questions about this research, please feel free to contact me. Your participation is very much appreciated as you are the expert on your student experiences!

Thank you so much.

Sincerely, Layla

Layla Garrigues, RN, BSN, BS, PhD Student
Oregon Health & Science University
School of Nursing
garrigue@ohsu.edu
(360) 600-5205

Appendix K: Full Study Recruitment Flyers




Recruiting Senior Undergraduate Nursing Students!
OREGON HEALTH & SCIENCE UNIVERSITY
OHSU
You may be eligible to participate if you:
Are 18 years of age & older
Are a senior undergraduate nursing student
Not yet an RN or LPN
Participate in a study that explores nursing education
Share your experiences regarding pressure ulcers
Participate in an interview that lasts 30 – 60 minutes at a convenient location and time.
Participants receive $10 gift card of appreciation to Amazon.com
Research Investigator: Layla Garrigues, RN, BSN, BS
IRB# 9019
Layla Garrigues, RN
360-600-5205
garrigue@ohsu.edu

11/19/12

Appendix L: Full Study Announcement for Faculty

Full Study: Announcement for Faculty about Pressure Ulcer Prevention Study

Email: Faculty Name
Subject: Seeking Participants for Study: Nursing Education and Pressure Ulcers

Dear Faculty Name,

My name is Layla Garrigues and I am a doctoral student at the School of Nursing, Oregon Health and Sciences University (OHSU). I am conducting a study about undergraduate pre-licensure nursing students' attitudes about and experiences with pressure ulcer prevention and how they learn about pressure ulcer prevention within the theoretical framework of Communities of Practice social learning theory (Wenger, 2008).

The information obtained from this study will contribute to understanding how nursing students decide that pressure ulcer prevention is important to consider in each particular patient encounter.

For my study I plan on recruiting up to 30 participants. I am planning on conducting individual interviews that will be digitally recorded for approximately 30 minutes to 60 minutes at a location and time that is mutually agreeable.

May I come to your class to make a brief announcement about this study (perhaps the last five to 10 minutes of your class) to set up individual appointments for the interviews?

Each study participant will receive a $10 Amazon.com gift card upon completion of the interview. This study has been approved by the OHSU Institutional Review Board. Participation is voluntary and confidential.

If you have any questions about this research, please feel free to contact me. Your students' participation is very much appreciated!

Thank you so much.

Sincerely, Layla

Layla Garrigues, RN, BSN, BS, PhD Student
Oregon Health & Science University
School of Nursing
garrigue@ohsu.edu
(360) 600-5205

Appendix M: Full Study Information Sheet

Full Study: Information Sheet

OREGON HEALTH&SCIENCE UNIVERSITY

Information Sheet

IRB# 9019

TITLE: Pressure Ulcer Prevention and Undergraduate Nursing Students: An Exploration of Attitudes and Experiences

PRINCIPAL INVESTIGATOR: Juliana Cartwright, PhD, RN (541) 552-6703

CO-INVESTIGATORS: Layla Garrigues, RN, BSN, BS, PhD Candidate (360) 600-5205;

PURPOSE:

You have been invited to be in this research study because you are an undergraduate nursing student in your senior year of your program of study. The purpose of this study is to obtain preliminary data of undergraduate pre-licensure nursing students' attitudes about and experiences with pressure ulcer (bed sore) prevention.

PROCEDURES:

One-time interviews will take place at a convenient time and location mutually acceptable for your and the investigator. The investigator will interview you for 30 minutes to 60 minutes that will be digitally recorded. You will then complete the Demographics Data Questionnaire that will take approximately 5 minutes to complete. By agreeing to be interviewed you are agreeing to participate in this study. You will receive a $10 gift card for Amazon.com after completing the interview and Demographics Questionnaire.

You will be asked if you are willing to be contacted in a follow-up phone call to clarify or verify accuracy of data gathered. If you have any questions regarding this study now or in the future, please contact the investigator, Layla Garrigues at (360) 600-5205.

RISKS:

Although we will make every effort to protect your identity, there is a minimal risk of loss of confidentiality. If you experience undue distress when discussing emotionally disturbing experiences during the interviews you will be referred to appropriate counseling resources.

BENEFITS:

You may or may not benefit from being in this study. However, by serving as a participant you may help us learn how to improve pressure ulcer prevention nursing education that may benefit patients in the future.

CONFIDENTIALITY:

We will not use your name or your identity for publication or publicity purposes. Data will be protected in the following ways: Any information containing your name will be kept separately in a locked cabinet. Consent forms will be locked in a cabinet and electronic data (including digital recordings) will be

password protected. Any consent forms and digital recordings will be transported in a locked bag. After data analysis has been completed digital recordings will be destroyed. A code number will be assigned to you as well as to the information about you. During transcription of the audio tape, any personal information such as names or places will be de-identified. Only the investigators named on this consent form will be authorized to link the code number to you. Printed data will have no identifying evidence such as names or addresses.

COSTS:

It will not cost you anything to participate in this study. You will receive $10 Amazon.com gift card for completing the interview and demographics questionnaire.

PARTICIPATION:

If you have any questions regarding your rights as a research subject, you may contact the OHSU Research Integrity Office at (503) 494-7887.

You do not have to join this or any research study. If you do join, and later change your mind, you may quit at any time. By completing the interview you have agreed to participate in the study.

The participation of OHSU students or employees in OHSU research is completely voluntary and you are free to choose not to serve as a research subject in this protocol for any reason. If you do elect to participate in this study, you may withdraw from the study at any time without affecting your relationship with OHSU, the investigator, the investigator's department, or your grade in any course. If you would like to report a concern with regard to participation of OHSU students or employees in OHSU research, please call the OHSU Integrity Hotline at 1-877-733-8313 (toll free and anonymous).

Appendix N: Full Study Lay Language Protocol Summary

Full Study: Lay Language Protocol Summary Pressure Ulcer Prevention

LAY LANGUAGE PROTOCOL SUMMARY

Principal Investigator: **Juliana Cartwright, PhD, RN** IRB#: **9019**

Study/Protocol Title: **Pressure Ulcer Prevention and Undergraduate Nursing Students: An Exploration of Attitudes and Experiences**

7. Briefly describe the purpose of this protocol.

   The purpose of the study is to obtain preliminary data of undergraduate pre-licensure nursing students' attitudes about and experience with pressure ulcer (bed sore) prevention. With this information we can better understand how to promote pressure ulcer prevention education in schools of nursing.

8. Briefly summarize how participants are recruited.

   Participants from two student groups will be recruited: a) students who completed their first two years of nursing coursework in an Oregon Consortium of Nursing Education (OCNE) associate degree program and b) students who completed their first two years of coursework at Oregon Health and Science University, School of Nursing. Up to 30 senior undergraduate nursing students will be recruited through email announcements and at the end of class sessions to the undergraduate nursing students and undergraduate nursing faculty teaching these students at the School of Nursing, Oregon Health and Science University. Participants will be screened for eligibility. An invitation script will be used. A screening script will be used to screen potential participants. Potential participants will be provided with an opportunity to ask any questions they may have about the study. If potential participants meet the inclusion criteria, then the study will be explained in more detail and a study information sheet will be provided. The goal is to enroll up to 15 participants from each of the two groups of nursing students.

9. Briefly describe the procedures subjects will undergo.

   Potential participants will be screened to be sure they meet the study criteria: senior pre-licensure undergraduate nursing student at OHSU.

   Once a participant agrees to participate in the study, the investigator will review the information study sheet with the participant. Verbal informed consent to participate will be obtained prior to data collection.

Interviews will take place at a convenient time and location mutually acceptable for the participant and investigator. All participants will receive a $10 Amazon.com gift card at the completion of the interview.

The investigator will interview participants for approximately 30 minutes to 60 minutes. The interview will be digitally recorded. Participants will then complete the Demographics Data Questionnaire. Participants may be contacted later by phone to clarify parts of their interview.

10. If applicable, briefly describe survey/interview instruments used.

Participants will be individually interviewed about their experiences and attitudes towards pressure ulcer prevention. A semi-structured open-ended interview guide and demographics data questionnaire will be used. The semi-structured interview guide has approximately 10 open-ended questions with probes exploring participants' attitudes and experience about pressure ulcer prevention. The interview guide is a flexible tool that will be adapted during data analysis with new questions or probes for subsequent interviews. The demographics data questionnaire will gather general information about participant including their employment and clinical experiences.

11. If this is a clinical trial using an experimental drug and/or device, or an approved drug and/or device used for an unapproved purpose, briefly describe the drug and/or device.

Not applicable: not a clinical trial nor any involvement of an experimental drug or device.

12. Briefly describe how the data will be analyzed to address the purpose of the protocol.

A qualitative exploratory-descriptive research design (Brink & Wood, 1998; Sandelowski, 2010) will be used for this proposed study that seeks to understand undergraduate nursing students' attitudes regarding and experiences of pressure ulcer prevention practices within the framework of Communities of Practice learning theory (Wenger, 2008).

The data will be analyzed using statistical software to describe participants' attitudes about and experiences with pressure ulcer prevention. Qualitative description will be used as well as an inductive thematic analysis (looking for themes and patterns within the data) using Wenger's (2008) Communities of Practice learning theory.

Comparisons across responses will be made between two student groups: a) students who completed their first two years of nursing coursework in an Oregon Consortium of Nursing Education associate degree program and b) students who completed their first two years of coursework at Oregon Health and Science University, School of Nursing.

Appendix O: Full Study Screening Script

Full Study: Screening Script

Script for Screening Participants for Pressure Ulcer Prevention Study

This script will be used for eligibility screening of potential participants for the Pressure Ulcer Prevention study. This script may be used for both phone and face-to-face screenings.

Investigator: "Thank you for your interest in this study about senior nursing students' experiences with pressure ulcers. Is this an OK time to explain the study and set up an interview date and time?"

IF NO: "All right, is there another time I could call?"

IF NOT INTERESTED: thank student for their time and hang up.

IF YES: "I would like to review information about this study and also see if you are eligible to participate. Is this ok to talk about this for a few minutes now?"

IF YES, "Great, the purpose of this study is to learn about nursing students' attitudes about and experience with pressure ulcer prevention. I would like to interview students who are in their senior year of course work at OHSU. The interview will take about 30 to 60 minutes and it will be recorded. After the interview participants will fill out the demographic questionnaire that will take about 5 minutes. Later, I may ask to call you if I have questions about the interview. Are you currently a senior undergraduate nursing student at one of the OHSU, SON campuses?"

IF NO: then explain he/she does not quality for the study, thank them for their time, and end conversation as he/she is not eligible to participate in study.

IF YES: continue with script

Investigator: "Are you 18 years old or older?"

IF NO: then explain he/she does not quality for the study, thank him/her for their time, and end the conversation as he/she is not eligible to participate in study.

IF YES: continue with script

Investigator: "Great. You are eligible to participate in this study. You should know that you do not have to enroll in this study. Also if you change your mind, you can withdraw from the study at any time and you can refuse to answer any questions that make you uncomfortable. You may or may not benefit from being in this study. However, by serving as a participant you may help us learn about pressure ulcer education for nursing students. There are small risks associated with participation in this study. You could experience emotional distress when discussing some experiences. If this happens, you will be referred to appropriate counseling resources. Although

we will make every effort to protect your identity, there is a minimal risk of loss of confidentiality."

"However, multiple efforts will be made to keep your information confidential. That you choose or don't choose to participate in this study will not be shared with anyone including your faculty or other students. Only the investigator (that's me) and my dissertation committee of three nursing faculty will have access to your interview data. All data and any personal information will be kept locked up or password protected. The audiotape transcriptions of the interview will be de-identified, meaning I will remove any identifying information such as your name, address, and date of birth. Any other names or places will also be de-identified. Do you have any questions at this point?"

IF YES: answer his/her questions

IF NO: "After you have completed the interview and demographics data, I will provide you with a $10 gift card to Amazon.com. When is a good time for you to meet for the interview?" (Set up time and location that is mutually agreeable and convenient, and thank him/her for his/her time).