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UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science
DOCTOR OF PHILOSOPHY IN NURSING

DESCRIPTION OF MEDICAL-SURGICAL NURSES CARE
OF PATIENTS AT RISK FOR PRESSURE ULCERS

By

Barbara Jean Mayer

A dissertation presented to the
FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the
Requirements for the degree
DOCTOR OF PHILOSOPHY IN NURSING

May 2013

Dissertation Committee

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ABSTRACT

Aim: The purpose of this qualitative study was to explore and describe the level of understanding of PU development and prevention and perceptions of implementing PU prevention measures in nurses caring for patients in medical-surgical units. **Method:** The study was conducted in three (3) community hospitals within the same healthcare system using an Interpretive Description approach. Six (6) focus groups were conducted including thirty (30) participants. **Findings:** Participants described their knowledge of PU development and prevention as good and perceived continuing education as important in maintaining knowledge levels. Two (2) methods of identifying patients at risk for PU development were described: the Braden Scale and common patient diagnoses and conditions known to be associated with patients at risk for PU. Factors perceived to facilitate nurses' implementation of PU prevention measures included personal motivation, use of evidence-based treatment protocols, availability of expert consultants, and leadership support. Barriers to nurses' implementation of PU prevention measures perceived by study participants included the need to prioritize competing patient needs; lack of equipment and supplies; inadequate numbers and competency of staff; patient's lack of or inability to cooperate; and family involvement. Finally, regulatory mandates limiting payment for hospital acquired PU were perceived by participants as a necessary measure and positive motivator in their implementation of PU prevention measures.

Implications: Additional studies are needed to further describe differences between medical versus surgical patients and settings, the influence of patient families on nurses' ability to provide care, and the influence of nurse leader and organizational culture on nurse motivation and performance. Organizations should implement evidence-based practice protocols, continue to provide ongoing education regarding PU prevention measures, and seriously consider adoption of the Wound Care Nurse role.

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DEDICATION

Nursing is an art: and if it is to be made an art, it requires an exclusive devotion, as hard a preparation, as any painter's or sculptor's work; for what is the having to do with dead canvas or dead marble, compared with having to do with the living body, the temple of God's spirit? It is one of the Fine Arts. I had almost said, the finest of Fine Art. ~

Florence Nightingale

First and foremost, I dedicate this dissertation to my family – my husband Tom, who has been by my side throughout my educational journey from Bachelor's degree to PhD, helping me to persevere when “life” got in the way. Thank you for your supportive “nagging”, without which I fear I would never have finished this work. And to my son, Chris, who went many days and nights tiptoeing around the articles and papers strewn across the living room floor –and the dining room, the sofa and any other available flat surface. Thank you both for your never-ending support and tolerance throughout this process.

Second, I dedicate this study to my nurse colleagues and all those who will join us in this journey to explore, describe and define the Fine Art that is the profession of nursing.

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I am indebted to Dr. Mary-Rose Mueller, my committee chair, for her patient guidance and thoughtful insights throughout this long journey. I also deeply appreciate the time and commitment of my committee members, Dr. Patricia Roth and Dr. Ann Mayo. Thank you for hanging in there with me and for your invaluable advice.

Thank you to Dr. Linda Urden – who encouraged me to return to school in the first place. I am fortunate to count her as a mentor and friend, as well as a colleague.

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CHAPTER 1

Background

The prevalence of nosocomial pressure ulcers (PU) in acute care hospitals in the United States (US) continues to rise, from 6.9/1000 patient admissions in 2003 to 7.3/1000 patient admissions in 2005, despite an abundant body of knowledge regarding effective prevention measures (vanGilder, MacFarlane, & Meyer, 2008). Estimates of prevalence range from 0.4 – 38 % of patients admitted to acute care hospitals. This translates to approximately 2.5 million patients that develop PU each year (Lyder, 2003; Reddy, Gill, & Rochon, 2006). Although any patient can develop a PU, complex patients, specifically the frail elderly and those with multiple co-morbidities, are most commonly affected.

The cost of treating just one stage three (3) or four (4) pressure ulcer, those with full thickness skin loss exposing subcutaneous tissue, bone, tendon or muscle, can be as much as \$70,000 (National Pressure Ulcer Advisory Panel, 2007). The total cost for treating PU in the US is estimated at \$11 billion each year (Lyder, 2003; Reddy, Gill, & Rochon, 2006). Although any PU results in a financial burden to the hospital and some degree of discomfort for the patient, the cost in human suffering with the more serious stage three or four ulcers can be truly devastating to patients and their families. PU can

be painful and result in serious systemic infections, significantly longer lengths of stay, and increased mortality. Sadly, an estimated 60,000 patients die each year as a result of complications associated with PU.

In the 1980s, policy makers called for improvements in the affordability and quality of healthcare. The Omnibus Budget Reconciliation Act of 1989 established the Agency for Healthcare Policy and Research (AHCPR) whose purpose was to enhance the quality, appropriateness, and effectiveness of healthcare services. The function of the AHCPR is to sponsor, conduct, and support healthcare research. PU prevalence had reached a level to warrant concern from healthcare professionals and the public alike. The AHCPR responded to this concern with the publication of “Pressure Ulcers in Adults: Prediction and Prevention”, an evidence-based practice guideline intended for healthcare professionals. The guidelines provided recommendations for identifying patients at risk for PU development, prevention measures to be employed, and education of healthcare providers (Agency for Health Care Policy and Research, 1992). The guidelines were later revised in 1994 (Agency for Healthcare Policy and Research, Department of Health and Human Services, 1994). The AHCPR continues to support research and education on PU prevention.

The Centers for Medicare and Medicaid Services (CMS) has identified PU as a preventable condition, sensitive to vigilant nursing assessment and implementation of preventive measures within nursing’s scope of practice. The result has been the issuance of a formal rule, effective October 1, 2008, that states hospitals are no longer reimbursed for expenses associated with the care and treatment of PU acquired during hospitalization

(Centers for Disease Control and Prevention, 2006). This loss of revenue could have devastating financial effects on the already taxed healthcare industry. Hospitals are responding to this quality and financial threat by reviewing and revising existing standards and procedures and putting additional resources into PU prevention. New roles, such as wound care nurses, have been created for advanced practice nurses. Staff nurses have been increasingly involved in committees and task forces aimed at implementing evidence-based practice guidelines. Quality monitoring programs and promotion of a culture of accountability at all levels of practice are additional strategies that have been employed (Courtney, Ruppman, & Cooper, 2006; Wurster, 2007).

Pressure ulcer prevention has been recognized as a priority by private organizations as well. In response to recent prevalence reports, national organizations have recognized the tremendous cost in human suffering, as well as the financial burden presented by PU. In 1987 a small group of professionals collaborated with a medical device manufacturer to address issues related to PU development and prevention and to increase public awareness. This group became known as the National Pressure Ulcer Advisory Panel (NPUAP). The NPUAP developed a nationally accepted definition of PU, a PU staging rubric, and focused on education of healthcare professionals and patients. This non-profit group worked with the National Institutes for Health (NIH) which resulted in publication of a consensus statement, "Pressure Ulcers: Incidence, Economics and Risk Assessment" (NPUAP, 1989). The NPUAP continues to work toward reducing PU through research and education.

In 2006, the Institute for Healthcare Improvement (IHI), an independent not-for-

profit organization, launched the 5 Million Lives Campaign aimed at preventing harm to patients resulting from, or contributed to, by healthcare (IHI, 2006). Reducing PU by reliably implementing evidence-based prevention measures was one of 12 interventions recommended in the Campaign

The Joint Commission (TJC), an independent, not-for-profit organization, is a standard setting and accrediting body for healthcare organizations. The mission of TJC is to improve healthcare for the public. PU prevention is one of TJC National Patient Safety Goals for long term care (The Joint Commission, 2009).

With the national focus on PU development and prevention the clinical and policy literature began to focus on the issue of PU development and prevention as well. An extensive review of this literature revealed that the majority of the research had been conducted in the early 1990's, with few recent studies being noted. Further, the most recent studies have been conducted outside the US, for example the United Kingdom (UK), Australia, Spain, the Netherlands, Greece, and Sweden (Beitz, Fey, & O'Brien, 1998; Gunningberg, Lindholm, Carlsson, & Sjoden, 2001; Maylor M. , 2001; Moore & Price, 2004; Panagiotopoulou & Kerr, 2002; Pancorbo-Hidalgo, Garcia-Fernandez, Lopez-Medina, & Lopez-Ortega, 2007).

A major focus of the literature has been the exploration of nurses' level of knowledge regarding prevention or treatment of pressure ulcers (Beitz, Fey, & O'Brien, 1998; Gunningberg, Lindholm, Carlsson, & Sjoden, 2001; Maylor & Torrance, 1999; Moore & Price, 2004; Pancorbo-Hidalgo, Garcia-Fernandez, Lopez-Medina, & Lopez-Ortega, 2007). Findings from these studies demonstrated that nurses had a high level of

knowledge regarding PU development and prevention. Despite this knowledge, nurses indicated that implementing PU prevention measures could still be challenging and pointed to other factors that influenced implementation including individual or organizational motivation for change (Bostrum & Kenneth, 1992; Maylor M. , 2001; Maylor & Torrance, 1999), lack of time and inadequate staffing (Moore & Price, 2004), and poor nurse-physician communication (Manojlovich & DeCicco, 2007).

Purpose of the Study

Pressure ulcer prevention is an integral part of nursing practice. However, despite numerous policies and guidelines, research, and improvements in equipment, PU continue to adversely affect the quality of life of many patients. The few studies conducted in US hospitals focused on nurses in critical care units or nursing homes (Beitz, Fey, & O'Brien, 1998; Manojlovich & DeCicco, 2007; Saliba, Rubenstein, Simon, Hickey, Ferrell, & Czarnowski, 2003). Although statistics have shown that, in the acute care setting, PU prevalence is often higher in critical care units, the majority of hospitalized patients are admitted to medical-surgical (MS) units. The MS unit typically has higher admission rates and patient turnover, fewer nursing hours per day per patient, and less experienced nurses than in critical care (Dunton, Gajewski, Klaus, & Pierson, 2008). These factors have been suggested in the literature as influencing the development of PU and implementation of PU prevention measures, yet little attention has been focused in the US literature on the MS unit or the nurse caring for patients in the MS unit (Amlung, 2001; Cuddigan, 2001; Stokowski, 2008). The purpose of this qualitative study was to explore and describe the level of understanding of PU development and

prevention and perceptions of implementing PU prevention measures in nurses caring for patients in MS units.

Research Design

The methodological framework selected for this study was interpretive description (ID). Borrowing from aspects of grounded theory, naturalistic inquiry, and ethnography, ID was developed by nurse scholars as a qualitative approach to studying complex nursing phenomena and to develop a new and meaningful understanding of that phenomena (Thorne, Reimer Kirkham, & MacDonald-Eames, 1997). Unlike qualitative descriptive studies, ID diverges from traditional qualitative description by acknowledging the investigators desire to move beyond simple description to explore the phenomena, and identify practice applications (Thorne, Reimer Kirkham, & O'Flynn-Magee, 2004).

A key design component of ID is to take what is already known and create thoughtful linkages between the study findings and the work of others in the field (Thorne, Reimer Kirkham, & MacDonald-Eames, 1997). This existing knowledge can be drawn from a range of sources including the investigators own experiences, clinical literature, policy documents, and lay publications among others. This knowledge then serves as scaffolding for the study and as a starting point for orienting and designing the research (Hunt, 2009). The scaffolding for this study was developed from the investigators clinical knowledge and expertise related to PU development and implementation of prevention measures and the body of professional literature devoted to this topic. When this study began, the investigator was a Clinical Nurse Specialist (CNS) and nurse educator whose responsibilities included ensuring nurses in all specialties,

including those caring for patients in medical-surgical units, had an understanding of evidence-based guidelines and principles and incorporated these into their practice. Included in these guidelines, were those for PU assessment and prevention. The investigator's current capacity as a nurse leader includes a broader oversight of the phenomenon of interest and fuller understanding of the policies and guidelines. In addition, the investigator shares the ID assumption that the perspectives of the group closest to the phenomenon of interest (in this case, nurses caring for patients in medical-surgical units) will help enhance our understanding of the phenomenon of interest (in this case, PU development and prevention) and that this perspective may lead to new insights that will inform clinical practice.

Common data sources used in ID include individual interviews, participant observation, and focus groups. Each of these data sources has advantages and disadvantages associated with them. For this study, focus groups were employed to collect data because of their ability to uncover beliefs and attitudes that affect behavior (Morgan, 1997). Participants with experiential knowledge of the phenomenon are brought together to interact and share common experiences. A major advantage of focus groups over individual interviews is the creativity stimulated by interaction among participants that has the potential to surface insights that may not be found otherwise. Disadvantages of focus groups may include participants' reluctance to share certain beliefs in the presence of others or overly aggressive participants dominating the discussion and stifling input from quieter members of the group (Thorne, Interpretive Description, 2008).

In ID, data collection and analysis occur simultaneously. It is an iterative process where the study scaffolding is continually challenged (Thorne, Reimer Kirkham, & O’Flynn Magee, 2004). The interview questions are refined to facilitate exploration of findings. The result is a deeper, richer description of the phenomena. During this process it is imperative that the investigator “practice disciplined reflexivity in order to avoid clinging to the assumptions with which they entered the study” (Thorne, Reimer Kirkham, & O’Flynn-Magee, 2004, p. 10). The use of reflective memos can mitigate this danger.

In ID, inductive analysis is utilized for data analysis. Initial coding is broad-based yet reflects the questions that guided the inquiry. Thorne (2008) warns that premature coding or use of complex coding systems may result in superficial description of the phenomenon and should be avoided. In addition, continued reflection throughout the analysis of the data on the part of the investigator is essential to avoid introduction of personal biases.

As described, ID is particularly suited to studies whose outcome is to provide a comprehensive description of nursing-related phenomena with a focus on application to practice. This approach has several distinct strengths: 1) focuses on clinical context with an eye toward practice application; 2) clinical expertise and experience are valuable in guiding inquiry; and 3) analysis results in findings that assist nurses to make sense out of the complexities of their practice. On the other hand, ID is a relatively new method of qualitative research and there are few instructional resources available to the novice investigator. Finally, although the use of ID is increasing, to date there are a limited

number of published studies using the ID approach.

Significance to Nursing

The literature to date has largely focused on the level of nurses' knowledge and skill and the availability of tools and resources necessary to identify patients at risk for PU development and the implementation of preventive measures. Further, the majority of those studies have been conducted outside the US and few have focused exclusively on nurses caring for patients in MS units. This study established nurses' knowledge and understanding of PU development and prevention; provided insight into how nurses identify patients at risk for PU development; and described factors related to implementation of PU prevention measures. The findings from this study can be used in the clinical setting to improve PU care and decrease the incidence of PU and the related patient suffering and hospital expenses.

Conclusion

Patients demand, indeed deserve, quality care when admitted to the acute care hospital. The bedside nurse plays a key role in ensuring that quality care is provided through early identification and treatment of untoward events. Failure to provide nursing care that prevents the development of PU is an important issue that needs to be better understood and consequently addressed by nursing as a whole. The findings of this study provide a starting point for future in-depth explorations into this phenomenon.

CHAPTER 2

Review of the Literature

This chapter will critically analyze published literature regarding nurses and PU development and prevention. As we shall see, the majority of research on this topic has been conducted outside US-based settings and has focused on assessing nurse's knowledge of PU development and prevention measures and their challenges in implementing these prevention measures. Further, of the studies that included nurses caring for patients in MS units, few separated their findings to distinguish this population of nurses from other participants, for example, nurses caring for patients in critical care units or long term care, nursing assistants, or students.

Knowledge of PU Development and Prevention

Many studies have explored the perceptions of nurses' level of knowledge regarding PU prevention measures. In a study by Bostrum and Kenneth (1992), a cross-sectional survey design was used to collect data from a random sample of registered nurses (RN) providing direct patient care in five US hospitals and one home care agency. The survey tool was developed by the investigators following a review of relevant literature. Respondents were asked to determine which of twelve identified risk factors they believed to be associated with the development of PU. Open-ended questions were

designed to elicit participant knowledge of any additional risk factors associated with PU development and nursing measures contributing to the prevention of PU. A total of 245 nurses responded to the survey. Findings demonstrated that nurses' knowledge of risk factors was good, with 91% of respondents correctly identifying risk factors from the list included in the survey. The randomized sample lends strength to the findings in this study, however, validity and reliability of the instrument were not reported, and therefore additional studies are necessary before reliance on the data generated can be considered high.

In a study of British nurses, Russell (1993) sought to identify nurses' knowledge of PU prevention. Using a survey developed by the investigator, the knowledge of PU prevention of 30 registered nurses on two general wards was explored. Although participants scored poorly on identification of risk factors related to PU development, they were able to correctly identify appropriate preventive measures, with scores ranging from 86-93%. Limitations of this study included the use of a convenience sample, a relatively small sample size, and use of a tool not extensively tested for reliability and content validity.

Wilkes, Bostock, Lovitt, & Dennis, (1996) studied 34 Chinese nurses simultaneously enrolled in Bachelor of Health Science program. A survey was administered during class time to evaluate their knowledge of PU management in the elderly. Their findings were congruent with those of other investigators relative to their knowledge of risk factors. In this study, participants were able to identify the majority of

those risk factors found on internationally recognized assessment scales. As with most studies of this nature, the sample size was small and localized to one area, preventing generalizability of findings.

In a multiphase study, Provo, Piacentine & Dean-Baar (1997) studied the knowledge and practice patterns of nurses in a 250-bed inner-city hospital located in the Midwest. Staff members from the three medical-surgical units in the hospital were asked to volunteer as participants in the study. Participants included RNs, nursing assistants, and nurse interns with the majority (82%) being RNs. In phase I, participants were asked to complete a survey originally developed by Bostrum and Kenneth (1992) and adapted and validated by the investigator measuring knowledge of PU prevention; phase II included a 20-minute educational offering providing information on pressure ulcer prevention; and in phase III participants were asked to repeat the original survey. Findings demonstrated that nursing staff had a high level of knowledge of preventive measures as evidenced by an 80% average score on the survey both before and after the educational intervention current and consistent with evidence-based practice. The investigators experienced participant attrition between phase I and III with only 27 of 91 nurses completing the survey pre and post intervention. In addition, a revision to the hospital guidelines on the use of pressure-relieving devices was instituted during phase III that may have contributed to an increased awareness of PU prevention, ultimately affecting the study outcomes.

One purpose of Pieper & Mott's study (1995) was to examine nurses' knowledge of pressure ulcer prevention in an urban hospital in the mid-western US. The

investigators developed a data collection tool based on *Pressure Ulcers in Adult Prediction and Prevention*, a guideline developed by the AHCPR (1992), to measure nurses' knowledge. Content validity of the Pressure Ulcer Knowledge Test was determined through review by a panel of expert enterostomal nurses. Readability and understandability were determined by a pilot test of ten staff nurses. A convenience sample of 228 registered nurses from a variety of nursing units participated in the survey. Findings demonstrated that nurses' knowledge was better the more recently they had been educated, but was not significantly related to formal educational background, age, or years of experience. The non-randomized sample limits generalizability of the findings generated by this study.

In a study of Swedish nurses Gunningberg, Lindholm, Carlsson, & Sjoden (2001) investigated RN and nursing assistant knowledge of risk assessment, prevention, and treatment of PU. Eighty-five nursing staff completed a questionnaire. Results indicated that, although there was room for improvement, knowledge levels were adequate, however the Swedish quality guidelines for PU prevention and treatment were not followed in practice. Limitations of this study are similar to those of others already presented and include a small, non-randomized sample size.

In a study of Greek nurses' knowledge of PU prevention measures, Panagiotopoulou & Kerr (2002) conducted a survey of 117 medical-surgical nurses using instruments previously validated by Maylor (1999) and Halfens & Eggink (1995). Face and content reliability were established through review by a group of nurse experts. Findings demonstrated that 77% of respondents were able to correctly identify measures

that were always useful and 54% were able to identify measures that were sometimes useful. Of interest is that only 27% were able to differentiate measures that were never useful or even harmful. The major limitations of this study center on the method of data collection – use of a self-report survey. In addition to missing data, it cannot be validated that nurses answered questions based on their own knowledge without consulting colleagues or other references, even though they were instructed not to. Regarding generalizability of findings, although a convenience sample was used, the response rate was excellent (71%) and comparison of demographic characteristics between respondents and non-respondents demonstrated no significant differences.

In another study, Hulsboom and colleagues (Hulsboom, Bourse, & Halfens, 2007) assessed Dutch nurses knowledge of the value of pressure ulcer prevention measures in a comparative descriptive study. Data were collected using a mail survey adapted from a previous study conducted in 1991 to include updated guidelines. The questionnaire included 28 items - 15 recommended preventive measures and 13 non-recommended measures. Participants were asked to identify which of the measures belonged in each category. Findings supported previous studies showing that nurses knowledge of "useful" preventive measures was sufficient, defined by the investigators as being able to correctly identify >70% of measures in each category. Interestingly, nurses in 2003 were 67% more likely to correctly identify useful preventive measures than those in 1991. As reported in other studies (Panagiotopoulou & Kerr, 2002; Pancorbo-Hidalgo et al., 2007), nurses had a more difficult time identifying non-useful measures. A potential limitation in this study was the possibility that the same nurse might participate

in both the 1991 study as well as the 2003 study providing a familiarity with the survey content that could skew the data. Therefore, participants were asked about previous exposure to the questionnaire, mitigating this issue.

A study conducted in Spain produced results similar to other cited studies. A survey was used to determine levels of knowledge of PU prevention measures using a convenience sample of 738 RNs and LPNs providing direct care in acute hospitals and elder care centers (nursing homes). Once again findings showed that knowledge of appropriate interventions was high with 75% of respondents correctly identifying key preventive measures, but as many as 77% of respondents reported using measures that are not recommended in the prevention of PU. Positive correlations were found between knowledge of PU prevention measures and higher levels of formal education. More experience, however, was positively correlated with lower levels of knowledge, and was thought to be due to a gap in continuing education. Limitations of this study include possible participant collaboration or personal bias due to the use of a self-reporting method of data collection (Pancorbo-Hidalgo, Garcia-Fernandez, Lopez-Medina, & Lopez-Ortega, 2007).

Tweed & Tweed (2008) assessed knowledge level and impact of an educational intervention among 62 critical care RNs in an ICU in New Zealand. Findings demonstrated a high level of baseline knowledge (84%) regarding PU prevention measures prior to the educational intervention; two weeks following the educational intervention scores remained high at 89%; and reevaluation at 20 weeks post intervention scores averaged 85%. No significant differences in knowledge level were found based on

experience, qualifications or seniority. Findings in this interventional study supported those of Provo, et al. (1997). Limitations cited by the investigators focused on the method of testing used to evaluate knowledge pre and post intervention. The baseline test was proctored, while subsequent tests were not, leaving room for participant collaboration rather than individual performance. Also noted was the relatively small sample size from a single ICU, limiting generalizability of findings.

In a qualitative study aimed at determining nurses' perceptions of factors that may facilitate or hinder prevention of PU, 30 Swedish nurses employed in medical, surgical and intensive care units were interviewed (Athlin, Idvall, Jernfalt, & Johansson, 2009). Thematic analysis revealed that knowledge and competence were essential in prevention and treating PU. Study participants believed that their personal knowledge was adequate. Participants further defined necessary knowledge as appropriate use of assessment tools and recognition of patient characteristics in identifying patients at risk. The obvious limitation of this study is the small sample size limiting the ability to capture all possible variations regarding nurses' perceptions about the importance of PU prevention.

Similar to the findings of Pancorbo-Hidalgo, et al. (2007), in a study of Turkish nurses Aydin & Karadağ (2010) found a positive correlation between higher education (possession of a baccalaureate degree) and knowledge of PU prevention. The purpose of the study was to determine nurses' knowledge level and practice patterns associated with PU prevention and management. Using a questionnaire developed by the investigators, 237 RNs and LPNs completed the tool. In addition to the correlation between education and PU knowledge, it was noted that nurses who had recently attended a continuing

education course in prevention and management of PU demonstrated higher scores than nurses who had not participated in recent education. The strength of this study lies in the relatively large sample size. However, the data collection tool used had not been tested or validated prior to the study.

In a study of 146 Swedish ICU nurses aimed at investigating the attitudes, knowledge levels and perceived factors influencing PU prevention Strand & Lindgren (2010) described their findings using the Theory of Planned Behavior (TpB), a conceptual framework developed by Azjen (1991). According to TpB, human behavior is influenced by attitude toward the behavior and its influence on desired outcomes, normative beliefs as influenced by leaders and coworkers, and perceived control over the behavior related to presence of factors influencing performance. Study findings demonstrated that participants' attitude toward pressure ulcer prevention was positive and that they believed that PU prevention was a priority of daily care. The majority of participants described a lack of routine risk assessment that may indicate weak collegial influence to perform prevention measures. Multiple barriers to implementation of PU prevention measures were identified by participants including lack of time, competing priorities, staff shortages, lack of knowledge, and lack of necessary equipment and supplies. The investigators did not attempt to explore actual preventive measures employed that may have strengthened study findings.

While the studies discussed so far have indicated that nursing knowledge related to PU prevention measures is good, other studies suggest that this may not be the case. In a secondary analysis of the data obtained in an earlier study (Pieper & Mott, 1995),

Pieper and Mattern (1997) extracted the data provided by a random sample of 75 critical care nurses identified as participants through the demographic questionnaire utilized in the original study. The Pressure Ulcer Knowledge Test contained three sub-scores: risk and prevention, PU staging, and wound description. A score of 90% in any sub-category was considered "knowing", or possession of knowledge of the topic. Scores for the critical care nurse cohort ranged from 15-83%, with an average score of 67% in the prevention sub category. These findings demonstrated a lack of knowledge on the part of participants regarding PU prevention. Again, however, the use of a small convenience sample from a single site makes generalizability of findings difficult. The authors did not offer any explanation for the difference in critical care nurses' scores and the overall sample scores. They did, however, identify that knowledge at any level is not always translated to practice and that future studies were needed to investigate this link.

In a study using a cross-sectional survey design to determine the knowledge level of nurses regarding PU care (Beitz, Fey, & O'Brien, 1998), 86 RNs, Licensed Practical Nurses (LPN), and certified nursing assistants (CNA) across multiple specialties completed the Pressure Ulcer Risks and Treatment Test developed by Hayes, et al. (1994). Internal consistency of the tool was reported at $r = .066$. Overall mean scores for participants averaged 78%; however deficits were noted in the areas of PU etiologic factors, use of support surfaces, PU classification systems, and treatment modalities. Limitations of the study included the length of the test itself, which may have contributed to participant fatigue in completion and the participation of nonprofessional staff that indicated that the terminology used in the test was somewhat above their understanding.

In another study Maylor & Torrance (1999) surveyed 439 nurses and auxilliary staff within hospital and community settings in the United Kingdom to assess their knowledge of PU assessment prevention measures. Overall, the findings supported those of other investigators (Bostrum & Kenneth, 1992; Wilkes, Bostock, Lovitt, & Dennis, 1996).

Finally, the journal *Nursing* conducted a survey of their readership to assess nurses' knowledge and practice of wound care in general (Ayello, Baranoski, & Salati, 2005). Six hundred and ninety-two (692) readers responded from 48 states in the US, five Canadian provinces, and seven other countries. Thirty percent (30%) of respondents were employed in a medical-surgical setting. In relation to PU, 70% said they could identify the four stages of PU and 89% agreed that skin assessment was part of their daily patient assessment.

In summary, nurses' knowledge of risk factors and recommended prevention measures was seen as acceptable in most studies. However, based on empirical scores in some studies, nurses' knowledge levels could be improved. The most interesting finding was that nurses had more difficulty differentiating measures not recommended in contrast to identifying those that were.

Challenges in Implementing PU Prevention Measures

Nursing attitudes and beliefs were suggested in several studies as presenting challenges to nurses' implementation of PU prevention measures. Two studies, described previously, reported that nurses felt the need for additional education and access to relevant literature (Ayello, Baranoski, & Salati, 2005; Beitz, Fey, & O'Brien, 1998;

Panagiotopoulou & Kerr, 2002). Despite the availability of evidence-based guidelines, some nurses felt the information was not “user-friendly” (Maylor & Torrance, 1999; Panagiotopoulou & Kerr, 2002) while Maylor & Torrance (1999) also described a better understanding of evidence-based PU measures by staff involved in actual research.

In Beitz’s (1998) study of RN, LPN, and nursing assistants across specialties, the respondents questioned their autonomy in ordering specialty beds and implementing other preventive measures. The investigators suggested this may be related to the expense associated with some PU prevention measures, as well as the absence of any established education program regarding PU prevention.

Most disturbing, given the serious consequences of PU development in human suffering as well as organizational costs, is the perception held by some nurses that PU assessment and prevention measures have a low priority when planning patient care (Bostrum & Kenneth, 1992; Moore & Price, 2004; Provo, Piacentine, & Dean-Baar, 1997). This factor was further described by Athlin and colleagues (2009) where study participants viewed PU prevention as the purview of LPNs and as a low priority area for RNs. However, the RN participants also believed they had a professional responsibility to ensure the LPN performed adequately. The implications of this finding have far-reaching consequences in the dissemination and implementation of EBP.

Similar to the findings of Athlin et al. (2009) a study of Swedish nurses (Sving, Gunningberg, Hogman, & Mamhidir, 2012) demonstrated that PU prevention measures were rarely performed by the RN, instead defined as the role of the assistant nurse (AN), a role roughly equivalent to a CNA or LVN in the U.S. Although prevention measures

were not performed by the RN, the majority of RNs believed that implementation of measures was important and trusted the AN to complete necessary tasks.

Nursing attitudes that may influence implementation of PU prevention measures include both external and internal factors. Externally, some nurses found the research to be confusing and less than “user-friendly” regarding implementation. Despite their perceptions of the adequacy of their knowledge of PU prevention measures, they still felt that additional education was needed on this topic. As noted previously, PU prevention was viewed with a lower level of importance or priority than other nursing tasks.

Several studies identified patient characteristics that may present challenges to the nurse in implementing PU prevention measures. These characteristics include age (Bostrum & Kenneth, 1992), nutritional status (Bostrum & Kenneth, 1992; Wilkes, Bostock, Lovitt, & Dennis, 1996), chronic conditions/co-morbidity (Bostrum & Kenneth, 1992; Athlin, Idvall, Jernfalt, & Johansson, 2009), acuity (Bostrum & Kenneth, 1992; Dunton, Gajewski, Klaus, & Pierson, 2008; Moore & Price, 2004; Athlin, Idvall, Jernfalt, & Johansson, 2009), incontinence (Bostrum & Kenneth, 1992) (Athlin, Idvall, Jernfalt, & Johansson, 2009), and the patient’s inability to participate in care due to pain or dementia (Wilkes, Bostock, Lovitt, & Dennis, 1996, Athlin, Idvall, Jernfalt & Johansson, 2009). Findings in the study by Athlin, et al. (2009) highlighted the significance of including the patient’s family in PU care.

Finally, many of the studies reviewed also suggested a number of environmental or organizational issues that may influence implementation of PU prevention measures. Issues related to nurse staffing were most often identified by study participants.

Adequate numbers of nurses on duty was a frequent perception (Athlin, Idvall, Jernfalt, & Johansson, 2009; Bostrum & Kenneth, 1992; Dunton, Gajewski, Klaus, & Pierson, 2008; Moore & Price, 2004; Panagiotopoulou & Kerr, 2002; Provo, Piacentine, & Dean-Baar, 1997; Wilkes, Bostock, Lovitt, & Dennis, 1996). Closely associated with adequate staffing numbers were staff with appropriate skill level (Dunton, Gajewski, Klaus, & Pierson, 2008) and time to complete appropriate care (Athlin, Idvall, Jernfalt, & Johansson, 2009; Moore & Price, 2004; Provo, Piacentine, & Dean-Baar, 1997).

The availability of appropriate equipment and supplies, such as pressure relieving devices, specialty beds, and specialized dressings was also suggested as an influencing factor in the implementation of PU prevention measures (Athlin, Idvall, Jernfalt, & Johansson, 2009; Moore & Price, 2004; Provo, Piacentine, & Dean-Baar, 1997; Russell, 1993; Wilkes, Bostock, Lovitt, & Dennis, 1996).

Organizational support of PU prevention initiatives has also been identified in the literature as influencing implementation of PU prevention measures. Organizational support was described by study participants as providing education related to PU prevention and care (Beitz, Fey, & O'Brien, 1998; Leasure, Stirlen, & Thompson, 2008), access to current literature on EBP (Panagiotopoulou & Kerr, 2002), and communication of patient outcomes (Leasure, Stirlen, & Thompson, 2008).

The role of nursing leadership in implementation of PU prevention has also been described in the literature. Maylor (2001) studied senior nursing staff in a UK hospital to determine if their attitudes and expectations affected staff nurses' implementation of PU prevention measures. A survey was used to elicit responses from 439 nurse leaders

regarding their beliefs related to control and the value of PU prevention. Findings from this study indicated that there is a significant correlation ($p < .001$) between the values held by nurse leaders regarding the importance of PU prevention and the prevalence of PU.

Overall, the studies reviewed suggested that the visible support of nursing leaders may play an important role in successful implementation of PU prevention measures and ultimately improving patient outcomes (Maylor M. , 2001; Leasure, Stirlen, & Thompson, 2008). This visible support could include budgeting for continuing education, specialty nursing personnel, holding themselves accountable for monitoring, and communicating outcomes to staff nurses.

Discussion of the Literature

The articles presented in this review of the literature represent nursing research conducted on PU prevention in the two decades since the first evidence-based practice guidelines were published in 1992 (Agency for Health Care Policy and Research, 1992). The majority of studies (19) utilized a survey design to collect data. The remaining studies reviewed employed qualitative (1), literature review (1) and multi-method (1) designs. Of the 19 studies using surveys or questionnaires to collect data, only three reported reliability scores. Content validity was obtained in six studies and three studies employed tools utilized in previous studies although reliability of these tools was not reported. Eight studies reported neither content validity nor reliability. The lack of reliability or validity reporting makes it difficult to interpret the efficacy and generalizability of findings. Despite the majority of the studies reviewed (14) having

been conducted outside the U.S., their strength lies in consistency of findings across settings.

Findings from the literature demonstrate that nurses are generally knowledgeable about PU development and prevention, but encounter challenges in actually implementing identified prevention measures for a variety of reasons, including staffing issues, patient characteristics, lack of equipment or supplies, and leadership support. These findings can be specifically applied to nurses caring for patients in critical care units. However, it is difficult to apply the findings to nurses caring for patients in MS units because the studies including these nurses have also included nurses from home health and long term care, as well as LVNs and CNAs. The findings have been aggregated, thus making it difficult to distinguish knowledge and perceptions of just the nurses in MS units to gain an understanding of this nursing population. The lack of information specific to nurses caring for patients in MS units is puzzling because, even though PU rates are higher in critical care units, the majority of hospitalized patients are admitted to the MS units which are known to have higher patient to nurse ratios and typically employ nurses with less experience than their critical care counterparts.

The cost of PU in human suffering and as a financial burden to the healthcare industry has gained much attention in both private and public forums. This review of the literature revealed that current research on the continued prevalence of PU and nurses' implementation of prevention measures in the United States is limited. Before action can be taken to improve either, it is imperative that a more thorough understanding of factors affecting implementation of PU prevention measures be achieved.

CHAPTER 3

Methodology

The purpose of this qualitative study was to explore and describe the level of understanding of PU development and prevention and perceptions of implementing PU prevention measures in nurses caring for patients in MS units. This chapter will describe the study methodology including procedures for sample selection, data collection, and data analysis. Rigor and ethical considerations are presented.

Research Design

Qualitative research approaches provide a comprehensive summary of an event or issue in terms that are understandable to both the investigator and the participant (Sandelowski, 2000). This study used interpretive description (ID) to explore the knowledge of PU development and perceptions of implementation of PU prevention measures in nurses caring for patients in MS units. Interpretive Description (ID) is a non-categorical qualitative methodological approach well suited to developing understanding of complex clinical questions (Thorne, Reimer Kirkham, & MacDonald-Eames, 1997). It has a strong foundation within the philosophical underpinnings of naturalistic inquiry described by Lincoln and Guba (1985). This methodological approach was selected

because, differing from more traditional qualitative approaches, ID acknowledges the nurse investigator's need to not only describe the phenomenon of interest, but to explore the meaning of what is learned and the implications for clinical practice. Indeed, the end result of a study using ID is not only a "coherent conceptual description that taps thematic patterns and commonalities believed to characterize the phenomenon that is being studied..." (Thorne, Reimer Kirkham, & O'Flynn-Magee, 2004, p. 7), but also a description that would make sense to clinicians in terms of possible interventions.

ID offers the potential to examine what we already know about patterns of behavior and subjective experiences, and generate new insights which may serve to determine what aspects may require further exploration or influence application of evidence into practice (Thorne, 2008). The framework or scaffolding for ID studies includes investigator knowledge and experience as well as extant literature (Thorne, Reimer Kirkham, & O'Flynn-Magee, 2004). This scaffolding sets a starting place for orienting the research study and provides a rationale for the extent of the inquiry. As a CNS and nurse educator, the investigator in this study was responsible for ensuring nurses in all specialties, including nurses caring for patients in MS units, had an understanding of evidence-based guidelines. It was apparent to the investigator that, despite continuing education regarding PU prevention and the development of evidence-based assessment tools and practice protocols, patients continued to develop PU in the acute care setting. This clinical observation was supported in the professional literature.

The investigator also believed that nurses were caring, compassionate individuals seeking to provide care that prevented unnecessary pain or discomfort for patients. It was

this innate belief that caused the investigator to speculate that other factors must be influencing the nurses' ability to implement PU prevention measures. The investigator sought to set aside personal experience and knowledge of the phenomenon, and suspend preconceptions in order to capture the experiences of participants through their own words.

Study setting. Nurse study participants were recruited from three hospitals located in California. All of the hospitals were non-magnet, affiliated with a larger not-for-profit Catholic health care system, and of various bed capacity (93, 364, and 384). These hospitals were selected because the investigator was employed by the health system, and worked at one of the facilities. The units where participants worked included medical, surgical, and combined MS units and varied in size between 16 - 45 beds. Units were staffed with RNs, LVNs and CNAs. A typical RN assignment was guided by state-mandated nurse-patient ratios and consisted of 4-5 patients. Two (2) or more RN's were likely to share the assistance of a single CNA. In addition, an RN might also partner with an LVN but was held responsible for tasks outside the LVN scope of practice, such as patient assessments and management of intravenous (IV) therapy. All participants worked 12-hour shifts.

Sample. Purposive sampling, recruiting individuals with a familiarity of the phenomenon being studied, was used in this study (Thorne, 2008). Inclusion criteria for participant selection were: 1) must be a registered nurse currently employed in a medical-surgical setting, 2) have at least one year of medical-surgical nursing experience, and 3) spend at least 50% of their work time in direct patient care activities. The experience

criterion was established to ensure that the participants had enough exposure to the phenomenon of concern to provide meaningful discussion. The investigator did not distinguish between exclusively medical, surgical or mixed MS units when identifying the study population, however limiting recruitment to nurses caring for patients in MS units ensured homogeneity within the participant group. An initial sample of 20 participants was sought from the RNs caring for patients in MS units within the health care system. Focus groups continued until, as suggested by Lincoln and Guba (1985), the investigator recognized that no new data were forthcoming. Six (6) focus groups were conducted with a total of 30 RNs participants.

Sample recruitment. Approval from the institutional review board (IRB) at the university (Appendix A) as well as the IRB for each hospital was obtained prior to recruitment efforts. Flyers describing the study were posted on the target-nursing units. The flyers provided information on the study purpose, date and time of the focus group, and contact information for the investigator. Potential participants were invited to telephone the investigator at the number provided on the flyer to discuss the study and focus group scheduling.

Data Collection

Like quantitative descriptive studies using a questionnaire, the interpretive description design intends to collect data from a number of participants, on a particular topic, through question and response. In this qualitative study, data were collected via focus group interviews. Focus groups are viewed as an efficient means of collecting data and as having the potential to uncover a broad range of information (Kitzinger, 1995).

Morgan (1997, pg. 2) describes the hallmark of focus groups as being “the use of group interaction to produce data and insights that would be less accessible without the interaction found in a group.” Other advantages of focus groups include increasing creativity stimulated by group sharing, encouraging participation among individuals who otherwise may be intimidated by one-to-one interviewing, minimizing discrimination against individuals who have low literacy skills, and providing the investigator a prime opportunity to observe and record participants’ nonverbal communication within the group (Morgan, 1997; Wilkinson, 1998).

Although there are many advantages to using focus groups as a method for data collection, there are also disadvantages to be considered. Wilkinson (1998) describes issues with reliability and validity and facilitator or participant biases. Others note that it can be time consuming to arrange for a suitable location to conduct the focus group and that it can be difficult to select a time convenient for all potential participants (Kitzinger, 1995; Morgan, 1997). Thorne (2008) also suggests that some members of the focus group may be reluctant to share their personal insights in front of others.

The focus groups were planned and executed to capitalize on the positive aspects of data collection using this method, as well as to mitigate the disadvantages. Focus groups were scheduled at a time that was mutually agreed upon by participants and the investigator and held in a private conference room, arranged for this purpose by the investigator, at the hospital where participants worked. Focus group recruitment was limited to no more than 10 members in order to sustain meaningful discourse and control of the discussion (Morgan, 1997; Wilkinson, 1998). The actual number of participants

ranged from 4-8 per group. Participants in individual groups had either worked together on the same unit or were acquainted with each other by virtue of employment in the same hospital. This familiarity served to increase the comfort level within the group and encourage sharing and elaboration on the issues discussed.

All of the focus groups were conducted by the investigator and audiotaped with a small, digital tape recorder. The investigator used an interview guide to organize the flow of the discussion (Appendix C). The interview guide was helpful in the interpretation of data, capturing themes and patterns in individual responses (Sandelowski, 2000). Broad, open-ended questions were used to allow participants the opportunity share personal views and experiences and to avoid investigator bias by over-directing responses. The investigator took handwritten notes to record nonverbal behaviors of participants and for comparison with recordings following completion of the focus groups.

In order to capture information about and later describe the study population, participant demographics were collected using the Participant Demographic Information Form developed by the investigator (Appendix B).

Session management. At the beginning of each session, the investigator informed the participants that the session would be audiotaped. The purpose of the study as well as the risks and benefits of the study to participants and the profession was explained by the investigator. Participants were informed that they could withdraw from the study, ask questions about the study, or refuse to answer any questions posed by the investigator at any point during the focus group meeting without recriminations or

negative consequences. Each participant was asked to read and sign a Consent Form (Appendix D) and was offered a copy before the actual focus group interview began. Once the consent form was signed and prior to beginning the interview, the investigator asked participants to complete the Participant Demographic Information Form consisting of ten questions regarding participant's demographic characteristics.

Prior to beginning the actual focus group interview, participants were asked to introduce themselves, using their first name only. The investigator re-emphasized the purpose of the study, that the session would be audiotaped, and reminded participants of their rights. Rules regarding communication during the focus group were explained by the investigator including the expectation that everyone would participate, all participants would have an equal opportunity to share their beliefs and perceptions regarding PU prevention measures, and that this was a safe environment and criticism of others' comments was prohibited. In addition, participants were reminded to use their first names only and to refrain from identifying their place of employment. When agreement had been reached regarding the guidelines, the investigator turned on the tape recorder.

Using the semi structured interview guide, the investigator began this portion of the interview by asking a few non-threatening questions to establish a level of comfort for participants to voice individual views and engage in group discussion. Following these initial queries, the remainder of the interview questions sought to solicit each of the participant's thoughts and experiences related to PU and implementation of PU prevention measures. At the completion of the session, participants were instructed not to share the discussion content or individual responses with others. The investigator

documented field notes immediately following the conclusion of the focus group session in order to preserve accurate recollections.

Data management. The investigator completed verbatim transcription of all audiotapes. The written transcripts were compared to the original audiotapes by the investigator to ensure accurate re-presentation of the data. To ensure anonymity of participants, all references to individual names or places of employment were removed from the transcripts. Demographic information pertaining to participants was presented as aggregate data. Field notes, including methodological and analytic notes, were maintained by the investigator to provide a more complete record of the focus group interview. All audiotapes, transcripts and written materials will be maintained in a locked file cabinet for a minimum 5 years.

Data analysis. Following ID methodology, data collection and analysis occurred simultaneously using an inductive approach (Thorne, 2008). Sufficient time between focus groups was planned in order to allow opportunity for the investigator to reflect on the data and re-orient the study according to new insights that developed. Immediately following each focus group, the investigator recorded reflective memos that included comments on methodology and initial impressions. Subsequent memos chronicled the evolution of initial identification of themes and subthemes (Thorne, 2008). In addition, the audio recordings were reviewed and a synopsis of the interview was written. As soon as it was available the transcript was compared to both the audio recording and the investigators notes. Periodic meetings were also held with the investigator's committee to discuss emerging themes as well as adjustments in interview questions and techniques.

Coding was aimed at exploring linkages and patterns within the data with a view towards identifying themes (Thorne, Reimer Kirkham, & O'Flynn-Magee, 2004). Initial coding of participant comments and subsequent refinements remained a dynamic process throughout the study. As suggested by Thorne (2008), initial impressions and identified themes were explored in subsequent focus groups, allowing the investigator to refine and reorient the inquiry.

Rigor

In qualitative research, rigor demonstrates the plausibility, credibility, and integrity of the research process. An alternative word used by qualitative researchers to describe these characteristics is “trustworthiness” which includes credibility or internal validity, transferability, or external validity, dependability or reliability and confirmability, or objectivity (Shenton, 2004).

Credibility can be described as how closely findings relate to the real world, and is considered the most important aspect of establishing trustworthiness in a qualitative study (Lincoln & Guba, 1985). In this study, credibility was assured by using an accepted research method; giving participants the right to terminate their participation without recrimination; assuring anonymity and encouraging participants to be candid and honest; and through the use of iterative questioning.

Dependability is closely related to credibility; indeed one without the other is unlikely (Lincoln & Guba, 1985). This aspect of trustworthiness was addressed by carefully maintaining and documenting data; ensuring a clear, detailed account of all procedures; and development of a process to link statements and themes derived through

analysis to the original transcript.

Some researchers believe that transferability is not possible in qualitative research due to small numbers of participants and particular environments that prevent applicability to other settings or individuals (Shenton, 2004). However, other researchers believe that, by providing sufficient contextual description of the setting and participants, practitioners who find similarities between the research setting and their own, will be able to translate the findings into practice. The responsibility of providing an adequate description of the setting falls to the investigator (Lincoln & Guba, 1985; Shenton, 2004).

Confirmability refers to assurance that the findings of the study reflect the ideas and experiences of the participants and not the biases or beliefs of the investigator (Shenton, 2004). Confirmability is addressed in this study through documentation within this manuscript of the investigator's clinical background and expertise, active reflection during the research process, and continually challenging the study scaffolding through constant comparative data analysis.

Ethical Considerations

Protection of human subjects. Approval through the University of San Diego and hospital IRBs was obtained prior to data collection (Appendix A). To protect the identity of participants, all identifying information was removed from audiotape transcripts, and the audiotapes themselves were destroyed once the transcripts were verified. All data and forms continue to be securely locked in a file drawer, accessible only to the investigator.

Risks and benefits. All research involves some level of risk to participants and those risks must be addressed. Physical risks included the possibility of fatigue during the focus group interviews. Participants were reminded that their participation was voluntary and they were free to remove themselves at any time without recriminations. No participants exercised this option.

Possible psychological risks included anxiety, regret or emotional distress if negative comments were made toward colleagues or their hospital. All participants were informed that they could refuse to answer any question and withdraw entirely from the study without fear of retaliation. No participant exercised this option.

Possible social risks included embarrassment of negative perceptions by others, especially if data is made public. This risk was minimized by safeguarding data obtained and assuring anonymity of all focus group participants and their institution. All names and identifying information were removed from transcripts and have not been included in this manuscript.

Participants may consider their contribution to this study as a benefit to them personally. The experience may have left them with a sense of satisfaction in helping to grow a body of nursing knowledge on a topic that has not been well studied.

CHAPTER 4

Results

This chapter will provide a synthesis, distilled from participant responses, of the themes identified through analysis of the data. Participants in this study described their knowledge and understanding of PU development and prevention; how they identify patients at risk for PU development; and their perceptions of how they go about implementing PU prevention measures, including factors that make or made it easier to implement measures (facilitators) and factors that make or made it more difficult to implement measures (barriers). A fourth theme identified was the influence of the changes in mandates on PU prevention from federal regulatory agencies.

Sample Description

Thirty (30) nurses working in MS units participated in six focus groups. A brief demographic questionnaire revealed the majority of participants were female (90%) and ranged in age between 26-61 years with a mean age of 41 years. Academic preparation included a Bachelor's degree in nursing (67%); PU prevention continuing education within the last 12 months (83%), with 74% of classes attended by participants including instruction on evidence-based protocols. The majority of participants were employed full time (87%) and years of nursing experience ranged from 1 year to 38 years, with a mean of 12 years. Table 1 provides an overview of participant characteristics.

Table 1

Participant Characteristics

Characteristic	N	%	M	Range
Gender				
Male	3	10		
Female	27	90		
Employment Status				
Full time	26	87		
Part time	4	13		
Per diem	0			
Basic Nursing Degree				
Diploma	0	0		
Associate Degree	13	43		
Baccalaureate Degree	17	57		
Master's Degree	0	0		
Highest Nursing Degree				
Diploma	0	0		
Associate Degree	10	33		
Baccalaureate Degree	20	67		
Master's Degree	0	0		
Professional Certification				
Yes	24	83		
No	5	17		
Age	29		41	26-61
# Years as an RN	29		12	1-38
# Years in Current Position	30		8	1-38

Nurses Knowledge and Understanding of PU Development and Prevention

Participants in this study obtained their knowledge about PU development and prevention from a variety of sources. It was agreed that initial nursing education provided the basic knowledge required to care for patients with PU. However, to maintain this knowledge base, participants were provided hospital-based continuing education (CE) as this participant described:

“We have it [PU education] annually with the [skills] fairs we have. It’s one of the stations we go to that gives us basic information. Then throughout the year there’s other informations [sic] or posting on the wall that tells us this or that.”

Hospital based CE was provided in both formal and informal settings. Formal CE often occurred as an annual update and attendance was required, as this participant described:

“Every year they offer a mandatory wound care class. They teach you how to stage the ulcers. The staging and how to take care of the dressing and how to manage the stage one, stage two, and stage three and four.”

Informal CE could take many forms. For example, following a change in products, “the vendor sales representative provided in-services about the new products when they updated the skin care products.” Utilizing vendor sales representatives to provide in-services seemed to be a common method for educating staff on these changes in products, but also on “assessing and knowing what to do like turning, special beds and overlays, hydrogel application...” and other equipment and tools necessary to the care of

the patient at risk for PU.

Participation in monthly or quarterly PU prevalence studies presented another source of CE: “They have these prevalence studies. I learned a lot through that”. The studies were usually conducted by a nurse experienced in PU and wound care. Referring to learning opportunities during prevalence studies, a participant related: “We have prevalence tracking to assess all patients in house. We are pretty much updated [on PU prevention and care] during that.”

Clinical experiences also enhanced knowledge of PU development and prevention. For example, one participant described how she obtained knowledge through a different care setting, “My first knowledge is from experience in a nursing home” while another participant, described how progressing from “...an aide to an LVN to an RN...” resulted in her developing a “...different perspective” on PU prevention.

Frequently caring for patients at risk for PU provided participants with the opportunity to utilize their knowledge of PU development and prevention, reinforcing learning experiences. A typical patient assignment consisted of 4-5 patients and participants agreed that “every time you’re working” you would care for patients at risk for developing PU.

Nurses noted that their confidence in recognizing PUs and implementing PU prevention measures were grounded in their nursing school PU education, the continuing education they received in the clinical setting, and their actual clinical experience caring for patients at risk for PU. Frequent comments reflected similar feelings as expressed by this participant’s self-evaluation:

“I would say from the classes that we have more confidence, we could never be 100% compliant [in all the prevention measures] but the classes have helped a lot.”

There was agreement among all participants that ongoing education coupled with experience was necessary to maintain a competent level of practice.

How Nurses Identify Patients at Risk For Development of PU

In order to identify and implement appropriate PU prevention measures, it is necessary to identify those patients at risk. Thoroughly assessing the patient was described as the “responsibility of the nurse” and integral to the implementation of PU prevention measures. As one nurse participant stated: “If you assess the patient very well at admission, everything follows. If you didn’t assess properly and the Braden scale should be high instead of mild, then the patient starts to develop pressure ulcers.”

Two criteria were commonly used to identify patients at risk for development of PU: physical assessment of the patient using the Braden Scale for Predicting Pressure Sore Risk and the patient’s condition and diagnosis. The Braden Score, developed in 1987, was used by all participants to assess the patient’s level of risk for PU. It consists of six subscales that assess the patient’s ability to respond meaningfully to pressure-related discomfort; degree to which skin is exposed to moisture; amount of physical activity the patient can participate in; how independent the patient is in changing position; patient’s nutritional status; and the degree of nursing assistance in moving is required by the patient to prevent shear and friction between skin and other surfaces. The lower the Braden Score the greater the risk for PU development. Reliability and validity

of the Braden Scale has been well established in the literature. (Bergstrom, Braden, Laguzza, & Holman, 1987). Yet despite established reliability, issues with the tools efficacy were noted by participants. Particularly cited were inconsistencies in the interpretation of scores corresponding to the assessment of the patient. The following statements reflect these perceived inconsistencies:

“We were talking about like how many times the patient’s incontinent on a daily or basis...was it [originally based on] eight-hour shifts? Like I graduated in 2003...my shift is 12 hours. It’s not eight. Things like that [cause questions about the tool’s validity].”

Another participant commented:

“If the patient is diabetic, I automatically think neuropathy and their sensation is decreased...where someone else might think they’re fine and give them a four out of four.”

Despite these inconsistencies, the Braden Score was acknowledged to be universally used by all participants for determining which patients were at risk for PU development.

Through clinical experience, participants had identified certain conditions and diagnoses associated with patients at risk for developing PU. Whether the patient had a surgical or a medical diagnosis was one distinction made by participants. Surgical patients were described as less frequently at risk for PU because they generally tended to be younger and had shorter lengths of stay. Care goals for surgical patients also contributed to their lower risk for PU as described in this observation: “On my floor it’s

different, we treat more surgical and trauma patients. Out of the 5 or 6 we see, out of those I'd say maybe 2 would be at risk. Our goal is to get them up walking.”

In contrast, medical patients were frequently diagnosed with multiple problems, suffering from impaired mobility, or on prescribed bed rest. These patients were perceived to be more frequently at risk. Typical of responses from nurses caring primarily for medical patients is this comment from a participant describing the number of patients at risk for PU in a medical unit: “I guess it depends on the floor, but on our floor I would say 80-90% - only 1 or 2 [patients] are ambulatory and the rest are in bed.” Commonly, patients had multiple problems (co-morbidities) as suggested by this participant observation:

“Maybe 3 out of 5 patients are diabetics and they are more at risk for tissue healing; kidney patients with comorbidities; history of CVA, dementia, Alzheimer's – that puts them at risk.

One particular patient population seemed to be singled out by participants as extremely vulnerable to PU: those receiving chemotherapy. This participant comment provides a summary of all the comments participants shared:

“Oh, chemotherapy patients – you know, when they are immunosuppressed. Their platelets are low and ...you see the bruises. Their hemoglobin is low then they tend to be very weak, having trouble even just standing. These patients tend to be bedridden most of the time...”

Age was also a significant patient characteristic that assisted nurses in identifying

patients at risk for development of PU. Aging results in a reduction in muscle mass exposing bony prominences; loss of moisture leading to dry, cracked skin; and breakdown of collagen and elastin resulting in thinning and increased friability which leave a patient vulnerable to PU development (Smeltzer, Bare, Hinkle & Cheever, 2010). Participants noted that the majority of the patients they care for are elderly and knowledge of these physiologic changes was a primary clue in identifying the patient at risk for PU. The following participant comments illustrate this: “I think that everybody that comes in is at risk because of the age level we are receiving. Most of them are more than 80 years old.” Another participant noted: “Yeah, geriatrics have more thin skin. So they’re more likely to get skin breakdown.”

Two additional conditions were noted by participants indicating a patient at higher risk for PU development, incontinence and poor nutrition. Incontinence resulted in continual moisture and maceration of the perineal area. Poor nutrition was associated with a decreased ability to heal.

In summary, participants used patient characteristics such as condition, diagnosis and age to recognize patients most likely at risk for PU development, and the Braden Score to validate and quantify their observations.

Perceptions of Nurses’ Implementation of PU Prevention Measures

So far, study findings have demonstrated that participants’ perceptions of their knowledge of PU development and prevention is good and that they express a satisfactory comfort level in identifying patients at risk for PU development. In this section, factors identified by participants as influencing implementation of PU prevention

measures will be presented. These factors can be viewed as facilitators, factors that made it easier to implement measures; and barriers, factors that made it more difficult to implement measures.

Factors facilitating implementation of PU prevention measures. Four (4) factors emerged from the data and were identified as facilitating nurses implementation of PU prevention measures. These factors included nurses' personal beliefs, leadership support, PU treatment protocols, and availability of expert consultants.

Nurses' personal beliefs. Participants described personal beliefs that served as motivators for implementation of PU prevention measures. These beliefs included practicing within ethical boundaries, or in the words of one participant, "doing the right thing". Accountability for one's practice was reflected in these statements, "...take[ing] ownership and pride in our care [of patients]" and "We have to always think that we have to do our job the best we can". The desire to provide compassionate care was also articulated as in this statement:

"I try to be like them [patients] so, you know, we have to take care of them the way that we want to be taken care of."

Finally, loyalty to one's employer served as a strong motivator. This feeling of loyalty was summed up in this participant's stated rationale for implementing PU prevention measures:

"You know, I mean, I really care. They [the hospital] help me out. So in a way, in return, that's how I help them out."

Leadership support. Every organization has a particular culture made up of behaviors based on its mission, values, philosophy, experiences and expectations. Attitudes and beliefs expressed by the organizations leadership guide the actions of employees (Kiely, 2012, Kimball, 2005). In short, if organizational leaders demonstrate their belief that PU prevention is important, it is likely that nurses will also believe in its importance.

Leadership support took different forms. Providing education regarding PU prevention was viewed as evidence of leadership's belief in the importance of PU prevention. This belief was demonstrated from initial orientation: "...upon, um, all our orientation, they really introduced how important we should emphasize [PU prevention] upon admission." The very fact that valuable orientation time was devoted to PU education communicated the level of importance leadership placed on PU prevention. In addition to education provided in orientation, we have already seen that additional resources were expended to provide CE about PU prevention. This was viewed as further evidence of leadership's belief in the importance of preventing PU.

Leaders also communicated their support of PU prevention in other ways. For example, this participant described her nursing director who took pride in and communicated positive outcomes to staff:

"We were told that...our hospital is one of the top [in preventing PU]...we have a very good, what do you call it – prevalence, that [our patients] don't normally acquire pressure ulcers."

Not all leadership support was viewed as positive, even though it was perceived to

be effective in motivating staff to implement PU prevention measures. Several participants described their reaction to a unit director's reaction to PU development in patients: "If we have skin breakdown, he freaks out. [But] we need to [do what we can do to prevent PU's so that we can] keep our jobs." Although generating fear of punishment is not really an acceptable leadership practice, some participants saw this behavior as demonstrating the director's passion for preventing PU.

Treatment protocols. In 1994, the Agency for HealthCare Policy and Research published clinical practice guideline number 15, *Treatment of Pressure Ulcers* (Bergstrom, Bennett & Carlson, 1994). This publication was one of the first evidence-based guidelines illustrating the importance of assessment and prevention of PU. Evidence-based protocols, grounded in recommendations from this publication, were used by all participants to guide decisions about which prevention measures were appropriate: "We have a plan – upon admission we assess the patient. We have a protocol based on the Braden score and the protocol tells us what prevention measures to use."

Participants described several benefits of the protocols with regard to implementation of PU prevention measures. First, participants described how protocols made it easy to quickly implement prevention measures: "The pre-printed [order] form really makes it easier for us because we don't have to wait for the doctor. We can start prevention measures right away"; second, the protocols promoted a sense of empowerment in participants, "We're the ones that decide what to do, more so than the doctors" and reinforced independent nursing practices, "We're very autonomous. We can

make those decisions. We have a great team that we can ask for advice”; third, the protocol also served as a reference, particularly in the absence of other resources: “The protocols are especially helpful on the night shift when there are not as many resource people like on days. So the protocol helps us now what to do”; and finally, one participant shared this observation:

“Its nicely set up so that if the patient doesn’t have skin breakdown already, what can we do to prevent it? Hopefully it stops there at that point. And then there are further orders to say what to do for a stage 1 versus a stage 2, 3 or 4”

In summary, participants described the many ways evidence-based treatment protocols facilitate implementation of PU prevention measures. These included, decision making, timely intervention, empowerment and promotion of autonomous action, serving as a reference in the absence of experts, and preventing progression of existing PU.

Availability of expert consultants. Participants also discussed the availability of expert consultants as a source of evidence-based practice information. Several participants described how the wound care nurse (WCN) – an RN with specific training and expertise in PU and wound management – assists them in implementing PU prevention measures. The WCN serves as a resource as described in this observation: “If we have a specific question [for preventing pressure ulcers] we can call the wound care nurse.” The WCN also “provides instructions about the protocols” and in-services on products and equipment. In addition, participants described specially trained staff nurses “that can help us decide what to do” when implementing prevention measures.

In one hospital, participants related how the physical therapy department

facilitated implementation of PU prevention measures:

“We had a physical therapist who was certified in wound care. Before her, there was really nothing in place. She went to a lot of seminars and started putting together tools for us to use. They have evolved into what we use today.”

The availability of expert consultants was described as an important resource to participants in this study. These consultants provided advice, assistance and education that facilitated nurses implementation of PU prevention measures.

Factors presenting barriers to implementation of PU prevention measures.

Although nurse participants underscored the importance of implementing PU prevention measures, they also noted that the nature and complexity of patient care sometimes made it difficult to do so. Indeed, such complexity seemed to present obstacles or barriers to accomplishing this task. As described by one participant, “I think the major challenge is we know what needs to be done, but there might be influences that we can’t control.”

Analysis of the data collected during the focus groups revealed five (5) specific barriers: prioritization; equipment and supplies’ staffing; patient cooperation; and patient families.

Prioritization. Multiple nursing care needs of patients often require the nurse to make decisions regarding care delivery. As one participant put it:

“We don’t have enough staff most of the time to do what we need to do. We need to do other, more important things first, like maintaining safety and giving medications. This is what we deal with every day working in this hospital.”

Another participant voiced a belief shared by many others that prevention of PU

is “not necessarily my top priority. It’s secondary to breathing, cardiac problems and patient safety.” Participants provided several examples where implementation of PU prevention measures competed with other care priorities.

The elderly population at risk for PU was often also at risk of falling. Placing bed alarms was often an intervention employed in maintaining a safe environment for these patients. The purpose of the bed alarm was to notify the nurse when a patient attempted to get out of bed unassisted. The alarms were quite sensitive, responding to even slight patient movement. Many patients were “afraid to move” because the alarm would sound. This made proper positioning difficult at best.

Treating and preventing pain was noted by several participants to affect their ability to implement PU prevention measures. The following quote describes a typical situation encountered:

“My priority was pain versus pressure wounds. I had a patient that was in – that has metastasized bone [cancer], and you can just hardly turn him, and sores begin to develop. But turning has always been a challenge, so I think that was just it. So I think it’s either I prioritize with the pain first, or the pressure wounds. But of course, the patient is in pain, the pain is my priority, rather than turning him.”

The needs of other patients being cared for could also affect the nurse’s ability to implement PU prevention measures.

“Well, if you have somebody who needs to be turned every two hours but you have another patient in severe distress, you only have so many hands, plus you

need help from some of the other staff to help your distressed patient – so your other patient doesn't get turned.”

Nursing care, by its very nature, can intrude on a patient's personal privacy and threaten their independence and dignity. The patient's need to maintain their own integrity and dignity during hospitalization was noted by participants as another factor influencing their ability to implement preventive measures. For example, this participant described caring for a dying patient:

“It's a dilemma because we still have to maintain the integrity of the patient even if they're dying. I mean we know that, but then maintaining, like keeping them from pressure wounds, is sometimes difficult. Of course, you say it's hard if they cannot keep the position at one point because they're having pain. But still, the integrity of the patient is important.”

Participants provided examples of other nursing care duties that required careful prioritization including blood transfusions; patient safety and the need for restraints; unexpected events such as an infiltrated IV; and interruptions from phone calls.

Supplies and equipment. Although the Braden Scale assessment tool and defined protocols we identified as helpful in identifying patients at risk for PU and providing guidance as to the measures to implement, participants noted that they did not always have the products or equipment required to carry out the prescribed prevention measures, especially pressure relieving surfaces. Participants described delays in obtaining equipment, “...it may take a day or two,” as well as shortages:

“Delays in getting overlays is a problem. We only have so many in the hospital. You plan to use one but there isn’t one available so you have to wait. Or you finally get one but there is no one to help you put it on the bed.”

Constantly changing products, perceived to be a tactic used by the hospital to save money, was also noted to adversely affect the RNs ability to provide PU prevention. Participants expressed their frustrations with these changes: “I just get comfortable using one product, then we change to something else. We need to be able to give feedback on these new products coming in.” And another participant added: “We keep changing products. First it’s this ointment, then a different kind. Sometimes its kind of confusing.”

Staffing. Participants described the number, and quality of staff as a significant influence on implementing PU prevention measures. Rising health care costs and diminishing state, federal and private reimbursement has resulted in “belt tightening” measures in most organizations. These measures may include hiring freezes, elimination of positions that do not participate in direct care, “flexing” of staff in response to declining occupancy, among others (Blake, Channon, Grube, & Sussman, 2010). This response reflects the general thoughts of most study participants:

“We’ve had to do more with less. We send nurses home when things get slow despite how sick our patients are or how many admits or discharges we have.”

Participants reflected that mandated staffing ratios have also influenced the ability of the RN to adequately perform assigned duties. This perception is predicated on the belief that hospital administration uses the ratios in their favor rather than in what is best

for patient care: “The ratios also have a lot to do with it. If we could staff on acuity rather than number of patients that would be better.”

Not only are nurses sent home as previously described, but so-called “non clinical” staff are often not replaced if they call in sick. This results in the RN being required to perform non-nursing duties as described in this response:

“Being short a secretary should not prevent us from turning our patients but it does, because it takes us away from patient care – answering phones, taking off orders – doing other things rather than concentrating on patient care.”

Nursing care teams often consist of members with varying practice levels including the RN, licensed vocational nurse (LVN) and CNA. As the team leader, and holding ultimate accountability for the care of the patient, the RN is often required to perform additional duties. For example, the LVN scope of practice limits certain functions. Therefore, despite a typical assignment of five patients, responsibilities of the RN can be extended as this participant observed, “There are actually 7 beds [patients] you are responsible for... the RN is responsible for the LVN’s patient assessments.” This “extra work” was seen to prevent implementation of PU preventive measures.

Unlike the perception that having an LVN on the care team created an increased workload for the RN and could hinder the ability to provide PU prevention measures, the presence of the CNA as part of the team was perceived as beneficial. Participants observed that “having a good relationship between the RN and the CNA makes it easier to provide PU prevention”, that “teamwork between the RN and the CNA was the key to success” in preventing PU. Participants described how they came to rely on the CNA to

assist them in PU prevention, “they’re your eyes, they’re really focused on skin care...will tell you need to look at something.”

Although the RNs perceived the importance of the CNA role in PU prevention, they believed that they were spread too thin. One participant observed, “The CNA often has 8-10 patients and can’t always help with turning.” Another participant added: “On the night shift, there is only one CNA to assist us and that makes it even more difficult to turn patients and keep them clean.”

At other times, the CNA may be pulled from general staffing for other duties. In the situation described below, the CNA was given a different assignment:

“Sometimes we have to use the CNA as a sitter [for confused patients] and administration doesn’t want to pay the extra money [for another CNA].

Prevention [of PU] is not as important as the cost [of another CNA]. That takes away from the RNs time to put prevention measures in place.”

Participants recognized the important role the CNA had in the prevention of PU, but also observed that they were often left out of educational programs about PU prevention,

“We want our CNAs to go to prevention classes, all of them, and then to educate them on their job. What they’re supposed to do and their role as a CNA to prevent the pressure ulcer.”

Patient cooperation. Participants identified the patient's ability and/or desire to participate and cooperate in their own care as a significant influence on their ability to implement prevention measures. Patients who could or would not participate in care presented significant barriers to the nurses' ability to implement PU prevention measures.

Medications that affected cognition and level of consciousness were often cited by participants as impairing the patient's ability to cooperate or participate in care. These medications included analgesics, sedatives, and sleep aids.

Dementia or other cognitive deficits that impair a patient's ability to comprehend and cooperate were also identified as factors affecting the nurse's ability to implement PU prevention measures. As one participant said, "First, is their alertness, how confused they are." Another participant elaborated: "...if they're not oriented, they don't want you to move them. If they're combative, we have to restrain them and turning them is very difficult." Yet another participant observed, "Confused or restless patients, they move around too much" making correct positioning difficult.

Finally, the patient's refusal to cooperate also negatively affected the nurse's ability to provide prevention measures. Participants described several different situations where this had occurred when caring for patients at risk for PU. Some patients were described as somewhat aggressive in their refusal:

"You have the protocols for wound care, and you would institute it, but if the patient is non-compliant, that's another problem. Some patients, they do not like the heel protectors...they refuse the heel protectors."

Other patients presented a more passive barrier: "There are some patients they, um, the

doctor will order that the patient get out of bed, they [patient] feel they're not up to it."

Pain often surfaced as a reason why patients did not want to cooperate with prevention measures, particularly repositioning: "Patients with pain don't want to move – they want to stay in the same position that's comfortable."

Families. Education and involvement of families and significant others in the care of the patient has been shown to be beneficial, even instrumental, in achieving positive patient outcomes (Benbow, 1996; Spilsbury, Nelson, Callum, & al, 2007). In keeping with this knowledge, participants spoke candidly about the families influence on their ability to implement PU prevention measures. In some cases, family involvement was viewed positively as reflected in this response, "Sometimes they [family] will help too. They're very motivated because they don't want anything to happen to their loved one." In other cases, involvement of the family was perceived as less than helpful as observed by this participant, "Sometimes we have family to help us, but that isn't always good because they don't have the knowledge of what to do." Finally, as represented by this participant response, the family could actually hinder delivery of appropriate PU prevention, "The family, sometimes they're very uncooperative...like not wanting the patient to move after surgery."

Influence of Regulatory Mandates on Nurses Care of Patients at Risk for PU

CMS introduced new payment rules based on the belief that PU were a preventable condition and hospitals would no longer be reimbursed for expenses associated with the care and treatment of PU acquired during hospitalization (Department of Health and Human Services, Centers for Medicare and Medicaid Services, 2008).

These new rules went into effect in 2008. Focus group discussions explored the effects the CMS rules on participants' personal feelings and the effect on practice related to PU. When asked to explain their feelings about the ruling, participants believed, however unfortunate, the CMS position was necessary, as described by this participant, "I have to confess, we didn't do what we were supposed to do [to prevent PU]. We dropped the ball on this one." Another participant elaborated:

"We had a lot of patients developing pressure ulcers and dying as a result of that and you started to hear a lot on the news like, "if your loved one died of a pressure ulcer, call this number". At that time [hospital] started providing more information about assessment and documentation. That's when they [leadership] started to become more aggressive and bold and they hired a wound care nurse. Before that they wouldn't put their money on that [resources]."

It was acknowledged that the loss of revenue associated with PU that developed while the patient was hospitalized would affect the viability of the organization and, ultimately, could affect employment of the individual nurse. This presented nurses with a strong incentive to prevent the development of PU.

Participants described how the CMS regulations have significantly effected their practice. Generally, these effects have been positive in terms of patient care:

"Actually knowing the information made me more responsible in assessing the patient...you help the hospital in costs. Because you know, you miss this [preventing pressure ulcers], and then it's gonna [sic] cost us. Knowing those

[sic] information has made me more responsible, and I care for the hospital, too, so I try to do my best.”

Prior to the CMS rules, participants felt they had a good understanding of PU prevention as related by this participant: “After coming into the profession and receiving the education on wound care, we already had an understanding of the importance of pressure ulcer prevention.” However, the financial penalties associated with the rules resulted in even “more awareness and education...we know more than we used to” noted one participant. Added another participant, “It’s bringing an awareness to the nurses how important this is and helped us provide better care.”

Along with increased education, participants believed the CMS changes have resulted in improvement of patient assessments: “We have to be more diligent with our work. You know, we have to become compliant with assessment – good in assessment. Compliant with all the things we do.” New tools have been developed, “A lot has changed in my short time [as a nurse]. We’ve added the Braden Scale and other forms that really help a new nurse with what to look for”, and working relationships, at least regarding PU prevention, have improved, “Better cooperation between RNs and CNA’s, working together to develop a turning schedule for the patient.”

Findings from this study point to nurses’ belief that CMS rules were necessary to ensure quality care. Although many positive actions have resulted from the rules, the financial impact has been felt in staffing practices and care decision making of nurses.

CHAPTER 5

Discussion

The purpose of this interpretive descriptive qualitative study was to explore and describe the level of understanding of PU development and prevention and perceptions of implementing PU prevention measures in nurses caring for patients in MS units. This study is one of the few that has focused exclusively on this nursing population. Four (4) major themes emerged from analysis of the data collected during the focus group interviews and resonated with factors identified in the literature review. Although many of the findings articulated by participants in this study are not dissimilar to those that have been reported elsewhere, these findings orient us to today's environment in the wake of the 2008 CMS ruling.

The first major theme articulated by nurses in this study was their knowledge and understanding of PU development and prevention. It is well recognized in the majority of studies reviewed that knowledge about PU development and prevention is generally adequate (Bostrum & Kenneth, 1992; Wilkes, Bostock, Lovitt, & Dennis, 1996; Provo, Piacentine, & Dean-Baar, 1997; Tweed & Tweed, 2008). Nurses in the present study also described their knowledge level as adequate. However, in seeking a better understanding of how nurses came to acquire their knowledge, the present study also

explored where this knowledge came from. Pieper & Mott (1995), and more recently Aydin & Karadag (2010), found that nurses' knowledge of PU prevention improved following an educational activity. Participants in this study also articulated a higher level of knowledge related to educational activities. However, new findings from this study indicated that nurses' experience caring for patients at risk for development of PU was a significant factor in acquiring and maintaining their knowledge level. This is in contrast to findings from previous studies that found either a negative correlation or no correlation between PU knowledge and experience (Pancorbo-Hidalgo, Garcia-Fernandez, Lopez-Medina, & Lopez-Ortega, 2007; Tweed & Tweed, 2008).

The second major theme articulated by nurses in this study was how they identified patients at risk for PU development. None of the studies reviewed focused on how nurses identified these patients. Nurses in this study clearly articulated the importance of an accurate risk assessment to determining appropriate PU prevention measures. Risk assessment was based on two (2) criteria: 1) the Braden Scale and 2) the presence of diagnoses and conditions known by participants, through previous experience, to be associated with patients at risk for PU development. Although participants regularly used the Braden Scale as part of their assessment, they did identify concerns related to its use. And while reliability and validity of the Braden Scale has been well documented (Bergstrom, Braden, Laguzza, & Holman, 1987), further exploration of study participants' concerns would seem to be indicated. These findings also suggest that further articulation of those diagnoses and conditions identified by participants in the current study would be beneficial in more accurately identifying

patients at risk for development of PU.

The third major theme articulated by nurses in this study were factors influencing implementation of PU prevention measures. Throughout the course of the literature review, numerous reports from nurses in various practice settings reported their perceptions of challenges encountered when trying to implement PU prevention measures but few examined factors that served to facilitate implementation (Bostrum & Kenneth, 1992; Wilkes, Bostock, Lovitt, & Dennis, 1996; Athlin, Idvall, Jernfalt, & Johansson, 2009; Strand & Lindgren, 2010; Leasure, Stirlen, & Thompson, 2008). Four (4) factors were identified by participants as making implementation of PU prevention measures easier. Three (3) of these factors were unique to this study and included nurses' personal motivations for implementing prevention measures, the use of evidence-based treatment protocols to guide decision-making, and the use of expert consultants. The fourth factor, leadership support, was congruent with Maylor's (2001) findings that leader values and behaviors influenced nurse perceptions.

Findings from this study related to barriers to implementation of prevention measures generally resonated with those in previous studies, including staffing concerns, lack of equipment and supplies, patient cooperation, and family influences. However, among the barriers identified by participants in this study, balancing nurses' ethical need to provide safe, compassionate care with the desire to respect the wishes of the patient stands out as the most challenging. This need for prioritization of complex patient interventions was encountered on a daily basis and served as a source of angst. Nurses' wanted to "do the right thing" but even routine tasks sometimes interfered with their

ability, indeed desire, to implement PU prevention measures. Further inquiry into the complexities of nursing work, decision-making and prioritization and the emotional toll on nurses is necessary in order to better understand this phenomenon.

The fourth major theme articulated in this study was the influence of regulatory mandates, specifically the 2008 CMS ruling on non payment for hospital acquired PU, on nurses care of patients at risk for PU development (Omnibus Budget Reconciliation Act of 1989, Pub. L. No. 101-239, 1989). Previous studies have alluded to this ruling but not explored its affect on nurses' practice regarding PU prevention. Findings from this study revealed nurses' perception of those effects on their practice. There was general agreement among participants that prior practice had not been optimal, that "we weren't doing what we were supposed to do" to prevent PU. Hospitals responded to the threat of lost revenue by increasing education on PU for nurses and by investing in supplies and equipment to make it easier for nurses to implement PU prevention measures. Participants acknowledged these efforts on the part of the hospital, but expressed the belief that the real motivator was the potential loss of revenue rather than concern for quality of care. Nevertheless, participants believed the CMS changes were necessary and had resulted in a greater awareness of the problem, greater team work among nurses and CNAs, more careful patient assessments, and improved patient outcomes. Overall, the perception of nurses was positive regarding the regulatory mandates.

Limitations of the Study

This study was conducted using a convenience sample of nurses caring for patients in MS units but did not differentiate specific patient types cared for. Several

limitations are inherent in this study design. First, possible differences in the characteristics of medical versus surgical patients could have resulted in different responses from study participants with regard to identification of patients at risk for PU development and the challenges they presented in implementing prevention measure. Second nurses participating in the study did so voluntarily. Therefore, the findings may only reflect experiences unique to those individuals. Although interviews were conducted at three different facilities, each focus group consisted of members of an integrated work group who knew each other well. This may have prevented more candid responses because they would be returning to work together. Participants chose what they would share and their stated actions may not necessarily reflect their actual practice. Finally, the use of a semi-structured interview guide may, in itself, have limited responses. Although the questions were open-ended and participants were encouraged to add any comments or observations not covered, some aspects of nursing care may not have been revealed.

The study findings could be strengthened in a number of ways. Distinguishing between the type of patient being cared for, medical versus surgical, would allow differences in risk identification and implementation challenges to surface. Individual interviews may have encouraged participants to share insights and observations that may not have surfaced in the group interview setting. It could also allow the investigator the opportunity to elaborate on individual participant perceptions. Direct observation of nurses at the bedside would confirm perceptions of practice with actual practice.

Implications for Nursing Science

Findings from interpretive description studies that are grounded in practice-related issues can provide insights for advancing nursing knowledge and nursing science. The findings from this study provide insights into nurses' assessment and prevention of PU and lay the groundwork for future research.

Previous studies included nurses from a variety of settings, reporting their findings in an aggregate fashion. This study focused exclusively on nurses caring for patients in MS units practicing at the point of care. This distinction is important because the majority of patients in hospitals can be found on the MS unit. Nursing researchers should consider this overlooked group as a source for exploring other patient and nurse related concerns.

Even though the reliability and validity of the Braden Scale has been well documented, participants' reported inconsistencies in interpretation should not be ignored. Further inquiry into the causes and implications of these inconsistencies must be considered.

As noted, this study did not differentiate participants' perceptions of medical versus surgical patients. It would be important to investigate further to determine if differences exist between different types of patient with regard to identification of PU risk and implementation of prevention measures.

Based on observations shared by study participants, the patient's family often plays a key role in the care of the patient while hospitalized. The influence that family members may have on facilitating or impeding nursing care warrants further inquiry.

The need to choose between maintaining patient comfort and implementing PU prevention measures raises questions regarding pain management in this patient population. The effects of age and multiple medical diagnoses present in patients at risk for PU may necessitate different pain and comfort relief measures. Emphasis on the importance of pain assessment and management prior to implementing PU prevention measures such as turning, repositioning and the use of pressure relieving devices should be included in education. Additional study of this phenomenon would be beneficial.

The effect of leadership and organizational culture on employee performance has previously been documented (Kiely, 2012 and Kimball, 2005). In this study, participants related similar observations of the effect nursing leadership had on motivating their implementation of PU prevention measures. Future studies on the types and extent leadership behaviors on staff nurse motivations would benefit the profession.

Finally, it would be interesting to study nurse leaders' perceptions of the care received by patients at risk for pressure ulcer development. Whether their perceptions would align with those of the nurses in this study could have an important impact on managing and motivating nurses caring for patients at risk for PU.

Implications for Nursing Practice

Interpretive description emphasizes the importance of drawing out implications for clinical nursing practice. The findings from this study suggest several actions that could be taken to improve nurses' assessment of PU and implementation of prevention measures.

The first step in prevention of PU is recognizing patients at risk. Participants

identified two important tools to assist in early recognition – the Braden Scale assessment tool and the experience of frequent encounters with patients at risk. Participants qualified the use of the Braden Scale by stating that education promoting common understanding and consistent use are essential to its effectiveness in guiding PU prevention measures. Methods within the practice setting to validate consistency should be implemented.

Once the patient has been assessed to be at risk, it is important to implement prevention measures. The use of evidence-based protocols that allow the nurse autonomy to implement measures aligned with the patient's individual risk factors is recommended. The protocols also remove the necessity of consulting the patient's physician, allowing timely implementation.

Initial and ongoing education regarding PU prevention was frequently described by participants, as was the presence of a wound care nurse. The prudent organization should consider implementation of the wound care nurse role and/or expanding the involvement of wound care nurses in the direct provision of PU prevention measures, and provide regular formal and informal education regarding PU prevention for the RN as well as assistive staff such as the CNA.

Finally, organizational recognition of the importance of PU prevention is required to facilitate consistent implementation of prevention measures. This includes providing adequate staff both in numbers and quality, leaders serving as role models, and public recognition of positive outcomes by leadership.

Conclusion

This study was undertaken to describe nurses' knowledge of PU development and prevention and to discover factors affecting nurses' ability to implement PU prevention measures. When interventions are omitted assumptions are often made that the nurse lacks the knowledge, skill or desire to provide quality care. This study revealed that, in the case of PU development and prevention, nurses' knowledge was satisfactory, nurses understood the importance of PU prevention, and were motivated to carry out prevention measures. However, barriers and facilitators to implementation of prevention measures were identified. Because every hospital, shift, and patient encounter presents a unique set of circumstances, organizations must assess and identify contributing factors and implement improvements based on their own assessments to ensure quality care.

REFERENCES

- Agency for Health Care Policy and Research, U. D. (1992). *Pressure Ulcers in Adults: Prediction and Prevention*. Rockville,MD: (AHCPR Publication No. 92-0047 ed).
- Agency for Health Research & Quality. (2008). *Healthy People 2010: Access to Quality Health Services*. Retrieved Dec 10, 2008 from Health Resources and Services Administration:
<http://www.healthypeople.gov/document/html/volume1/01access.htm>.
- Agency for Healthcare Policy and Research, Department of Health and Human Services. (1994). *Treatment of Pressure Ulcers in Adults* (AHCPR Publication No. 95-0652 ed.). Rockville, MD: AHCPR.
- Agency for Healthcare Policy and Research, U.S. Department of Health and Human Services. (1992). *Pressure Ulcers in Adults: Prediction and Prevention* (AHCPR Publication No. 92-0047 ed.). Rockville, MD: AHCPR.
- Amlung, S. (2001). *The 1999 national pressure ulcer prevalence study: A benchmarking approach*. Retrieved Sep 20, 2008 from
http://findarticles.com/p/articles/mi_qa3977/is_200111/ai_n9018287/print?tag+art
Body;coll.
- Athlin, E., Idvall, E., Jernfalt, M., & Johansson, I. (2009). 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, 2252-2258.

- Aydin, A., & Karadag, A. (2012). Assessment of nurses' knowledge and practice in prevention and management of deep tissue injury and stage I pressure ulcer. *Journal WOCN*, 37 (5), 487-494.
- Ayello, E., Baranoski, S., & Salati, D. (2005). Wound care survey report. *Nursing*, 35 (6), 36-45.
- Azjen, I. (1991). Theory of planned behaviour. *Org Behavior and Human Decision Process*, 50 (2), 179-211.
- Beitz, J., Fey, J., & O'Brien, D. (1998). Perceived need for education vs. actual knowledge of pressure ulcer care in a hospital nursing staff. *MedSurg Nursing*, 7 (5), 293-301.
- Benbow, M. (1996). Pressure sore guidelines: patient/carer involvement and education. *British Journal of Nursing*, 5, 182-187.
- Bergstrom N, Bennett MA, Carlson CE, et al. (1994). *Pressure Ulcer Treatment. Clinical Practice Guideline. Quick Reference Guide for Clinicians, No. 15*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research. AHCPR Pub. No. 95-0653.
- Bergstrom, N., Braden, B., Laguzza, A. & Holman, V. (1987). The Braden scale for predicting pressure sore risk. *Nurs Res*, 36(4), 205-210.
- Blake, J., Channon, B., Grube, E., Sussman, J. (2012). *A Guide to Strategic Cost Transformation in Hospitals and Health Systems*. Health Research & Educational Trust and Kaufman, Hall & Associates, Inc., Chicago: Accessed March 15, 2013 at www.hpoe.org. (IHI, 2006; IHI, 2006) (Panel, 1989)

- Bostrum, J., & Kenneth, H. (1992). Staff nurse knowledge and perceptions about prevention of pressure sores. *Dematology Nursing* , 43 (5), 365-368.
- Centers for Disease Control and Prevention. (2006). *Present on Admission Reporting Guidelines*. Retrieved Dec 10, 2008 from <http://www.cdc.gov/nchs/data/icd9/POAguideSep06.pdf>.
- Courtney, B., Ruppman, J., & Cooper, H. (2006). *Save our skin: Initiative cuts pressure ulcer incidence in half*. Retrieved Feb 5, 2009 from <http://www.nursingmanagement.com>.
- Cuddigan, J. (2001). *Pressure ulcers in America: Prevalence, incidence, and implications for the future*. Retrieved Sep 20, 2208 from http://findarticles.com/p/articles/mi_qa3977/is_200107/ai_n8994839/print?tag+artBody;coll.
- Department of Health and Human Services. (2000). *Healthy People 2010*. Retrieved Mar 30, 2009 from http://www.healthypeople.gov/Document/HTML/Volume1/01Access.htm#_Toc489432818.
- Department of Health and Human Services, Centers for Medicare and Medicaid Services. (2008). *Proposed Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009*. Retrieved Feb 22, 2009 from <http://www.cms.hhs.gov/AcuteInpatientPPS/IPPS/itemdetail.asp?filterType=none&filterByDID=0&sortByDID=4&sortOrder=descending&item=CMS1209719&>.
- Duncan, K. (2007). Preventing pressure ulcers:The goal is zero. *The Joint Commission*

Journal on Quality and Patient Safety, 33 (10), 605-610.

Dunton, N., Gajewski, B., Klaus, S., & Pierson, B. (2008). *The relationship of nursing workforce characteristics to patient outcomes*. Retrieved Feb 26, 2010 from OJIN: <http://www.medscape.com/viewarticle/56934>.

Gunningberg, L., Lindholm, C., Carlsson, M., & Sjoden, p. (2001). Risk, revention and treatment of pressure ulcers - Nursing staff knowledge and documentation. *Scandinavian Journal of Caring Sciences* , 15 (3), 257-263.

Halfens, R., & Eggink, M. (1995). Knowledge beliefs and use of nursing methods in preventing pressure sores in Dutch hospitals. *International Journal of Nursing Studies* , 32 (1), 16-26.

Hayes, P., Wolff, Z., & McHugh, M. (1994). Effect of teaching plan on a nursing staff's knowledge of pressure ulcer risk, assessment, and treatment. *JNSD* , 10, 207-213.

Hulsenboom, M., Bourse, G., & Halfens, R. (2007). *Knowledge of pressure ulcer prevention: A cross-sectional and comparative study among nurses*. Retrieved Mar 13, 2008 from BioMed Central, LTD: <HTTP://www.biomedcentral.cm/1472-6955/6/2>.

Hunt, M. (2009). Strengths and challenges in the use of interpretive description: Reflections arising from a study of the moral experience of health professionals in humanitarian work. *Qual Health Res* , 19 (9), 1284-1292.

Institute for Healthcare Improvement. (2013). Protecting 5 Million Lives From Harm. Retrieved Apr 6, 2013 from

<http://www.ihl.org/offerings/Initiatives/PastStrategicInitiatives/5MillionLivesCam>

[paign/Pages/default.aspx](#).

- Kiely, C. (2012). Cultural transformation in pressure ulcer prevention and care. *Journal of WOCN*, 39 (4), 443-446.
- Kimball, B. (2005). *Cultural Transformation in Health Care*. Princeton, NJ: Robert Wood Johnson Foundation.
- Kitzinger, J. (1995). Qualitative Research: Introducing focus groups. *BMJ*, 311, 299-302.
- Landro, L. (2007, September 11). The informed patient: hospitals combat dangerous bedsores. *Wall Street Journal*, p. D1.
- Leasure, A., Stirlen, J., & Thompson, C. (2008). Barriers and facilitators to the use of evidence-based best practices. *Dimensions of Critical Care Nursing*, 27 (2), 74-83.
- Lincoln, Y., & Guba, G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage.
- Lyder, C. H. (2003). Pressure ulcer prevention and management. *JAMA*, 289, 223-226.
- Manojlovich, M., & DeCicco, B. (2007). Healthy work environments, nurse-physician communication, and patient outcomes. *AJCC*, 16 (6), 536-543.
- Maylor, M. (2001). Senior nurses' control expectations and the development of pressure ulcers. *Nursing Standard*, 15 (45), 33-37.
- Maylor, M., & Torrance, C. (1999). Pressure sore survey part 2: Nurses' knowledge. *Journal of Wound Care*, 8 (2), 49-52.
- Moore, Z., & Price, P. (2004). Nurses' attitudes, behaviours, and perceived barriers towards pressure ulcer prevention. *Journal of Clinical Nursing*, 13, 942-951.
- Morgan, D. L. (1997). *Focus Groups as Qualitative Research, 2nd edition*. Thousand

Oaks, Ca: .

National Pressure Ulcer Advisory Panel. *Pressure Ulcers: Incidence, Economics, and Risk Assessment*. West Dundee, Ill: Consensus Development Conference Statement, S-N Publications: 1989:3-4.

National Pressure Ulcer Advisory Panel. (2007, February). *Updated Staging System*. Retrieved Mar 17, 2009 from <http://www.npuap.org/pr2.htm>.

NPUAP. (2009). *About NPUAP*. Retrieved Mar 30, 2009 from National Pressure Ulcer Advisory Panel: <http://www.npuap.org/about.htm>.

Omnibus Budget Reconciliation Act of 1989, Pub. L. No. 101-239. (1989).

Panagiotopoulou, K., & Kerr, S. (2002). Pressure area care: An exploration of Greek nurses' knowledge and practice. *Journal of Advanced Nursing* , 40 (3), 285-296.

Pancorbo-Hidalgo, P., Garcia-Fernandez, P., Lopez-Medina, I., & Lopez-Ortega, J. (2007). Pressure ulcer care in Spain: Nurses' knowledge and clinical practice. *Journal of Advanced Nursing* , 58 (4), 327-338.

Pieper, B., & Mattern, J. (1997). Critical care nurses' knowledge of pressure ulcer prevention, staging, and description. *Ostomy and Wound Management* , 43 (2), 22-31.

Pieper, B., & Mott, M. (1995). Nurses' knowledge of pressure ulcer prevention, staging and description. *Advances in Wound Care* , 8 (3), 34-.

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

Reddy, M., Gill, S., & Rochon, P. (2006). Preventing pressure ulcers: A systematic

- review. *JAMA* , 296 (8), 974-984.
- Russell, L. (1993). Knowledge and practice in pressure area care. *Professional Nurse* , 11 (5), 301-306.
- Saliba, D., Rubenstein, L., Simon, B., Hickey, E., Ferrell, B., & Czarnowski, E. (2003). Adherence to pressure ulcer prevention guidelines: Implications for nursing home quality. *JAGS* , 51, 56-62.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing and Health* , 23, 334-340.
- Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information* , 22, 63-75.
- Smeltzer, S., Bare, B., Hinkle, J., and Cheever, K. (2010). *Brunner and Suddarth's Textbook of Medical-Surgical Nursing, 12th ed.* Philadelphia, PA: Lippincott, Williams & Wilkins.
- Spilsbury, K., Nelson, A., Callum, N., & al, e. (2007). Pressure ulcers and their treatment and effect on quality of life: hospital inpatient perspectives. *Journal of Advanced Nursing* , 57, 494-504.
- Stokowski, L. (2008). *A closer look at pressure ulcers*. Retrieved Dec 15, 2008 from http://www.medscape.com/viewprogram/12612_pnt.
- 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, 335-342.
- Sving, E., Gunningberg, L., Hogman, M., & Mamhidir, A. (2012). Registered nurses

attention to and perceptions of pressure ulcer prevention in hospital settings.

Journal of Clinical Nursing , 21, 1293-1303.

The Joint Commission. (2009). *National Patient Safety Goals*. Retrieved Mar 30, 2009 from http://www.jointcommission.org/NR/rdonlyres/BD44F7AA-84D6-45ED-A0C5-33D3118CF973/0/LTC_NPSG.pdf.

Thorne, S. (2008). *Interpretive Description*. Walnut Creek, CA: Left Coast Press, Inc.

Thorne, S., Reimer Kirkham, S., & MacDonald-Eames, J. (1997). Interpretive description: A noncategorical qualitative alternative for developing nursing knowledge. *Research Nurs Health*, 20, 169-177.

Thorne, S., Reimer Kirkham, S., & O'Flynn, K. (2004). The analytic challenge in interpretive description. *International Journal of Qualitative Methods*, 3 (1), 2-21.

Tweed, C., & Tweed, M. (2008). Intensive care nurses' knowledge of pressure ulcers: development of an assessment tool and effect of an educational program. *AJCC* , 17 (4), 338-347.

vanGilder, C., MacFarlane, G., & Meyer, s. (2008). Results of nine international pressure ulcer prevalence surveys: 1989-2005. *Ostomy Wound Management* , 54 (2), 40-54.

Wilkes, L., Bostock, E., Lovitt, L., & Dennis, G. (1996). Nurses' knowledge of pressure ulcer management in elderly people. *British Journal of Nursing* , 5, 858-856.

Wilkinson, S. (1998). Focus group methodology: A review. *Int J of Social Research Methodology* , 1 (3), 181-203.

Wurster, J. (2007). What role can nurse leaders play in reducing the incidence of pressure

sores? *Nursing Economics* , 25 (5), 267-269.

REQUEST FOR A RESEARCHER-INITIATED MODIFICATION
FOR AN ALREADY APPROVED IRB APPLICATION
Institutional Review Board
University of San Diego

After completing the red areas, please change all printing to **black** and send to Dr. Herrinton at the Provost's Office. Requests may be faxed or mailed as hard copy.

Date: March 7, 2011

To: Dr. Thomas Herrinton
IRB Administrator
Office of the Provost
University of San Diego

From: Barbara Mayer, RN, MS
e-mail address: bmayer57@gmail.com
phone: (619) 851-8084

If you are a student:

Dr. Mary-Rose Mueller
e-mail address: mmueller@sandiego.edu
phone: (619) 260-4562

Re: IRB Application #2009-11-025

We are requesting a modification to a pre-existing approved IRB application. The modification will consist of:

We are expanding our recruitment site to include Seton Medical Center in Daly City, CA; O'Connor Hospital and St. Louise Regional Hospital in San Jose, CA. Documentation of confirmation from the Institutional Review Board each institution granting approval for the study are attached. No other part of the protocol or any other aspect of the study will be changed.

APPENDIX B**Participant Demographic Form***Description of Medical-Surgical Nurses Care of Patients at Risk for Pressure Ulcers*

Instructions: Fill in or circle the most appropriate response. Please DO NOT include your name on this form.

1. Gender:
 - a. Male
 - b. Female

2. Age: _____

3. Number of years as an RN _____

4. Number of years in present position _____

5. Type of facility employed by:
 - a. Community Hospital
 - b. Academic Medical Center
 - c. Veteran's Hospital
 - d. Military Hospital
 - e. Other _____

6. Current employment status:
 - a. Full time
 - b. Part time
 - c. Per Diem

7. Initial registered nursing degree:
 - a. Diploma – Hospital School of Nursing
 - b. Associate Degree
 - c. Baccalaureate Degree
 - d. Master's Degree

8. Highest nursing degree:
 - a. Associate Degree
 - b. Baccalaureate Degree
 - c. Master's Degree
 - d. Doctoral Degree

9. Do you hold a professional nursing certification?
 - a. Yes
 - b. No

10. Have you received any education in the past 12 months related to pressure ulcer prevention measures?
 - a. Yes
 - b. No

11. If you answered "Yes" to question 9, did the education you received include evidence-based guidelines?
 - a. Yes
 - b. No

APPENDIX C

Interview Guide

Hi, my name is Barbara Mayer. You can call me Barb. I am a nurse and a student in the PhD program at the University of San Diego. In order for me to complete my studies, I am doing a research project. I'm really interested in what influences the nurse's implementation of pressure ulcer prevention measures.

OK, has everyone signed a copy of the Consent Form, given me one, and kept one for yourself? Is there anybody who has more questions or would like to talk some more about the study? *(pause for questions, discussion)*.

OK, I think we're ready to start. Remember, you can stop anytime you want. You don't have to answer any questions you don't want to. You can be excused to use the restroom or attend to personal needs anytime you want to.

I'm going to start by reminding you about something really important. Each of you has a card with a number written on it sitting right in front of you. Just for this discussion, I would ask that you refer to yourself and each other only by these numbers. This will help ensure confidentiality of our discussion and preserve your anonymity. Does everyone agree to this procedure? Great.

I'd also like to remind you to please not discuss anything said in this room with anyone else after you leave in order to avoid influencing others who may participate in future focus groups. Thank you.

If there are no other questions at this time, let's begin by completing a short form asking a few questions about you and your experience with pressure ulcer prevention measures.

Please don't put your name on this form. Does everyone understand? (Investigator passes out copies of the Demographic Information Form and pencils to participants.)

After the Demographic Information Form is completed and passed in, the Investigator continues:

OK, I'm going to turn the audio recorder on now and begin the discussion. Is everyone ready?

(Turn audio recorder on)

- Q1 How many patients at risk for pressure ulcers would you estimate you care for every week?
- Q2 How do you determine that a patient is at risk?
- Q3 Can you describe the patient at risk for developing pressure ulcers?
- Q4 When did you first learn about how to prevent pressure ulcers?
- Q5 Do you keep up with new prevention measures?
- Q5a How?
- Q6 How comfortable are you with your knowledge about preventing pressure ulcers?
- Q6a How would you describe the knowledge of the other RN's you work with?
- Q6b How about the nursing assistants or other team members?
- Q7 What prevention measures do you implement?
- Q7a Are you always able to implement preventive measures?
- Q7b If not, what prevents you from doing so?
- Q8 Are you familiar with the CMS "Present on Admission" rules regarding pressure ulcers?
- Q8a Has this affected the way that you care for patients at risk for pressure ulcers? How?
- Q8b How about your colleagues, do you think it has affected their care? How?
- Q9 Is there anything else you want to tell me about your care of patients at risk for pressure ulcers?

OK, that's it! Are there any more questions you have for me? I'd like to thank you very much for helping me with this project. Remember to take the copy of the consent form you signed with you. It has my phone number and my research advisor's phone number if you would like to contact us. Again, I ask that you not to share any parts of this discussion outside of this room.

Distribute gift cards.

APPENDIX D**Consent Form**

Description of Medical-Surgical Nurses Care of Patients at Risk for Pressure Ulcers

Principal Investigator: Barbara Mayer, MS, PhDc, RN-BC

213.484.7330

You are being asked to participate in a research study. This research study is being conducted by Barbara Mayer, a registered nurse, as part of her doctoral dissertation at the University of San Diego, School of Nursing. You are being asked to take part in a group discussion, called a focus group. The purpose of this focus group is to find out more about medical-surgical nurses care of patients at risk for pressure ulcer development.

No part of this study is being sponsored by facility. You do not have to participate if you don't want to. Nothing about your job status, or your family's access to social services or health care will change if you decide not to do this.

What you are being asked to do in this focus group:

You will attend a small discussion group called a "focus group" that will be held in a meeting room at this facility. It will last about 90 minutes. About 6-10 nurses caring for patients in MS units will be in this group. Barbara Mayer, a registered nurse, will lead the discussion. If, after reading this Consent Form, you decide to do this, you will sign two copies of it and keep a copy for yourself. Then Barbara will give you a brief information form to fill out. The form asks things such as your age, employment status, nursing educational background, and experience. Then Barbara will begin the discussion. During the discussion, you will be asked about your knowledge of pressure ulcer prevention and

how you care for patients at risk for pressure ulcers. This discussion will be audio taped, but you will never be identified by your name. Barbara will use numbers for each participant, and remind everybody to just use the numbers if they speak to each other. You can say as much or as little as you like. You can stop anytime you want to, or decide you just don't want to do this. If you decide not to do this, no one will embarrass you. It is not impolite to decide you don't want to do this. Just raise your hand and let Barbara know you'd like to be excused. It will be no problem.

There is a restroom just outside this room, and you can go to the restroom at any time. The entire activity will last about 90 minutes.

Your participation in this study is:

Voluntary. You do not have to do any of this. Nothing about your employment, or access to health or social services will change if you decide not to do this. You can decide to quit at any time.

Confidential. No names will be recorded on audiotape or attached to the survey form. All consent forms will be stored separately from data. Only code numbers will be used while recording the discussion. A research assistant will be present to take notes of the discussion in the event the electronic recorder fails. What you say in the discussion will be transcribed (written into a document). A transcriptionist (a person who types your words while listening to your audio recordings) will sign a pledge of confidentiality before doing this work. All data, including audiotapes, will be kept in a locked file cabinet and only the researcher will have access. She will keep all the completed data at least 5 years before destroying them. The results will be reported on a group basis, and

Researchers name Barbara Mayer, MS, PhDc, RN-BC

Researcher's address: St Vincent Medical Center
 2131 W 3rd Street
 Los Angeles, CA 90057

By signing this Consent Form, you are authorizing the above uses and disclosures of your personal information as described above. If you do not sign this Consent Form, including this authorization, you will not be eligible to participate in this research project.

Potential Risks. If you become tired while filling out the form or participating in the focus group, you can take a break and rest. Sometimes when people are asked to reflect on their professional performance they feel emotions like anxiety. If you would like to discuss these feelings, you can call the Los Angeles Access Center 24/7 Helpline (1-800-479-3339), anytime, 24 hours a day.

Benefits. The benefit to participating will be in knowing that you helped nurses and other healthcare providers know more about the care of patients at risk for developing pressure ulcers. You will receive a \$60 stipend for participating. Barbara will give you the \$60 stipend even if you start the session and decide not to finish it, or decide to withdraw from the study completely.

Participant Costs. The only cost to you is the time you spend traveling to and participating in the focus group.

Further Information. If you would like to know more about this research study—before, during, or after your participation in it—you can call Barbara Mayer at (619) 851-8084 or e-mail her at bmayer57@gmail.com.

You can also call her research advisor, Dr. Mary-Rose Mueller, Professor at the

your identity will never be identified in reporting the results. The results of the research project may be made public and information quoted in professional journals or meetings, but your real name will never be used. We are encouraging everyone in the group to keep what is said in the group confidential and within the group. But we can't guarantee that someone won't tell someone else what you said here, and you need to know that this might happen.

The purposes for which you would be authorizing the use and disclosure of your personal information, as a participant in this research project would be to promote the objectives of this research project as described elsewhere in this Consent Form. There is no expiration date to your authorization for the use and disclosure of your personal information as described above. However, you may revoke your authorization at any time, and the revocation will be effective upon receipt. Please note that if you revoke your authorization, personal information that has already been obtained will continue to be used and disclosed as described above. Your revocation must be made in writing and addressed to the person noted below: