The Relationship of Nursing Practice Models To Job Satisfaction and Burnout of Nursing Staff in Nursing Homes

By

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ABSTRACT

TITLE: The Relationship of Nursing Practice Models to Job Satisfaction and Burnout of Nursing Staff in Nursing Homes

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Despite decades of regulation and other efforts, problems with quality of care in nursing homes persist. While adequate staffing has been described as "necessary but not sufficient" to improve quality of care, how staff are used may be as important as the number of staff. This suggests that the nursing practice model (the organization of the nursing staff) may be an important factor to improve outcomes in nursing homes.

This study used a cross-sectional survey design to explore the impact of nursing practice models on job satisfaction and burnout of nursing staff in nursing homes. The first aim was to describe and explore staff (RN, LPN, and CNA) perceptions of nursing practice model components of accountability, autonomy/decision making, continuity of care provider, formal continuity of information, and informal continuity of information. The second aim explored for differences in these perceptions based on nursing staff and organization characteristics. The third aim examined whether nursing practice model components (autonomy/decision making, continuity of care provider, formal continuity of information, and informal continuity of information) predicted job satisfaction and burnout. The Nursing Practice Model Questionnaire (NPMQ) was used to collect data about components of the nursing practice. This new instrument was designed specifically

for use with all types of nursing home staff. The Maslach Burnout Inventory was used to measure three aspects of this construct: emotional exhaustion, depersonalization, and personal accomplishment. A global job satisfaction measure was also used. ANOVA, *t*-tests, correlation, and multiple regression were used for analyses.

A total of 183 staff from eleven nursing homes participated in the study. A major finding of the study was that after controlling for nursing staff and organizational characteristics, the nursing practice model components explained the largest proportion of variance for job satisfaction and emotional exhaustion. There were no significant differences among the three types of staff regarding their perceptions of autonomy/decision making, continuity of care provider, formal continuity of information, or informal continuity of information. When RNs and LPNs were combined and compared to CNAs, there was a significant difference in perceptions of formal continuity of information. These perceptions were not influenced by nursing staff or organizational characteristics. The results from the accountability subscale revealed a lack of differentiation of RN and LPN practice. At least 62% of the nurses reported that seven activities that fall within the scope of RN practice were also done by LPNs.

Several areas for future research are suggested. Additional exploration of autonomy is warranted, specifically to understand why RNs did not differ from other staff. Additional work with the NPMQ might include factor analysis for the data from this study, additional subscale development, and identification of thresholds for "good" or "poor" models. Future research might also include more precise measures of job satisfaction and work environment to understand their relationship with nursing practice models.

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CHAPTER 1

Introduction

Nursing homes provide a unique combination of housing, social services, and health care to older adults. Once considered only for custodial care, nursing homes are now serving residents with increasingly diverse and complex needs (Wunderlich & Kohler, 2001). Shorter lengths of hospital stay have led to a growth of nursing homes as locations for sub-acute care and rehabilitation. In addition, a significant proportion of nursing home residents have Alzheimer's disease or other types of cognitive impairment. As community-based alternatives such as assisted living and adult care homes are more available, those served by nursing homes tend to be older and frailer. The increase in prevalence of chronic illness and the projected dramatic rise in the numbers and proportions of older adults over age 85 make likely that nursing homes will continue to play a significant role providing health and other services (Wells, 2004).

Quality of care in nursing homes has been an issue of national concern for decades. Yet, care issues continue despite a high degree of federal and state regulation of the nursing home industry (Wunderlich & Kohler, 2001). These problems are significant because of the large number of persons who receive care in nursing homes and the substantial costs involved. In 2004, 16,100 nursing homes provided care to 1,492,200 residents (National Center for Health Statistics, 2007).

Staffing, the numbers of staff working in a facility, has received extensive attention as a solution to quality problems in nursing homes. Although calls for minimum staffing requirements have been made (Harrington et al, 2000), empirical evidence as to what these minimums should be is limited (Weiner, 2003). Adequate staffing has been

described as "necessary but not sufficient" to improve quality of care (Wunderlich & Kohler, 2001, p. 12). This description is consistent with findings from "magnet hospital" research (described below) that differences in care outcomes persist even after controlling for staffing. Understanding nursing practice models better may help answer important questions about staffing in nursing homes.

A nursing practice model is defined as "the manner in which nurses assemble to accomplish clinical goals" (Brennan & Anthony, 2000, p. 372). Although often considered a nursing administrative or management strategy, nursing practice models are being recognized as significantly contributing to improved outcomes of care. The importance of nursing practice models was first recognized in the 1980s by the initial magnet hospital research (McClure, Poulin, Sovie, & Wandelt, 2002). Despite a nursing shortage, magnet hospitals were known for successfully attracting (like a magnet) and retaining registered nurses (RNs). These hospitals were also recognized for providing high quality care. Research on practice models associated with the magnet hospitals research suggests improved outcomes for nurses, organizations and patients. Outcomes for nurses include increased accountability and higher job satisfaction. Outcomes for organizations include reduced turnover and lower rates of work-related injuries. Outcomes for patients include higher satisfaction with care and reduced mortality. Hospitals designated as "magnet" are considered to exemplify "best practices" for nursing practice models.

Nursing practice models are likely to be an important variable when studying quality of care in nursing homes. Ineffective methods of organizing nursing staff to provide care are one possible explanation for persistent problems with quality of care in

nursing homes. This study provides an opportunity to explore whether lessons learned from the magnet hospitals can be generalized to another setting. That is, it may be necessary to improve outcomes for nursing staff and organizations before desired outcomes for residents can be achieved.

Background

As noted above, nursing practice models assumed prominence through what is now referred to as the magnet hospital research. The research linking nursing practice models and improved quality of care comes from a program of research by Aiken (2002) and colleagues at the University of Pennsylvania. The goal of this research was to learn how organizational characteristics impact various patient and nurse outcomes and how these might be modified to improve outcomes. The magnet hospitals provide a known set of organizational characteristics that can be compared to other hospitals. Hospitals with magnet designation or with high scores on measures of magnet characteristics (e.g., autonomy, control over practice, collaboration with physicians) have been found to have higher patient satisfaction (Aiken et al., 1999; Vahey et al, 2004) and lower mortality (Aiken et al., 1994; Aiken et al., 1999). Nurse outcomes for these hospitals include less burnout (Vahey et al, 2004), lower turnover (Vahey et al, 2004), less likelihood of needlestick injury (Clarke, Sloane, & Aiken, 2002), and better health status (Budge, Carryer, & Wood, 2003). These differences persist even after controlling for higher staffing often found in magnet hospitals.

The American Nurses Association established the Magnet Nursing Services Recognition Program in the 1990s. This program consists of a voluntary peer review process to recognize excellence in nursing services. Currently, 238 hospitals have magnet

status, including one in Australia (American Nurses Credentialing Center, 2007). The program has been expanded to include nursing homes and home health care agencies; one nursing home is on the current list of magnet-designated facilities.

Significance

Most research on nursing practice models has been conducted in acute care settings. Nursing homes differ significantly from hospitals on many characteristics including the population served, the mission and goals of the organization, payment for care, legal and regulatory mechanisms, length of stay, number of registered nurses, proportion of licensed to unlicensed staff, and disciplines involved in care. Still, research on magnet hospitals suggests important variables that should be considered in nursing home settings.

Available research on nursing homes suggests that how staff is used is as important as the numbers present. For example, significant changes in behavior and social activities of residents were noted after implementing a primary care assignment system for nursing assistants that used consistent assignment of staff for the same groups of residents (Teresi et al., 1993). Rantz and colleagues (1997) reported that nursing homes with higher quality of care tended to use RNs in a more comprehensive, holistic manner, rather than to complete specific tasks. A subsequent study (Rantz et al., 2004) found that processes of care such as consistent staff assignments and group decision-making contributed to higher quality of care and lower costs. These findings suggest a relationship between nursing practice models and quality of care.

The shortage of nurses and other workers providing care in nursing homes is well documented and is expected to continue into the future. Understanding the impact of

nursing practice models in nursing homes will help identify strategies that most effectively use the knowledge and skills of different types of staff, as well as supporting recruitment and retention of nursing staff (Mueller, 2004). Greater understanding is also needed about the effectiveness of different nursing practice models for different populations within nursing homes.

Exploring nursing practice models will also build on the emerging evidence base that supports the contributions of RNs to improved outcomes of care in long-term care. Future research can link nursing practice models to various outcomes using data currently available such as the federally mandated long-term care (LTC) Minimum Data Set Quality Indicators.

CHAPTER 2

Literature Review

This chapter reviews literature relevant for this study of nursing practice models in nursing homes and includes five major sections: 1) an overview of the conceptual model and its adaptation for this study, 2) the interdependent nursing role, a process component of the model and the focus of this study, 3) nursing staff structural variables, 4) organizational structural variables, 5) nursing staff outcomes. The conceptual model will be used as a framework to review the literature. Only those variables relevant to this study are included. This chapter will end with identification of gaps in the literature, the purpose and specific aims of this study, and the operational definitions for key study variables.

The literature review is organized based on the variables selected for the study. These variables were selected because of their ability to represent important concepts related to quality of care in nursing homes. In some cases, they are constructs representing the concept measured by an instrument (e.g., the nursing practice model components). Where applicable, these concepts were based on the magnet hospital research and adapted to the setting (e.g., autonomy). Other variables were included to evaluate their role as potential important covariates (e.g., organization characteristics). Classification of variables as structure, process or outcome is somewhat arbitrary. Some variables fall into more than one component of the model, such as studies examining the relationship between organizational characteristics and job satisfaction. Other authors have labeled some variables differently. For this review, an attempt has been made to discuss the variable where it best fits with the model for this study.

Conceptual Model

Overview

The Nursing Role Effectiveness Model (NREM; Irvine, Sidani, & McGillis Hall, 1998; Pringle & Doran, 2003) was adapted for the conceptual framework for this study (Figure 1). This model was developed to study the impact of nurses' roles on health care outcomes. Variables included in the NREM were derived from a literature review of nursing sensitive outcomes, those outcomes that have empirical support as being directly related to nursing care. The authors of the model also sought to identify the contributions of nurses to "positive outcomes" (i.e., improvement and maintenance of health) as well as prevention of adverse events.

Figure 1

Nursing Role Effectiveness Model (Irvine, Sidani, & McGillis Hall, 1998; Pringle & Doran, 2003)

Structure	Process/Nursing Roles	Patient/Health Outcomes
Nurse Experience Knowledge Skills Organizational/Unit Staffing Staff Mix Workload Assignment Pattern Work Environment Patient Health Status Severity Co-morbidity Age Gender	Independent Assessment, Diagnosis, Intervention, Follow-up Care Dependent Execution of Medical Orders Medically Directed Care Physician-initiated Treatments Expanded Scope of Nursing Practice Interdependent Communication Case Management Coordination of Care Continuity/Monitoring & Reporting	Clinical/Symptom Control Freedom from Complications Functional Status/Self-Care Knowledge of Disease & treatment Satisfaction Costs Safety/Adverse Events Team Functioning

The NREM uses the structure-process-outcome framework of Donabedian (1966), a model frequently used to study quality of care. Structure variables are assumed to affect process and outcomes variables, and process variables to affect outcomes. Structural variables are characteristics of individuals (i.e., nurses), organizations (or parts of organizations such as work units), and patients or clients. In the NREM, processes of care include three types of nursing roles: 1) independent roles, activities for which only nurses are accountable, 2) dependent roles, associated with physician-initiated treatment, and 3) interdependent roles, performed in collaboration with others. Work using the NREM has addressed primarily patient or client outcomes. However, outcomes for nurses and organizations are implied, such as effective team functioning (Irvine, Sidani, & McGillis Hall, 1998). A recent report by Manojlovich (2005) used the NREM to study the relationships among the practice environment, communication with physicians, and job satisfaction in hospital nurses. It has also been argued that there is a relationship between nurse job satisfaction and patient outcomes, although there is limited evidence to date (McGillis Hall, 2003).

Adaptation of NREM for This Study

This study focused on one process component of the NREM, the interdependent nursing role. This component is most relevant to nursing practice models in the nursing home setting. The model identifies several nurse activities and functions of the interdependent role: communication, case management, coordination of care, continuity, monitoring, and reporting. Each of these components is important in long-term care settings where the work is highly interdisciplinary. This study included all types of

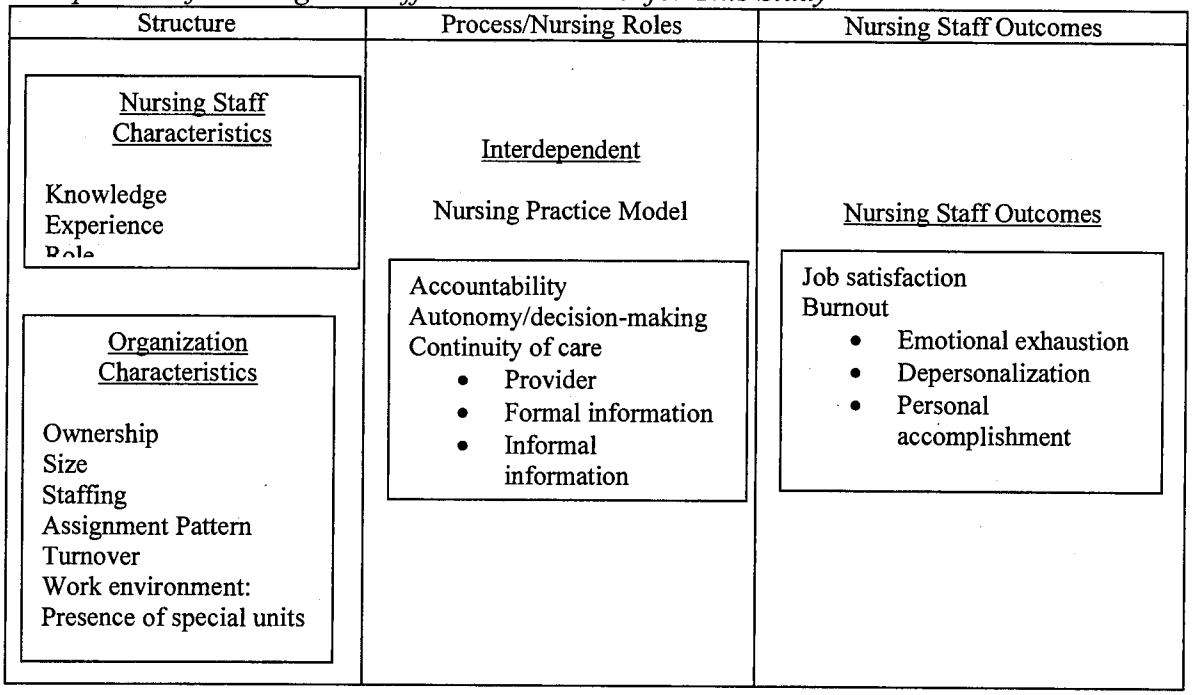
nursing staff: registered nurses (RNs), licensed practical nurses (LPNs), and nursing assistants.

The study also focused on only one type of outcomes, those for nursing staff. This decision was based in part on the feasibility of the research. It was also considered important to study only a portion of the model, as processes of care have been investigated to a limited extent in long-term care. Use of a new instrument to measure components of nursing practice models also entered into the decision.

Because the nursing practice model components are the main focus of this study, the process section of the model is presented first. Nursing practice models define how the resources from the structural component are used in the processes of delivering nursing care to achieve desired outcomes. The outcomes of interest for this study, job satisfaction and burnout, relate to nursing staff. Figure 2 summarizes the variables for this study and their relationship to the NREM.

Figure 2

Adaptation of Nursing Role Effectiveness Model for This Study



Process Variables: Interdependent Nursing Role and Nursing Practice Models

Overview

Most research on quality of care in nursing homes has focused on characteristics of organizations (also referred to as structural variables) believed to have an impact on the quality and outcomes of care provided. Processes of care, the link between structure and outcome, have been studied less, for several reasons. First, process is difficult to measure. Process focuses on the delivery of care, including attention to activities such as how the care was provided, if the appropriate action was taken, and if that action was done correctly, etc. The relationship and interaction between care provider and care receiver are also important components of process. Measuring process often involves observation, a time-consuming and potentially expensive method of data collection.

Second, due in part to these measurement challenges, no easily accessible databases are available to researchers. For example, researchers often use the Online Survey, Certification, and Reporting (OSCAR) database, information reported by nursing homes at the time of their annual licensing and certification survey, as a source of organizational characteristics. Outcome data is available from quality indicators derived from the federally mandated nursing home Minimum Data Set (MDS). Finally, we have been limited by our knowledge about processes of care and what is considered "best practices," especially for application in the nursing home setting.

In the context of the NREM, nursing practice models define how the resources from the structural component are used in the processes of delivering nursing care to achieve desired outcomes. Nursing practice models are always present in situations where nurses work in groups, either explicitly (i.e., by design) or implicitly (by default) (Brennan & Anthony, 2000). Nursing practice models are also referred to as professional practice models, care delivery models, or models of governance (Hoffart & Woods, 1996).

The interdependent nursing role of the NREM includes activities such as communication, case management, coordination of care, continuity, monitoring, and reporting (Irvine, Sidani, & McGillis Hall, 1998). Although nurses also function in the independent and dependent roles, the interdependent role assumes greater importance in nursing homes for several reasons. First, nursing homes provide a unique combination of housing, social programs, and health services to older adults. Second, unlicensed staff provides the majority of direct care. Third, care provided in nursing homes is highly interdisciplinary and includes professionals from a variety of backgrounds (e.g., social

worker, physical therapy, occupational therapy, activity or recreational therapy, etc.). Finally, families are an important part of the care team in nursing homes.

This study focused on five variables associated with the interdependent nursing role: accountability, autonomy and decision-making, continuity of care provider, formal continuity of information, and informal continuity of information. Based on the assumption that process variables affect outcomes, discussion of each process variable will include a description of the variable and the relationship to each of the outcome variables (job satisfaction and burnout).

Accountability

Description. According to the American Nurses Association Code of Ethics, "Accountability means to be answerable to oneself and others for one's own conduct" (ANA, 2001, p. 16). Nurses (i.e., RNs) are held to a high standard of accountability. The Code goes on to note that nurses are accountable for "judgments made and actions taken in the course of nursing practice irrespective of health care organizations' policies or providers' directions" (ANA, 2001, p. 16).

Nurses are also accountable for the care provided by less educationally prepared personnel, such as LPNs and nursing assistants. This requires determining the knowledge, skills, and experience of other health care workers before assigning or delegating nursing care responsibilities and activities to them. Certain responsibilities, such as assessment and evaluation, cannot be delegated to LPNs or nursing assistants.

In addition to professional standards and the expectations of employers and other health care providers, nurses are accountable for the legal and regulatory standards in the jurisdiction where they are licensed. States may vary regarding definition of terms such

as assignment and delegation. States may also vary regarding responsibilities and tasks that may be assigned or delegated to other health care personnel. For example, some states may not allow medications to be administered to nursing home residents by unlicensed staff.

The ANA Code specifically addresses nurses in supervisory roles. "Nurses functioning in management or administrative roles have a particular responsibility to provide an environment that supports and facilitates appropriate delegation and assignment" (ANA, 2001, p. 17). Consequently, when developing nursing practice models in any setting, the nurse administrator (i.e., DON) must ensure that the roles and responsibilities are consistent with professional, legal, and regulatory standards, as well as the philosophy and expectations of the organization.

Anderson and Hughes (1993) interviewed full time nursing staff from a 600-bed long-term care facility in Canada to learn their definition of accountability. Four essential antecedents to accountability were identified: continuity of care, defined roles, clear responsibilities, and small groups of clients. Accountability was described as an action-oriented, circular concept that included sharing information about clients, making sure things get done, knowledge about the client's plan of care, ready to give account, and then starting over with sharing information. Rantz and colleagues (2004) found that nursing homes with good quality of care had consistent follow-up of residents by RNs.

Accountability seems to be poorly understood by RNs and those they supervise. RNs also find these relationships stressful. RNs and LPNs may also used interchangeably. Smith (1991) described implementation of a nursing case management role in a 170-bed nursing home. Both RNs and LPNs served in the case manager role,

although RNs were expected to serve as consultants to LPN case managers. Hartig (1998) interviewed eight nursing assistants from three nursing homes in the Mid-south to elicit descriptions of care provided by "expert" nursing assistants. The charge nurse, typically a LPN, delegated most of the activities to the CNAs. However, CNAs also reported initiating some activities themselves. This usually involved initiating a treatment they had observed to be successful for other residents with similar problems, such as pressure ulcer care. These activities were not always reported to the charge nurse unless the problem did not resolve.

Although accountability has most often been associated with RNs, it is also expected of LPNs and nursing assistants. This includes being able to depend on other staff to follow-through with directions for care and to be able to trust that they will inform the RN about changes in residents so that appropriate actions can be taken (Garland & Schirm, 1998). On a more basic level, accountability might mean simply being able to depend on employees to report to work when scheduled.

Relationship of accountability to job satisfaction and burnout. No studies were located that specifically discussed these relationships. However, as previously discussed under role, both RNs and LPNs often dislike and feel unprepared for the supervisory responsibilities which are a significant part of their roles in nursing homes (Riggs & Rantz, 2001).

Autonomy/Decision-Making

Description. Autonomy and decision-making have received attention as factors contributing to job satisfaction of workers in a variety of situations. The two concepts are

interrelated in how they are operationalized in the work environment. The presence of autonomy implies the opportunity to make decisions relevant to one's work.

Autonomy is derived from the Greek words auto (self) and nomos (law) and is often defined as the ability to govern one's self. Autonomy has been used in a variety of situations. It may be used in a political, philosophical, or cultural context to describe independence of thought, speech, or action. From an ethical or moral perspective, autonomy may be used to describe the ability for self-determination, decision-making or providing informed consent. Autonomy may be a characteristic of an individual or a group.

Worker autonomy has been defined as "the extent to which the job enables an individual to experience freedom, independence, and discretion in both the scheduling and determining the procedures used in completing the job" (Kinicki & Kreitner, 2003, p. 123). Wade (1999) defined work autonomy as "the worker's freedom to make decisions based on job requirements" (p. 311). Organizations grant autonomy to workers based on knowledge and skills required for the job and the employees' abilities.

Autonomy has been identified as an essential attribute of a profession and has been studied in a variety of disciplines and organizational situations. In this context, autonomy is usually approached from one of two broad perspectives: 1) attitudinal autonomy, the ability and willingness to exercise judgment, and 2) structural autonomy, the freedom to use autonomy in the work setting (Batey & Lewis, 1982).

Autonomy has been of interest to the nursing profession for decades. Research on autonomy in nursing was first initiated to assess whether or not nursing met the criteria of a profession. In the1980s, autonomy assumed prominence from the results of the magnet

hospital research. Nurse autonomy was identified as an essential component of nursing practice from both the perspective of the individual nurse and the organizational work environment.

Relationship autonomy/decision-making to job satisfaction. Blegan (1993) conducted a meta-analysis of 48 studies on nurses' job satisfaction. Autonomy was a variable of interest in 27 of these studies. Across studies, autonomy was moderately correlated with job satisfaction and ranked fourth on a list of 13 variables associated with job satisfaction. These findings were similar to a subsequent meta-analysis by Irvine and Evans (1995).

Although these relationships have been studied less in nursing homes, there is some evidence to support their importance. Schaefer & Moos (1996) found a relationship between autonomy and job satisfaction at two points in time eight months apart. In a study from Canada, nursing assistants reported having less freedom to make decisions related to how they did their work compared to nurses (Morgan, Semchuk, Steward, & D'Arcy, 2002).

Relationship autonomy/decision-making to burnout. Maslach, Jackson and Leiter (1996) identified autonomy and decision-making as resources that when present, provide protection from burnout, particularly related to influencing organizational practices with a direct effect on the individual's work. In a study of hospital nurses, those who worked on units described as supportive (which included support for decision-making) reported significantly lower burnout (Vahey et al., 2004).

Continuity of Care Provider

Description. Continuity of care is the "seamless provision of health services provided to a resident when they are on the nursing unit and through transition to the next care setting" (Mueller, 2005, p. 9). Continuity of care provider occurs when "there is a consistent nurse or group of nursing staff coordinating and providing care to the resident" (Mueller, 2005, p. 9).

Nursing home residents value continuity of care. Happ, Williams, Strumpf, and Carter (1996) suggested that forming relationships with nursing home staff adds meaning to life for older adults who have experienced many losses. Residents like learning about staff members' families. Some residents define quality of care as the relationship with their caregivers (Bowers, Fibich, & Jacobson, 2001). Family members also prefer permanent assignments and nursing assistants often form significant relationships with family members who can provide important background information about the resident (Karner, Montgomery, Dobbs & Wittmaier, 1998).

Relationships with residents are an important outcome as well as a process from the perspective of CNAs. Relationships are the key factor in both quality of care and quality of life. Inability to provide care in a manner that is "like family" was identified as a reason for leaving jobs (Bowers, Esmond, & Jacobson, 2000). In a subsequent report, these authors also described the perceptions of nursing assistants about inconsistencies of organizational practices. For example, while administrators said they valued staff relationships with residents, this was not reflected in work assignments that promoted continuity of care. CNAs said they felt they were used like "interchangeable parts" (Bowers, Esmond, & Jacobson, 2003).

Consistent assignments can also provide a more predictable workday and time can be saved because staff is familiar with resident needs. For example, CNAs have reported having more time to spend "being with" residents other than just when doing direct care activities (Anderson & Hughes, 1993; Teresi et al., 1993).

In a study from the Netherlands, Berkhout and colleagues (2004) reported an increased use of the nursing process on nursing home units where a primary nursing assignment pattern was implemented. Continuity of care provider may also enhance the clinical reasoning used by nurses. McCarthy (2003) explored the impact of the care environment on the process used by hospital, nursing home, and home care nurses to detect acute confusion in older adults. She concluded that "connectedness" developed from caring for patients over time, could improve the ability of nurses to differentiate acute confusion from dementia in persons they were familiar with. Connectedness is more likely to be developed in long-term care environments such as nursing homes.

Relationship of continuity of care provider to job satisfaction. Continuity of care has been associated with increased job satisfaction and reduced turnover. Continuity of care allows staff to know residents as individuals and form long-term relationships. Nursing assistants also value being able to form relationships with family members of residents. This provides opportunities to learn more about the resident's past and also to be an advocate for the resident. The family also knows the staff member as an individual. Residents and families may consider staff as part of the resident's extended family (Karner et al., 1998; Looman et al., 2002).

Nursing assistants in particular often report that the relationship with residents keeps them in their jobs and often offsets less desirable aspects of working in a nursing

home. Continuity of care also eases the workload of nursing staff and it is easier to provide care when staff is familiar with residents and can anticipate their needs.

Relationship of continuity of care provider to burnout. Establishing and maintaining long-term relationships with residents may provide some protection against burnout. Continuity of care provider could be expected to result in less depersonalization of residents and a greater sense of personal accomplishment, indicators of less burnout.

Formal Continuity of Information

Although continuity of care is perhaps most often thought of in terms of the care provider, information is also an important aspect. Continuity of information has two forms: 1) formal information, which includes access to organizational records and participation in resident care conferences and 2) informal information, such as exchange of information among staff during the course of their shift. Practices vary among organizations.

In a study about choice and control for nursing home residents, Kane and colleagues (1997) interviewed 134 nursing assistants from 45 nursing homes in 5 metropolitan areas. One third reported that they were not allowed to look at resident charts and/or were not expected to know about resident health conditions. Only half believed they knew personal information such as preferences, family situations, former occupation, and interests for most of the residents they cared for.

Other studies reported more favorable outcomes when CNAs were included in formal communication activities. In a study of nursing assistant turnover, involvement in care planning was the only job factor associated with decreased turnover of NAs (50% lower) (Banazak-Holl & Hines, 1996). Barry, Brannon, and Mor (2005) reported that

higher NA influence in care-related decisions was associated with higher social engagement scores for residents.

Relationship of formal continuity of information to job satisfaction. Nursing assistants were more likely than nurses to report inadequate information about residents as a source of job stress (Lapane & Hughes, 2007). In a study comparing nursing assistants in nursing homes with a community-based model, both groups identified having the opportunity to discuss residents or clients with the rest of the care team as important a predictor of job satisfaction (Friedman, Daub, Creci, & Keyser, 1999).

Relationship of formal continuity of information to burnout. Similar to job satisfaction, having access to information and an established process for sharing that information may provide some protection from burnout. Staff might also have a greater sense of personal accomplishment because the information might allow them to act as advocate for the residents they work with (e.g., by reporting early changes that could indicate a change in health status).

Informal Continuity of Information

Limited information was found specific to this topic. It was not clear from some reports if the form of communication and information exchange were formal or informal. Kruzich (1995) found that staff perception of influence on resident care was higher for units that included nursing assistants in shift report.

Summary: Interdependent nursing role and nursing practice models. Results from research comparing nursing models such as team and primary nursing have been inconsistent. This may be due to inconsistent definitions of models, differences in measurement instruments, and lack of significant differentiation in staffing (Tiedeman &

Lookinland, 2004). It may be more useful to look at specific components, such as autonomy and continuity of care when evaluating outcomes for nursing staff or for residents. This can provide more specific direction about how to support an effective model or strategies for change if an effective model is not in place. It may also provide important information about retaining, not just attracting staff to work in nursing homes.

Structure Variables: Nursing Staff Characteristics

Three nursing staff variables were included in this study: knowledge, experience, and role. Based on the assumption that structural variables are assumed to affect process and outcome variables, each structural variable will be discussed using the following framework: description of the variable, the relationship to each of the process variables (accountability, autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information) and the relationship to each of the outcome variables (job satisfaction and burnout). Because limited information was found on informal continuity of information, this will be combined with formal continuity of information and discussed together as "continuity of information".

Variables are defined in Table 1 at the end of this chapter. Measurement of the variables is discussed in Chapter 3.

Knowledge

Description. Two variables are included under the category of knowledge. The first is licensure and or certification. Licensure is required for RNs and LPNs. Because there are different educational requirements for each type of nurse, licensure may be considered a proxy for knowledge. RNs may also be certified in an area of specialized

clinical practice, such as gerontological nursing, or a specialized role, such as advanced practice or nursing administration.

Regulation of nursing assistants varies by state. Current federal nursing home regulations require a minimum of 75 hours of training and 12 hours of additional training each year. States are required to maintain a registry that identifies qualified nursing assistants. States also have an option to require more hours of basic training. Some states issue licenses or certificates to nursing assistants (often then referred to as certified nursing assistants or CNAs). States also vary with regard to the agency responsible for nursing assistants. For example, in Oregon, the Board of Nursing regulates and grants certificates to nursing assistants. This contrasts with Minnesota, where the nursing assistant registry is maintained by the Department of Health. In this study, the terms nursing assistant and CNA will be used interchangeably.

The second knowledge variable is RN educational preparation (i.e., associate degree (AD), diploma, baccalaureate, or graduate). Nurses in nursing homes tend to have less formal educational preparation compared to nurses in other practice settings. In several studies, over 80% of nursing home nurses had less than a baccalaureate in nursing, including directors of nursing (DONs) (Anderson, Issel, & McDaniel, 2003; Aroian, Patsdaughter, & Wyzyneski, 2000; Glass & Todd-Atkinson, 1999). This differs significantly from hospitals where 34 percent of RNs have baccalaureate degrees. This proportion is even higher, 50 percent, for magnet hospitals (Aiken, Havens, & Sloane, 2000). Nurses in nursing homes are also less likely to have access to tuition reimbursement and other support to further their education (Ryden & Krischbaum, 1996; Stratton, Dunkin, Juhl, and Geller, 1995).

Although not included as a variable for this study, informal education (i.e., orientation, staff development, and continuing education programs) was often discussed in the literature reviewed for this study. These may be viewed as providing knowledge that is supplemental to formal education provided to nurses and CNAs.

Relationship of knowledge to accountability, autonomy/decision-making, continuity of care provider, and continuity information. No specific studies were found that discussed the relationship of knowledge to these variables in long-term care. However, it might be expected that the educational preparation contributes to different expectations, discretion to make work-related decisions, and access to information about residents.

Relationship of knowledge to job satisfaction. Stratton and colleagues (1995) studied recruitment and retention incentives in relation to the job satisfaction of RNs working in rural hospitals, nursing homes, and community/public health agencies in five states. Tuition reimbursement was the only incentive associated with higher satisfaction in all three settings. *Relationship of knowledge to burnout.* Mobily, Maas, Buckwalter and Kelley (1992) evaluated staff outcomes following the opening of an Alzheimer's special care unit. Staff on the SCU reported lower scores (i.e., less burnout) for emotional exhaustion and depersonalization compared to staff who worked on units where residents with dementia were integrated with general long-term care residents. The authors attributed these differences to training provided to staff in preparation for opening the new unit. This is consistent with a study by Chappell and Novak (1992) who found staff with training to work with persons with cognitive impairment had less burnout.

Experience

Description. Experience is often thought of as the length of time in a position or career. Benner (1984) defined experience as "a very active process of refining and changing preconceived theories, notion, and ideas when confronted with actual situations" (p. 178). Although Benner's work was based on research with RNs, others have also applied it to other nursing staff, such as nursing assistants (Hartig, 1998).

Studies of nursing staff in nursing homes report a wide range of experience. For example Parsons, Simmons, Penn and Furlough (2003) reported length of current employment from one week to 30 years (mean of 4.6 years) for a sample of 550 nursing assistants in Louisiana. Studies of turnover report that when actually measured, the majority of staff is long-term employees, with a small group turning over frequently. Some authors suggest that in addition to measuring turnover, organization should also use "staff stability" measures, such as the percentage of employees who have been in the facility for more than one year to provide perspective to turnover (Remsberg, Armacost, & Bennett, 1999).

The number of years the director of nursing (DON) has been in the role, often referred to as tenure, has been associated with quality of care. Anderson, Issel, & McDaniel (2003) found that longer DON tenure was associated with lower use of restraints and less complications of immobility. Rantz and colleagues (2004) found that DON tenure of five or more years was associated with higher quality of care. They suggested this was due to the ability to develop and implement processes of care (including assessment and follow-up by RNs). Many studies report a mean DON tenure

between 2.5-3 years, a consistent finding over the past 20 years. (Anderson, Corazzini, & McDaniel, 2004; Mueller, 1998; Vaughn-Wrobel, 1993).

Relationship of experience to accountability, autonomy/decision-making, continuity of care provider, and to continuity of information. No studies specifically addressed the relationship of experience to these process variables.

Relationship of experience to job satisfaction. Anderson, Issel, and McDaniel (2003) examined the relationship of management practices and resident outcomes for 164 nursing homes in Texas. DONs with more experience and longer tenure were more likely to have leadership styles that the RNs perceived as relationship-oriented, which is associated with higher job satisfaction.

Relationship of experience to burnout. Evers, Tomic, & Brouwers (2001) reported lower levels of burnout for more experienced staff in nursing homes in the Netherlands. However, they also noted that older staff tended to work fewer hours, which may have provided a protective effect.

Role

Description. Nursing homes differ significantly from hospitals in the roles nurses fill in the organization. In nursing homes, RNs are often used only in supervisory or management roles. LPNs are present in higher proportion and often function as unit level supervisors (e.g., head nurse or charge nurse) or as coordinators of care. For example, the proportion of LPNs in supervisory or management positions has been reported as between 17% and 35% (Grant, Potthoff, Ryden, & Kane, 1998; Krichbaum, Johnson, & Ryden, 1992; Kruzich, 1995).

The American Nurses Association Standards for Nurse Administrators (ANA, 2004) uses the term nurse executive for the person responsible and accountable for the overall nursing practice, nursing education, nursing administration, and nursing services in an organization. ANA (2004) identifies a bachelor's and master's degree in nursing as qualifications for a nurse executive. A doctorate and certification in nursing administration are also recommended. The majority of nurse administrators in nursing homes are prepared at the AD or diploma level. There has been little change in this educational preparation over the past 20 years. Studies report the proportion of DONs with baccalaureate preparation ranging from 11-24 percent (Ballard, 1995; Krischbaum, Johnson, & Ryden, 1992; Mueller, 1998; Vaughn-Wrobel, 1993). An exception was a study in New England where 52% of DONs had baccalaureate or masters preparation (Arioan, Patsdaughter, & Wyszynski, 2000).

The DON role is a complex, demanding position that calls for a wide range of knowledge and skills. The role also varies among facilities. For example, a survey in North Carolina reported that DONs spent about one-third of their time resolving resident and family issues. In smaller facilities, they may also have clinical responsibilities (Mueller, 1998). Two studies using the same tool reported that DONs were least involved in Professional Leadership and LTC Leadership activities. (Arioan, Patsdaughter, & Wyszynski, 2000; Mueller, 1998). Of greater concern was that over one-third were minimally or not involved in activities to establish or determine direction and resources to administer the nursing department (Mueller, 1998). This includes activities such as financial management and staff development.

Advanced practice nurses (APNs) are present to a limited extent in long-term care. Most often, they function in the nurse practitioner role, providing primary care in collaboration with physicians. APNs are rarely employed in a clinical nurse specialist (CNS) position. However, recent research has explored the use of CNSs in nursing homes and has identified models that could be used (Krichbaum, Pearson, & Hanscom, 2000; Rantz et al., 2001). For example, Ryden and colleagues (2000) reported improvement or less decline in continence, pressure ulcers, and aggressive behavior using CNSs in consultant and educator roles. Another study (Rantz et al., 2001) found gerontological CNS consultation resulted in greater improvement in quality of care compared to nursing homes receiving only an educational intervention or those receiving education in conjunction with quality indicator feedback reports.

The Oregon Administrative Rules (OARS; 411-086-0030) for nursing facilities specify that a "RN Care Manager" (RCM) be identified for each resident. This is "a registered nurse who is responsible and accountable for managing the nursing care of his/her assigned residents." RCMs must also meet requirements related to experience and continuing education in gerontology, long-term care, rehabilitation, management, and supervision.

The shift to short-term stay and rehabilitation for many nursing home residents has highlighted the need for nurses to function as case managers. Because the majority of RNs in nursing homes hold less than a baccalaureate degree, they are less likely to have this knowledge and skills. This has been suggested as an area for additional staff development (Tappen, Hall, & Folden, 2001).

Relationship of role to accountability. A related issue is the tendency to use RNs and LPNs interchangeably in both supervisory and direct care positions, based on a perception that they "do the same thing" (Mueller, 2002a). There may also be a poor understanding of differentiation of RN and LPN roles based on state nursing practice regulations (Mueller, 2005).

Relationship of role to autonomy/decision-making. Kruzich (1995) examined the patterns of decision-making and influence of five positions: director of nursing, director of social service, director of activity therapy, head/charge nurse, and nursing assistants. The sample included 76 units in 51 nursing homes. A significant negative relationship was found between the perceptions of DONs and charge nurses for influence on resident care; as DONs perceived they had more influence, charge nurses perceived they had less. DON perceptions for influence on resident care were even greater in for-profit homes. There was a positive relationship between perceptions of charge nurses and nursing assistants for resident care decisions. Administrators were also asked to rate the level of autonomy granted to them by their governing board. Greater administrator autonomy was associated with higher perceptions of staff decision-making influence on resident care.

Corazzini, McConnell, Rapp, and Anderson (2004) discussed the need of RNs to understand the decision-making processes used by CNAs when providing care to persons with dementia. Although RNs direct the care, CNAs "serve as the front-line workers in nursing homes who translate management or supervisory policies and guidelines into actual work practices" (p. 198). They reviewed research to describe how CNAs may selectively apply or distort implementation of care that resulted in poor quality of care. The authors suggested that CNAs make choices or decisions that range on a continuum

from relatively more rational to relatively more intuitive, and that different educational and management approaches are needed to facilitate optimal care.

Relationship of role to continuity of care provider and continuity of information. Some roles, such as the RCM, would be expected to have a higher level of continuity due to the nature of the role (e. g., supervision of staff, the need to follow-up with physicians and family members). Overall, the literature reports mixed practices for staff in direct care roles.

Relationship of role to job satisfaction. Both RNs and LPNs report that supervising nursing assistants is an undesirable and stressful part of their jobs for which they feel poorly prepared (Garland & Schirm, 1998). Both nurses and CNAs report needing a better understanding of each other's roles (Remsberg et al., 2001; Schirm et al., 2000).

Nursing assistants comprise the largest proportion of nursing staff in nursing homes and also provide the majority of direct care to residents. Because their work is often described as difficult and lacking variety, some organizations have adopted "career ladders" as strategies to provide career development and retention incentives. These may also be developed in response to the increasingly specialized and complex population served by nursing homes. For example, Remsberg and colleagues (2001) described a program that included three levels of nursing assistant roles. The highest of the three levels, patient care technician, included skills such as catheter insertion, pressure ulcer care, and enteral feeding administration. No differences in turnover were noted for the two years the program had been in place. Maier (2002) reported that a three-level career ladder for CNAs at a 250-bed nursing home in Boston. Maier (2002) resulted in increased

retention rages (from 20 to 54 percent) and that annual recruitment costs dropped from $50,000 to $10,000 per year.

Most career ladder programs reported in the literature have been in place a limited amount of time to evaluate their long-term impact. Other factors such as improving communication and other processes among staff may also play a role. For example Remsberg et al. (2001) reported that licensed and unlicensed staff in the Johns Hopkins program gained a better understanding about how and why various tasks were assigned to different personnel. The ability to implement CNA career ladders may vary depending on state regulation of nursing practice. There are also concerns that these "advanced" CNA positions could be used to replace licensed nurses, especially when there are shortages.

Relationship of role to burnout. In a study from Italy, Cocco and colleagues (2002) found that as auxiliary nurses (described as those without professional training) in acute geriatric wards experienced higher burnout based on scores on the emotional exhaustion subscale. Kennedy (2005) reported that burnout was highest for RNs in a study of one nursing home in the United States.

Summary: Nursing staff characteristics. Brennan and Anthony (2000) describe nursing as a group practice and that nursing practice models "translate the ideals of the profession into practice initiatives" (p. 372). The three nursing staff characteristics discussed in this section (knowledge, experience, and role) might be considered "building blocks" of a nursing practice model. Knowledge, as measured by formal education, will determine what type of licensure or certification an individual is qualified for. This, in combination with experience, will determine what types of roles an individual may fulfill

in an organization and how perhaps, how successfully desired outcomes will be achieved. These will also determine how the components of the process portion of the NREM are carried out. For example, based on education and experience, RNs will be granted a different scope of autonomy and decision-making than CNAs.

Structure Variables: Organizational Characteristics

Six categories of variables are included under organizational characteristics: ownership, size, assignment pattern, turnover, work environment, and presence of special units. These variables will be discussed using the same framework used for discussion of nursing staff characteristics: description of the variable, relationship to each of the process variables, and relationship to each of the outcome variables.

Ownership

Description. Type of ownership is an organizational characteristic that has been studied extensively in relation to quality of care in nursing homes. The majority (67 percent) of nursing homes are for-profit (Wunderlich & Kohler, 2001). Although results are inconsistent, there is some evidence that for-profit homes provide a lower quality of care, often measured by the number of survey deficiencies (O'Neill, et al., 2003). Differences in staffing have also been associated with ownership (Aaronson, Zinn & Rosko, 1994; O'Neill et al., 2003). However, practices vary widely and are driven by important incentives. For example, in some states, for-profit homes are more likely to have high proportions of Medicaid residents (for which payment is limited) compared to not-for profit homes that may admit mostly private pay residents (and have fewer restrictions for payment rates). Others argue that both for-profit and not-for profit

organizations operate similarly to remain competitive in a long-term care market with increasing alternatives such as assisted living.

Relationship of ownership to accountability, autonomy/decision-making, continuity of care provider, ownership to continuity of information, job satisfaction, and burnout. No studies reported a relationship between ownership and these variables. In this study, ownership was included primarily to describe the sample and to explore possible relationships.

Size

Description. Size refers to the number of residents a nursing home is licensed to serve. In some studies, the size of a nursing home has been associated with differences in quality, but these results are not consistent. Anderson, Issel, and McDaniel (2003) reported that larger homes had lower prevalence of aggressive behavior and restraint use. They attributed this to larger homes having more staff to interact with each other, increasing the information available to identify effective interventions for residents.

Relationship of size to accountability, autonomy/decision-making, continuity of care provider, continuity of information, satisfaction, and burnout. No studies specifically discussed these variables in relation to size.

Relationship of size to continuity of care provider and continuity of information, satisfaction, and burnout. Rantz and colleagues (2004) found a higher quality of care in smaller nursing homes (less than 60 beds). They suggested that smaller size may allow all staff to know all residents and to function more as one unit.

Staffing

Description. Mueller (2002a) defines nurse staffing as "a process that involves determining, allocating, and delivering the nursing resources necessary to provide a certain standard of care to residents" (p. 640). Staffing is usually considered a structural variable, often reported as ratios of staff per resident or hours of care per resident day. These may be calculated for total staff and for different categories of staff (e.g., RN, LPN, and CNA). Staff mix is defined as the proportions of different types of staff (i.e., RNs, LPNs, CNAs). Reports about staffing need to be carefully examined because some may include nursing staff in administrative positions, not just those in direct care roles.

Federal regulations require nursing homes to have "sufficient staff" but provide no clear definition of what this means. The most specific federal requirements are for licensed nursing staff (i.e., RN or LPN) coverage 24 hours per day and that there is a RN on duty 8 hours per day. However, nursing homes may request waivers for these requirements. Zhang and Grabowski (2004) reported that in 1993 thirteen states granted waivers to 518 (10%) of 5302 facilities certified for Medicaid, primarily for the 8-hour RN requirement.

A growing body of research supports the effectiveness of RNs in nursing homes (Wunderlich & Kohler, 2001). Examples of improved quality of care attributed to nurses include reduced use of physical and chemical restraints (Castle & Fogel, 1998; Svarstad & Mount, 2001), fewer survey deficiencies (Harrington et al., 2000), and improved or maintained functional status (Bliesmer et al., 1998; Dellafield, 2000; Rantz et al, 1997; Tappen, Hall & Folden, 2001). Anderson, Hsieh, & Su (1998) suggested that RNs possess the problem-solving and cognitive abilities critical to improve outcomes of care

in nursing homes. In a study of 494 Texas nursing homes, they found that those with more RN full time equivalents per 60 beds, more RN hours per resident day, and a higher proportion of RNs in the staff mix demonstrated greater improvement in resident outcomes over time.

Some studies have not found differences in outcomes associated with RNs. For example, Mosley & Jones (2003) found no relationship between RN staffing and number of survey deficiencies. Their findings were similar to those of Johnson-Pawlson & Infeld (1996). Possible explanations included that there was not enough of a "critical mass" of RNs to make a difference. An alternative explanation may be that nurse and organizational characteristics (e.g., lack of geriatric education and training, turnover, and job dissatisfaction) may mediate the effect of higher RN staffing (Bostick, 2004; Mosley & Jones, 2003).

Increased staffing has been advocated as a strategy to improve quality of care. However, as with training, research to support what an optimal number of staff should be is lacking (Weiner, 2003). The research on quality of care does not consistently find differences based in quality related to staffing. However, changes may be difficult to detect because staffing often tends to be quite similar among facilities (Rantz et al., 2004). A recent study found that RN direct care time of 30 to 40 minutes per resident per day was a consistent predictor for lower rates of pressure ulcer development, urinary tract infection, and hospitalization; and less catheterization, weight loss, and deterioration in activities of daily living (Horn, Buerhaus, Bergstrom & Smout, 2005). A related report (Dorr, Horn, and Smout, 2005) examined potential societal cost savings with increased RN staffing. They projected that an increase from less than 10 minutes of RN direct care

time per resident per day to 30 to 40 minutes would result in savings of $3191 per resident per year. This translates into societal costs savings of $319,000 per year for a 100-bed nursing home.

As noted above, improved quality of care has been related to higher proportions of RN staffing. Similar improvements have not been associated with increased LPN or CNA staffing. Based on these and other studies, an Institute of Medicine panel examining quality of care in long-term care recommended 24-hour RN coverage for nursing homes (Wunderlich & Kohler, 2001). Although previous federal panels also made this recommendation, it has never been adopted due to concerns about costs and availability of staff.

Because Medicare and Medicaid pay for a significant proportion of nursing home care, staffing becomes a controversial political issue. Some argue that Medicare and Medicaid reimbursement is not adequate to support recommended levels of staff (Harrington, Zimmerman et al., 2000; Wunderlich & Kohler, 2001). Current Medicare reimbursement is based on time studies conducted in nursing homes. However, the time required for care and the associated costs were based on observed practices, not those needed to achieve the desired level of care. There are also concerns that state Medicaid reimbursement has not kept pace with needs of residents, particularly as states have faced budget shortfalls. Time studies have also been criticized for not reflecting the cognitive processes used by nurses, which cannot be observed or quantified (Perry, Carpenter, Challis & Hope, 2003).

Additional research is needed related to staffing. Specific areas include 1) the relationship between number of professional, nonprofessional, and administrative staff

and resident outcomes, 2) appropriate staff mix, and 3) effect of federal funding on nursing home staffing (Kovner, Mezey, & Harrington, 2000).

Relationship of staffing to accountability, autonomy/decision-making and continuity of information. No studies examined these variables in relations to staffing.

Relationship of staffing to continuity of care provider. Nurses report that consistent assignments allow them to be familiar with residents and work more efficiently and effectively (Bowers, Lauring, & Jacobson, 2001). CNAs believe that the "right number" of staff may change depending on whether staff is familiar with residents or staff from temporary agencies is used (Bowers, Esmond, & Jacobson, 2000).

Relationship of staffing to job satisfaction. Both nurses and nursing assistants report that not having enough staff results in job stress and reduce quality of care (Bowers, Lauring, & Jacobson, 2001; Lapane & Hughes, 2007). CNAs report that inadequate staffing leads to taking shortcuts with care that erodes the relationship with residents and is also distressing to CNAs (Bowers, Esmond, & Jacobson, 2000).

Relationship of staffing to burnout. Compared to nurses, nursing assistants reported higher levels of job strain, a construct similar to burnout (Morgan, Semchuk, Stewart, & D'Arcy (2002). They related this to not being able to meet resident's needs due to the number of residents they had to care for.

Assignment Pattern

Description. Assignment pattern refers to the manner that staff is assigned to care for specific residents. The two most common methods are permanent assignment and rotating assignment. With permanent assignment, staff is consistently assigned to the same residents. Goals of this method include improving continuity of care and

accountability of staff. The second method is rotating assignment, where assignments change on a regular basis, such as weekly or monthly. One goal of rotating assignment is to share the burden of caring for particularly difficult residents among staff. Both assignment patterns are widely used. For example, Banazak-Holl and Hines (1996) reported that 62% of their sample of 254 nursing homes in 10 states used permanent assignment.

Permanent assignment is believed to contribute to higher quality of care, although there is limited evidence to support this. Cox, Kaiser, Montgomery, and Marion (1991) evaluated the effect of a permanent staff assignment model that used consistent teams of nurses and nursing assistants working together. Post-interventions measures found that staff on the experimental unit had a more positive attitude toward resident choice and control. Nurses had more favorable attitudes, but had also received additional educational preparation for the intervention. Residents on the experimental unit also reported increased choice and control, despite declines in health status.

Burgio and colleagues (2004) studied differences in four nursing homes in Alabama, two that described using permanent assignment and two that reported using rotating assignment. Significant differences were found for personal appearance and hygiene; residents in homes with permanent assignment scored higher on this measure. Residents with permanently assigned staff also had more prescribed medications. The authors interpreted this as a positive and appropriate outcome, suggesting that permanent assignment contributed to improved monitoring and attention to changes in health status.

Relationship of assignment pattern to accountability. One goal of permanent assignment is to promote accountability of care providers. Nursing assistants reported

feeling more responsible about their assignments following implementation of a primary care model in two nursing homes (Teresi, et al., 1993).

Relationship of assignment pattern to autonomy/decision-making. Banazak-Holl and Hines (1996) found no relationship between assignment pattern and turnover of nursing assistants. They suggested that assignment pattern may "be contingent" on autonomy. Morgan and colleagues (2002) suggested that permanent assignment empowers aides to be able to make decisions about care for residents.

Relationship of assignment pattern to continuity of care provider. Permanent assignments are believed to be particularly beneficial for residents with dementia, based on the belief that when staff is familiar with residents, they will recognize behavior cues and be able to prevent behavior problems. Grant and colleagues (1998) studied differences between nursing homes with and without dementia special care units (SCUs). They found that SCUs had higher "staff stability" (the measure of consistency of staff assignments and staffing patterns used for their study) than non-SCUs. However, staff stability was also higher for other units in homes with SCUs compared to those without SCUs. They concluded that nursing homes that developed SCUs might have a different philosophy that carries over to practices on other units.

Relationship of assignment pattern to continuity of information. Although studies did not specifically discuss this relationship, it could reasonable be assumed that consistent assignment to the same residents would contribute to continuity of both formal and informal information.

Relationship of assignment pattern to job satisfaction. Nursing assistants tend to prefer permanent assignments. In a survey of nursing assistants in Louisiana, more than

half reported their assignments changed a least once per month. Fifty-three percent said they would prefer that assignments rarely or never changed. Relationships with residents were identified as the most important work issue and also the reason for staying in the job (Parsons et al., 2003). Burgio and colleagues (2004) also found higher job satisfaction for CNAs in homes with permanent assignment. Nursing assistants also prefer having a consistent supervisor (Karner, Montgomery, Dobbs, & Wittmaier, 1998).

Relationship of assignment pattern to burnout. Burgio et al (2004) found no differences in burnout based on assignment pattern. However, day shift staff reported higher burnout compared to the evening shift. The authors suggested that higher burnout on the day shift may be related to a "more intense" workload. However, they did not discuss that this should have been offset by different staffing ratios (i.e., on the day shift, one nursing assistant typically cared for seven to eight residents compared to ten to twelve on the evening shift).

Turnover

Description. Turnover generally refers to changes in staff due to employees leaving an organization. Turnover can be classified as one of two types: 1) voluntary, when employees leave by choice due to seeking better working conditions or life changes such as relocation of a spouse or 2) involuntary, initiated by employers due to dismissal, layoff, forced retirement, medical disability, or death (Tai, Bame, & Robinson, 1997). Turnover is often used as an outcome measure in studies of job satisfaction. However, in this study turnover is included as a structural variable due to the potential impact on the ability of nursing staff to participate in the interdependent nursing role.

Turnover is often described as being high and a significant problem for nursing homes. Castle (2005) reviewed recent research on nursing home turnover. Annual turnover rates ranged from 32 to 179 percent for nursing assistants, 19 to 103 percent for LPNs, 19 to 59 percent for RNs, 16 to 35 percent for directors of nursing, and 20 to 70 percent for nursing home administrators. A large and diverse group of factors that impact turnover have been identified. Tai, Bame, & Robinson (1997) reviewed literature on turnover and classified these factors into six categories: 1) socio demographic characteristics, 2) organizational characteristics, 3) social support at home, 4) social support at work, 5) quality of work life, and 6) job tension. Other authors classify factors affecting turnover as extrinsic or intrinsic to the organization, to differentiate among factors that the organization may be able to control.

Turnover is not always negative. For example, turnover is desirable when employees leave because they dislike the work or are dismissed for poor performance. New employees can also bring new ideas to an organization. Turnover also must be interpreted in relation to retention rates. Organizations may have high turnover for a small proportion of employees but also have a large proportion of long-term employees (Barry, Brannon, & Mor, 2005; Remsberg, Armacost, & Bennett, 1999). There may also be differences in turnover rates for units within an organization. Turnover is often high for employees who have worked for an organization for less than 6 months, suggesting the need to carefully evaluate hiring decisions and target resources to new employees (Remsberg, Armacost & Bennett, 1999).

Turnover of one group is likely to impact others. Grant and colleagues (1996) found a positive correlation between turnover rates of licensed nurses and nursing

assistants. A similar pattern was found by Brannon, Zinn, Mor and Davis (2002) between RN and nursing assistant turnover. In an article titled "Turnover Begets Turnover" Castle (2005) reported associations between turnover of top management (nursing home administrators and DONs) and direct care staff (RNs, LPNs, and CNAs). For example, a 10 percent increase in turnover for top management was associated with a 30 percent increase in the odds for high turnover for RNs and LPNs and 21 percent increase in the odds for high turnover for CNAs.

The research on turnover has several limitations. First, there is no consensus definition of turnover (Castle, 2005). Multiple methods are used to calculate turnover and the method used is not always reported. Similarly, consensus is lacking on what constitutes high or low turnover, so researchers are left to form their own definitions. Finally, little research has been conducted on the effectiveness of different strategies to reduce turnover (Cohen-Mansfield, 1997).

Castle and Engberg (2005) studied the relationship between turnover and quality of care. Their sample included 529 nursing homes in four states, two with high turnover (Missouri and Texas) and two with low turnover (Connecticut and New Jersey). RN turnover was examined separately; LPNs and CNAs were combined. The average annual turnover rates were 55.4 percent for RNs and 85.8 percent for LPNs and CNAs. For RNs, low turnover (0 to 20 percent) was associated with higher use of physical restraints, catheterization, and treatment with psychoactive drugs. Medium RN turnover (21 to 50 percent) was associated with greater use of catheterization, more residents with contractures and pressure ulcers, and a higher number of survey deficiencies. There were

no significant differences in quality for LPN plus CNA turnover at low and medium levels or for either group at greater than 50 percent turnover.

Relationship of turnover to accountability. Although studies on turnover did not specifically discuss accountability, it could be reasonably assumed that accountability would be difficult to achieve with constantly changing staff.

Relationship of turnover to autonomy/decision-making. Friedman, Daub, Cresi, and Keyser (1999) compared nursing assistants working in five sites of the community-based Program of All-inclusive Care for the Elderly (PACE) (n=136) with CNAs working in a nursing home near each site (n=213). As most PACE participants are eligible for nursing home admission, clients served in both settings were considered similar. The median turnover rate for nursing homes was 58.4 percent (range 26.2 to 69 percent) compared with 30 percent (range 20 to 47 percent) for the PACE sites. The authors concluded that incorporating opportunities for nursing assistants to control time and schedule at work could lead to increased job satisfaction and subsequently reduce turnover.

Relationship of turnover to continuity of care provider. Turnover has been argued to have a negative impact on quality of care in nursing homes. Although there is a clear relationship has not been established, several mechanisms have been proposed. These include disruption of continuity of care; increasing the number of inexperienced workers; causing distress for some residents; creating additional expenses for the organization and diverting dollars that could be used to provide care; and increasing the workload for remaining staff (Castle & Engberg, 2005).

Banaszak-Holl and Hines (1996) did not find a relationship between turnover and consistent assignment in their study of 254 nursing homes in 10 states. They suggested that increased autonomy may also be necessary to see a change in turnover.

Relationship of turnover to continuity of information. RN turnover was identified as a significant predictor in a study of facility risk factors for infection and hospitalization of nursing home residents (Zimmerman et al., 2002). Higher turnover may make it more difficult to establish and maintain infection control policies. It may also make consistent staff training and supervision more difficult.

Banaszak-Holl and Hines (1996) found a significant relationship between involvement of nursing assistants in care planning and turnover. The turnover rate was one-third lower in homes were CNAs were included in discussions about care planning and 50 percent lower where they participated in care planning meetings.

Relationship of turnover to job satisfaction. Theoretically, turnover is linked to job satisfaction. Employees who are not satisfied with their work form an intent to leave, the immediate antecedent to turnover.

Factors predicting turnover vary by different groups of employees. Alexander and colleagues (1998) studied staff in long-term Veterans Administration psychiatric hospitals. Satisfaction with professional growth and workload were significant predictors of intent to leave. Satisfaction with co-workers and job hazards impacted turnover more directly than other variables. RNs were more dissatisfied with workload. LPNs and NAs were less satisfied with autonomy and work hazards. Different factors may impact retention based on tenure with the organization. For example, Proenca & Shewchuk (1997) found that nurses with high tenure (greater than 3 years) rated flexibility as more

important. Nurses with low tenure (less than 3 years) rated learning opportunities and advancement potential as more important.

Relationship of turnover to burnout. Remsberg, Armacost, & Bennett (1999) noted that a high rate of absenteeism among nursing assistants was the most frequent reason for termination, accounting for 30% of cases. Kennedy (2005) found a correlation between use of sick days and burnout. Employees may cope with the stress of work by calling in sick, which may result in termination, contributing to increased turnover. This is consistent with a model of burnout proposed by Maslach, Jackson, & Leiter (1996) in which excess demands and lack of resources result in burnout, which results in diminished organizational commitment, turnover and absenteeism, and physical illness. Vahey and colleagues (2004) found that hospital nurses with lower levels of burnout were significantly less likely to report that they intended to leave their jobs within the next year.

Work Environment

Description. Work environment is a broad term used to describe the context where work is performed and has a significant impact on the ability of organizations to attract and retain staff. It may also be referred to as organizational culture, the "shared values and beliefs that underlie a company's identity" (Kinicki & Kreitner, 2003, p. 24). Leadership, communication, and teamwork are often discussed in regard to work environment.

Nursing homes have tended to use top-down, authoritarian management styles believing this is the best approach for organizations with a high proportion of unskilled or semi-skilled employees (Anderson, Issel, & McDaniel, 2003). There is a history of

treating employees particularly nursing assistants, with little respect (Sheridan, White & Fairchild, 1992). The nursing home work environment has also been criticized for using the medical model, focusing on tasks and routines, and for punitive approaches (Hollinger-Smith & Ortigara, 2004). Avoiding survey deficiency citations is often the focus rather than aiming for quality of care (Schnelle, Ouslander & Cruise, 1997).

"Culture change" is currently an emphasis in nursing home work environments. The goals of these efforts are a more person-centered environment for residents and families and a work environment that attracts and retains staff. Increasingly, advocates and change agents have called on nursing homes to give more attention to resident choice and preferences. However, they note that residents will not achieve control over their daily lives unless those who care for them also feel empowered and have control over their work lives (Lustbader, 2001; Kane et al., 1997). A work environment that respects and values employees also can compensate to some degree for low the wages provided by nursing homes (Mueller, 2002b; Tellis-Nayak, 2007).

Top management (e.g., administrator and director of nursing) play significant roles defining the values and expectations of the work environment. However CNAs often view nurses at the unit level as representatives of the administration because of their supervisory roles. As such, these nurses also play an important part building a "culture of respect" within the organization (Bowers, Esmond, & Jacobson, 2003).

Relationship of work environment to accountability. Yassi and colleagues (2004) explored explanations for wide variations in staff injury rates in intermediate care facilities in Canada. They concluded that differences could be attributed to differences in organizational culture. In organizations with low rates of injuries, RNs were more likely

to support flexibility and respond to concerns of aides. There was also follow-up of problems by RNs and management in the organizations with low rates of injury. Other factors included adequate staffing and practices that supported the caregiver role.

Relationship of work environment to autonomy/decision-making. Kubsch (1996) found that nursing homes were the clinical practice setting that was the "least tolerant" of nursing autonomy as measured by the implementation of independent nursing interventions. She described nurses in this setting as caught between two "centralized bureaucracies", the nursing home corporation and state licensing regulations.

Gruss, McCann, Edelman, and Farran (2004) compared two dementia care units in same facility. One unit had implemented culture change that included allowing CNAs more discretion about their work environment and organizing the work for their shift. CNAs on the experimental unit (n=12) reported greater resources to do job, that they were provided with more information, and had greater participation in decision-making than those on the comparison unit (n=15). They were also asked to identify the five most stressful factors related to their work. CNAs on the experimental unit identified sources of stress as more resident-focused rather than job focused.

Relationship of work environment to continuity of care provider. Continuity of care and supporting the relationship between staff and residents is often espoused as an organizational value. However, staff at the unit level, especially CNAs, often questions the organization's commitment to its values when they see staff frequently rotated to other units or a large number of staff from temporary agencies used in the facility (Bowers, Esmond, & Jacobson, 2003).

Relationship of work environment to continuity of information. Nursing assistants identified communication and feedback about changes as contributing to their ability to provide effective care to residents (McGillis Hall et al., 2005). Forbes-Thompson et al. (2006) studied organizational processes in three nursing homes in Kansas. They found the perceptions of administrators and directors of nursing about communication differed significantly from those of direct care staff. There were also differences between nurses and nursing assistants.

Relationship of work environment to job satisfaction. Coward and colleagues (1995) compared job satisfaction of RNs and LPNs working in nursing homes in rural and urban locations in Florida. Perception that their supervisor was interested in their career was one of five variables that predicted 45.5 percent of job satisfaction.

Relationship of work environment to burnout. Chappell and Novak (1992) found that nursing assistants who felt they lacked rewards in their work reported greater levels of burnout. Mobily and colleagues (1992) also noted that a favorable work environment reduces the risk of staff burnout. Jenkins and Allen (1998) studied the relationship between staff burnout and distress and the quantity and quality interactions with residents in two residential care homes in the United Kingdom. Both homes were described as having a "resident-orientated environment". Staff scored in the average burnout range on the emotional exhaustion and personal accomplishment subscales and in the low burnout range on the depersonalization subscale. All of these studies measured burnout with the Maslach Burnout Inventory.

Presence of Special Units

Description. As noted in Chapter 1, nursing homes are serving an increasingly diverse population. This presents both advantages and disadvantages. Advantages include opportunities to specialize, often in care for persons with dementia or for short-term stay residents admitted from rehabilitation or transitional care following hospitalization. Special units provide staff with more variety of work experiences within the same organization. Disadvantages have also been identified. Staff report difficulty working with residents with such a wide range of needs, especially if they are on the same unit (Morgan et al., 2002). Short-term residents may contribute to an increased workload due to the acuity and intensity of their needs. Additional workload may also result from a more rapid turnover of these residents.

Relationship of special units to accountability and autonomy/decision-making. No studies specifically addressed these relationships.

Relationship of special units to continuity of care provider and information. As noted above, permanent assignment is often used for dementia care units. These units could be expected to have more continuity of care provider and information. Relationship of special units to continuity of information.

Relationship of special units to job satisfaction. No evidence was found about a relationship between special units and job satisfaction. However, similar to burnout, discussed below, job satisfaction is likely to be linked to whether staff feels prepared to provide care for specialized populations.

Relationship of special units to burnout. Mobily and colleagues (1992) reported that burnout scores for emotional exhaustion and depersonalization subscales decreased

following opening of a dementia special care unit. They attributed to the training and support provided prior to that contributed to increased staff knowledge, abilities, and resources. Morgan et al., (2002) noted that staff reported feeling stressed when working with a variety of types of residents on the same unit and constantly needing to change their approaches.

Summary: Organization characteristics. Seven organizational characteristics were discussed in this section: ownership, size, staffing, assignment pattern, turnover, work environment, and special units. These variables provide the context and resources for the nursing practice model. They are also highly interrelated with each other. For example, the size of a facility will impact whether or not residents with specialized needs can be provided care and services on separate units. This in turn will effect whether nursing staff can focus their knowledge and skills for working with a specific population, or if they need to be generalists. Organization characteristics also significantly influence the development of the nursing practice model through the values apparent in the work environment.

Nursing Staff Outcomes

Two nursing staff outcomes were included in this study, job satisfaction and burnout. In this section, an overview of these two outcomes will be presented.

Job Satisfaction

Job satisfaction is defined as "an affective or emotional response toward various facets of one's job" (Kinicki & Kreitner, 2003, p. 125) and has been studied extensively in organizational research. Job satisfaction has multiple dimensions; a person can be satisfied with one aspect of the job and not others. Research has found job satisfaction to

have an impact on motivation, job involvement, employee behavior, organizational commitment, absenteeism, turnover, perceived stress, and job performance. In nursing, job satisfaction has often been studied in relationship to recruitment and retention of nurses. More recently, a relationship between nurse satisfaction and patient or client outcomes has been proposed. However, only limited evidence exists to support this relationship (McGillis Hall, 2003).

Although employees tend to prefer more autonomy and control of decisions in their work environment, this preference is not universal. Differences among workers regarding the type of activities they prefer to make decisions about may also vary. Based on differences found in previous research with acute care nurses, McGilton and Pringle (1999) examined the perceptions and preferences for control over clinical and organizational decisions for nurses in long-term care. They measured perceived and preferred control over clinical and organizational aspects of the nurses' work. Nurses reported a large gap between perceived and preferred control over activities. Nurses who perceived they had more organizational control reported higher satisfaction.

The quality of care provided by a nursing home impacts the job satisfaction of employees. For example, nursing assistants who could not provide care they considered acceptable were more likely to quit (Bowers & Becker, 1992). CNAs reported that feeling unappreciated and undervalued by organizations is a major factor contributing to turnover. Bowers, Esmond, & Jacobson, 2003).

Burnout

Burnout has been identified in the literature since the 1970s. It is defined as a psychological syndrome of symptoms developed in response to chronic job-related

interpersonal stress (Maslach, Schaufeli, & Leiter, 2001). Work environment also plays a role (Vahey et al., 2004). Symptoms of burnout include reduced energy, lack of concern about patients, avoidance, pessimism, boredom, and anxiety. Nurses and others involved in human service work have been identified as being at high risk for burnout. Type of work setting has been hypothesized to play a role in contributing to burnout. For example, working with persons whose problems are not easily resolved (such as those with chronic illness) may result in more stress that contributes to burnout (Maslach, Jackson, & Leiter, 1996).

Jenkins and Allen (1998) studied staff burnout as a factor potentially impacting interactions with residents in two residential homes for older adults in the United Kingdom. Higher scores for personal accomplishment (i.e., lower burnout) were positively correlated significantly more staff-resident interactions. Evers, Tomic, and Brouwers (2001) studied the relationship between aggressive behavior of residents and burnout among nursing staff from 22 nursing homes in the Netherlands. Physical and psychological aggression was related to the emotional exhaustion component while psychological aggression (e.g., shouting) was associated with more depersonalization.

Allen and Mellor (2002) examined burnout, control, and neuroticism in 21 chronic care and 83 acute care nurses working a public hospital in Australia. Burnout was measured using the Maslach Burnout Inventory-General Survey version, which has subscales for exhaustion, cynicism, and professional efficacy (which differs from the Human Services Survey, the version most often used with health care workers). No differences were found in the level of burnout based on practice setting. The authors suggested that this might be due to the small sample size of only 21 chronic care nurses.

Many of the chronic care nurses also periodically worked in the acute care sections of the hospital, so their experiences may similar to those of the acute care nurses.

A study from Italy compared stress and burnout of staff caring for older adults in three nursing homes and nine geriatric wards in acute care hospitals (Cocco, Gatti, Lima, & Camus, 2003). Acute care staff had higher levels of burnout. Participants from the nursing homes also had lower burnout in comparison other studies of staff working with similar chronically ill populations. The authors suggested that the presence of dementia special care units in two of the three nursing homes may have contributed to higher levels of knowledge and skills for working with this population, resulting in less burnout.

Kennedy (2005) found a correlation between work-related stress and burnout in nursing staff in a 252 bed nursing home in the southeastern United States. RNs reported highest levels of both stress and burnout, with CNAs reporting a moderate amount and LPNs reporting the lowest levels. Scores were highest for staff working on the intermediate and skilled care wards (compared to the sub-acute and Alzheimer's units).

There is some controversy in the literature about the relationship between burnout and job satisfaction. Some authors view these as constructs that may be moderately correlated but are distinct from each other (Burgio et al., 2004; Maslach, Jackson, & Leiter, 1996). Others have used one to predict the other, with inconsistent results (Kalliath & Morris, 2002). This could be related to the instrument used to measure job satisfaction. For example, some job satisfaction tools focus on external characteristics of the work environment, compared to the burnout measure which asks about internal or emotional responses to work (Burgio et al., 2004).

Summary: Nursing staff outcomes. Despite long-standing concerns about the challenges of attracting and retaining staff in nursing homes, limited evidence is available to identify "best practices." Examining job satisfaction and burnout in relation to nursing practice model components may provide additional insights.

Summary

Gaps in the Literature and Justification for Study

This chapter reviewed literature relevant to the purpose of this study, to explore the impact of nursing practice models on job satisfaction and burnout of nursing home staff. While there is some evidence to support the relationship, gaps were also identified. These include: 1) limited research on nursing practice models outside of the acute care setting, 2) failure to address nursing staff as a group, 3) limited research on burnout of nursing staff in nursing homes; and 4) limited research using the Nursing Role Effectiveness Model (NREM) in any setting. This section will discuss each of these gaps and describe how this study will address these.

Nursing practice models. Nursing practice models have been studied mostly in acute care settings. The few reports found provide promising results, nursing practice models being associated with resident choice (Cox et al., 1991), improved accountability and continuity of care (Anderson and Hughes, 1993; Maas, 1989), and improved resident outcomes Cox et al., 1991; Maas, 1989; Tappen, Hall, & Folden, 2001). However, most of these studies are not recent, they involve single organizations, and tend to use small samples.

The impressive results (higher patient satisfaction, lower mortality, less nurse burnout, lower turnover, etc) attributed to nursing practice models represented by the

magnet hospital research and the more recent work of Aiken and colleagues warrant investigation in the nursing home setting. It will be useful to know if these relationships hold true for nursing homes where unlicensed staff provides the majority of direct care and RNs function primarily as care coordinators and supervisors.

Considering nursing staff as a group. Many studies reported the perspectives of only one type of nursing staff. For example, Anderson and McDaniel (1998) surveyed administrators and DONs about RN participation in decision-making, but did not survey the RNs. Barry, Brannon, and Mor (2005) asked DONs about strategies used by their organizations to empower nursing assistants, but did not obtain information directly from CNAs. Other studies included the perspectives of nursing assistants, but not other nursing staff (Bowers, Esmond, & Jacobson, 2000, 2003; Friedman et al., 1999). Studies that examined assignment patterns included nursing assistants but not the assignment pattern used for nurses (Banazak-Holl & Hines, 1996; Burgio et al., 2004).

Nursing care in nursing homes is provided by groups of nursing staff with a range of educational preparation and experience and functioning in a variety of roles. Because they are interdependent and complementary to each other, it is essential to consider the group of workers together.

There seems to be a gap concerning what is known about LPNs. In some studies, they have been included with RNs (Kruzich, 1995). Other studies have grouped them with nursing assistants (Alexander et al., 1998; Castle & Engberg, 2005). Part of the problem may be the tendency to use RNs and LPNs interchangeably. In acute care, there is some evidence that type of RN educational preparation makes a difference in quality of care. Aiken et al., (2003) recently reported that a 10 percent increase in the proportion of

RNs was associated with a five percent decrease in mortality within 30 days of hospital admission. This will be more challenging to study in nursing homes, where the proportion of RNs, particularly those with baccalaureate degrees is small. However, a first step must be to distinguish RN from LPN practice.

There is also a need to understand the unique contributions of nursing to long-term care. We are challenged by advocates who favor the "social model" and equate nursing with medical care. Others argue that long-term care may be synonymous with nursing care (Hollinger-Smith, Ortigara, & Lindeman, 2001) and that nursing homes have underestimated the importance of nurses as essential to the culture change process. (Hollinger-Smith & Ortigara, 2004).

Burnout. Nursing homes seem to be a work environment where staff is at risk for staff burnout. However, few studies were found on burnout and nursing home staff. Most of the studies available were done in other countries, potentially limiting the generalizability to nursing homes in the United States. Some of the studies are also limited by small sample sizes (Jenkins & Allen, 1998; Mobily et al., 1992). Other authors have used concepts such as job strain (Morgan et al., 2002) or burden (McCarty & Drebling, 2002) to study the impact of work-related stress on nursing home staff.

Burnout was selected as an outcome for this study because it has been included in the magnet hospital and related research on nursing practice models. The same instrument, the Maslach Burnout Inventory, has also been used in these studies. This provides some ability compare these studies with those from nursing home settings.

NREM. The nursing role effectiveness model was only recently developed and has been used in research to a limited extent. It is not known if the model will fit in a setting

where RNs are present in small numbers and proportions. There also is little information about how LPNs and CNAs fit in the model. However, as the NREM was developed as part of a research program to examine changes in staffing in acute care (e.g., fewer RNs, more unlicensed staff), it seems reasonable to assume it can be applied in other practice settings.

Variables and Definitions

The variables for this study are listed in Table 1 at the end of this chapter. They are presented according to placement in the model for the study (Figure 2). Measurement instruments are discussed in Chapter 3.

Conclusion

Working in a nursing home has been described as difficult and unrewarding. However, based on this review, it is evident that nursing staff experience satisfaction with their jobs, particularly from relationships with residents. The problem is not the work itself, but factors in the work environment that present barriers to being able to provide care in a manner they find satisfying and results in desired outcomes.

As the largest group of workers in nursing homes, nursing staff must work collaboratively to develop nursing practice models that use available resources to implement effective and efficient processes of care. These processes must result in preferred outcomes for staff as well as for residents.

Purpose and Aims

The purpose of this study was to explore the impact of nursing practice models on nursing staff job satisfaction and burnout of nursing home staff. It had three aims.

Aim 1: To describe and compare staff (RN, LPN, CNA) perceptions of nursing practice model components of accountability, autonomy/decision-making, informal continuity of information, formal continuity of information, and continuity of care provider.

Aim 2: To explore if there are differences in these perceptions based on nurse characteristics and organizational characteristics.

Aim 3: To determine whether the nursing practice model components of accountability, autonomy/decision-making, informal continuity of information, formal continuity of information, and continuity of care provider predict job satisfaction and burnout after controlling for nurse and organizational characteristics.

Table 1

Variables/Concepts, Definitions, and Operational Definitions

Variable/Concept	Definition	Operational Definition
Registered nurse (RN)	Nurses who have completed a baccalaureate, associate degree, or diploma educational program and are licensed as a RN by the Oregon State Board of Nursing.	Nursing staff demographic report.
Licensed practical nurse (LPN)	Nurses who have completed a 1-year educational program and are licensed as a LPN the Oregon State Board of Nursing.	Nursing staff demographic report.
Certified Nursing Assistant (CNA)	Direct care staff that have completed a 150-hour approved training program and are certified by the Oregon State Board of Nursing.	Nursing staff demographic report.
Certified Medication Aide (CMA)	CNAs with additional 80 hours of training and are authorized to administer non-injectable medications.	Nursing staff demographic report.

Variable/Concept	Definition	Operational Definition
Experience in facility	The length of time a person has been worked in the facility where he/she is currently employed.	Demographic data reported as length of time working of in his/her current job.
Experience in nursing homes	The length of time a person has been worked in nursing homes.	Demographic data reported as length of time working of in nursing homes.
Experience in nursing and/or health care	The length of time a person has been worked in nursing and/or health care in any setting.	Demographic data reported as length of time working of in nursing and/or health care.
Staff role	A nursing staff member who spends the majority of his/her time providing direct care to residents (as opposed to in management or administrative responsibilities).	Individual demographic report of the job title the person functions in the majority of time when working in the participating organization.
RN Care Manager (RCM)	A RN responsible and accountable for managing the nursing care of his/her assigned residents as described in OARS 411-086-0030.	Individual demographic report.
Charge nurse	A licensed nurse (RN or LPN) designated responsible for supervision of a unit for a designated shift.	Nursing staff demographic report.
Director of nursing (DON)	A registered nurse designated with administrative authority, responsibility, and accountability as described in OARS 411-086-0020.	Demographic data reported on the DON profile.
Ownership	For-profit or not-for profit corporate or business status.	Report of organizational characteristics completed by the DON

Variable/Concept	Definition	Operational Definition
Size	The number of licensed beds.	Report of organizational characteristics completed by the DON
Staffing	Number of residents each staff member usually cares for.	RN, LPN, and CAN report of usual number of residents assigned to care for
Assignment pattern	The manner that staff is assigned to care for specific residents	Report of DON of the predominant method used for the organization (e.g., permanent or rotating).
Turnover	Changes in staff due to employees leaving an organization.	DONs will be asked to provide the data (number of staff who have left during the past 12 months. The rate will calculated using the formulas recommended by Tang (2003).
Work environment	The context where work is performed.	Report of participation in culture change activities in the past 5 years and types of activities reported on the Organizational Characteristics survey completed by the DON.
Nursing home	A care facility that provides 24-hour care (including 24-hour licensed nurse coverage), is licensed by the state of Oregon, and is Medicare and/or Medicaid certified.	All participating facilities were licensed and certified nursing homes.
Dementia special care unit	A unit within a nursing home designated for the care persons with Alzheimer's disease or other dementias.	Report of presence and types of special units reported on the Organizational Characteristics survey completed by the DON.

Variable/Concept	Definition	Operational Definition
Sub-acute or rehabilitation unit	A unit within a nursing home designated for the care of short-term residents who expect to be discharged to their home or other previous residence.	Report of presence and types of special units reported on the Organizational Characteristics survey completed by the DON.
Nursing practice model	"(T)he manner in which nurses assemble to accomplish clinical goals" (Brennan & Anthony, 2000, p. 372).	Score obtained by adding the scores of four subscales of the Nursing Practice Model Questionnaire (NPMQ). Subscales include autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information.
Accountability	"Responsibility and authority of the registered nurse for the assessment, planning, implementation, and evaluation of nursing care for residents" (Mueller, 2005, p. 9).	Score obtained from the Accountability subscale of NPMQ.
Autonomy/decision-making:	"Active participation of nursing staff in making decisions about their work, work environment, and the care of residents" (Mueller, 2005, p. 9).	Score obtained from the autonomy/decision-making subscale of NPMQ.
Continuity of care provider	"(C)onsistent nurse or group of nursing staff coordinating and providing care to the resident" (Mueller, 2005, p. 9)	Score obtained from the continuity of care provider subscale of NPMQ.
Formal continuity of information	Adequate and relevant information about the resident that is available, used, and transferred among persons involved in the care of the resident through formal communication structures (Mueller, 2005).	Score obtained from the formal continuity of information subscale of NPMQ.

Variable/Concept	Definition	Operational Definition
Informal continuity of information	Adequate and relevant information about the resident that is available, used, and transferred among persons involved in the care of the resident through informal communication structures (Mueller, 2005).	Score obtained from the informal continuity of information subscale of NPMQ.
Job satisfaction	"(A)n affective or emotional response toward various facets of one's job" (Kinicki & Kreitner, 2003, p. 125)	Score obtained from the General Job Satisfaction Scale of the Job Diagnostic Survey
Burnout	A psychological syndrome developed in response to chronic job-related interpersonal stressors (Maslach, Schaufeli, & Leiter, 2001).	Score obtained subscales of Maslach Burnout Inventory for emotional exhaustion, depersonalization, and personal accomplishment

CHAPTER 3

Research Design and Methods

This study used a cross sectional correlational design to explore the relationship between nursing practice models and two nursing staff outcomes, job satisfaction and burnout. This design can be used to examine the relationships between variables that cannot be manipulated, such as characteristics of nurses or organizations (Mertens, 1998). It is also used to learn if certain variables are predictive of outcomes of interest. While cause and effect may be inferred, they cannot be proven as this is not an experimental design.

Several factors contributed to decisions regarding the design. First, research on nursing practice models is limited outside of the acute care setting. Second, one of the instruments, the Nursing Practice Models Questionnaire (NPMQ), is a new measure and has not been used in a study other than instrument development work. Third, some of the variables were used differently than in prior research. For example, turnover is often used as an outcome variable; in this study it will be used as a control variable. Fourth, few studies were found that included all types of nursing personnel (i.e., RNs, LPNs, and CNAs) involved in providing care to nursing home residents. Finally, the Nursing Role Effectiveness Model (NREM), which was adapted for use as the conceptual framework for the study, has been tested only to a limited extent. For these reasons, this study will provide preliminary data for more predictive designs.

Setting

This study was limited to nursing homes in Oregon due to the unique nature of long-term care in this state. Oregon has made extensive use of Medicaid waivers since

1982 and provides the majority of long-term care in community-based settings such as adult foster homes, assisted living, and in-home care. As a result, nursing home residents are more likely to be those unable to receive care in other settings due to acuity of health problems, severe cognitive impairment, and/or significant physical impairments. Other states are increasingly adopting community-based models of long-term care. Thus, it may be expected that nursing home residents in those states will become similar to the nursing home population in Oregon. This study provided an opportunity to learn from the experiences of Oregon and to identify strategies to implement effective and efficient nursing practice models.

Sample

All Medicare and Medicaid certified nursing homes that primarily serve adults in the 3-county Portland, Oregon metropolitan area were contacted for participation in this study (total=51; Clackamas county=10, Multnomah county=32, Washington=county 9). This method was selected for several reasons. First, nursing homes in these counties can be expected to have a variety of organizational characteristics such as size, type of ownership, presence of special units, etc. Second, it was expected that nursing homes in a metropolitan area are likely to be larger and have larger numbers of staff as potential participants. Third, using a limited geographic area facilitated the ability of the investigator to visit each home personally and to meet with the director of nursing and staff to explain the purposes of the study, encourage participation, and facilitate on-site data collection. A convenience sample of those nursing homes willing to participate was used for the study.

The sample was limited to Medicare/Medicaid and Medicaid-only certified nursing homes as these were believed to be most representative in terms of type of residents served and financial resources available to the facility. Eight of the 51 nursing homes in the three county area were certified for Medicaid only; the rest were certified for both Medicare and Medicaid. The two excluded facilities were continuing care retirement communities that were certified for Medicare only.

All nursing staff (i.e., RNs, LPNs, and CNAs) was invited to participate in the study. As discussed in Chapter 2, a limitation of available research is the inclusion of the perspective of only some nursing staff (e.g., DON, nurses, or nursing assistants). A nursing practice model represents the interdependent nursing role. Communication and coordination of care among all nursing staff are important activities reflected in this role.

The goal was to have a minimum of 150 participants. Tabachnik and Fidell (2001) recommend $N \geq 104 + m$ (the number of independent variables) for sample size when using individual predictors for multiple regression; this would equal108 for this study with four independent variables. This formula assumes a medium effect size; however, as one of the instruments used in this study was new, information about effect size was not available, so a sample size of 150 was selected. A large number of participants from fewer organizations were preferred (e.g., five to six nursing homes with 25 to 30 participants per facility). It was believed this would provide a more complete and balanced view of the nursing practice model in each facility. A larger number of participants per facility might also allow an opportunity to do some comparisons among facilities or to identify patterns or trends to explore in future research.

Data Collection Methods and Instruments

Several survey instruments were used to collect data. The instruments are presented in the order of structure, process/nursing role, and nursing staff outcomes as outlined in Figure 2. Information about instruments is summarized in Table 4.

Structural Variables

Structural variable data included demographic information that describes the characteristics of nursing staff and organizations participating in the study. Individual participants completed nursing staff demographics. The director of nursing (DON) completed demographic information about herself/himself and the organization (Appendices A and B). Nursing staff (RNs, LPNs, and CNAs) provided their individual demographic data on the RN and LPN Survey and the CNA and CMA Survey (Appendices C and D). Figure 2 (Chapter 2) summarizes the structural variables included in the study.

Process Variables

The Nursing Practice Model Questionnaire (NPMQ) provided the process variables for this study. This measure was designed to identify the distinctive components of nursing practice models in nursing homes (Mueller, 2005). It was evaluated in an instrument development study that included three phases. Phase I consisted of extensive literature review and validation of the components of the model with focus groups with staff from nursing homes (eight RNs, six LPNs, and four CNAs). Phase II included evaluation of content validity, burden, feasibility, and clarity with two experts in long-term care nursing administration/management. Phase III was a pilot test of the instrument and data collection protocols with 506 nursing staff from 15 nursing homes (RNs n=64,

LPNs=111, CNAs=301; some respondents did not indicate their position). Factor analysis was used to evaluate construct validity for all subscales except accountability. Factor analysis could not be used with the accountability subscale because it is scored by the percentage of correct answers.

The initial version of the NPMQ included five subscales: accountability, autonomy/decision-making, collaboration, continuity of care provider, and continuity of information. Based on the factor analysis, several items were deleted that did not load on any factor or did not have a common theme. The collaboration subscale was deleted and continuity of information was divided into two subscales. The current version includes five subscales: accountability, autonomy/decision-making, informal continuity of information, formal continuity of information, and continuity of care provider. Psychometric properties of the NPMQ are summarized in Table 2.

Several other measures of nursing practice models are available. One of the most widely used is the Revised Nursing Work Index (NWI-R), designed by Kramer for research on magnet hospitals and recently revised by Aiken and Patrician (2000). However, none of these measures have been used in nursing homes. As the characteristics of nursing homes and the nursing staff who work there differ significantly from acute care, the NPMQ was selected as having a better theoretical fit with this setting. The NPMQ can be also used with all levels of nursing staff (i.e., RNs, LPNs, CNAs). Mueller, the developer of the NPMQ, also has extensive experience as a nurse administrator and researcher in nursing homes.

Another strength of the NPMQ is that it attempts to measure appropriate practice based on licensure. The accountability subscale lists fourteen activities and is completed

by RNs and LPNs only. These items ask who is responsible for completing the activities on the work unit. The responses are then compared to the state nurse practice act for consistency with legally defined scope of practice. This subscale is scored by percentage of correct answers. Mueller (2005) found that five activities identified as exclusive to RN practice were correctly rated by only 5.7 to 23 percent of participants. In this study, the accountability subscale was reviewed for consistency with Oregon nursing practice regulations.

The other four subscales are summed for an individual subscale score and could also be summed for a scale total (C. Mueller, personal communication, June 3, 2005). Items are rated on a 3-point scale: 1-always/almost always, 2-sometimes, or 3-rarely/never. Lower scores are desirable and reflect a "better" nursing practice model. A potential disadvantage of the instrument is limited variability because of a 3-point rating scale. Mueller (2005) chose this format for ease of use by all nursing staff, particularly nursing assistants. Participants in the instrument development study were able to complete the NPMQ and demographic information in an average of 12 minutes (range 3-30 minutes).

Items for the NPMQ are found in Section B of the RN and LPN Survey and CNA and CMA Survey (Appendices C and D). Only RNs and LPNs completed the Accountability Subscale (items 24-37).

Outcome Variables

The General Job Satisfaction (GJS) Scale from Job Diagnostic Survey (JDS) was used to measure the outcome variable, job satisfaction. The GJS has five items. It is a subscale from the longer Job Diagnostic Survey developed by Hackman and Oldman

(Institute for the Future of Aging Services; IFAS, 2003). Each item is rated from 1 (disagree strongly) to 7 (agree strongly). This subscale provides an overall or global rating of job satisfaction. It has been used in a variety of types of work settings. Longer versions or other subscales have been used with nursing staff in nursing homes with nursing assistants (Smyer, Brannon & Cohn, 1992). The GJS was evaluated using the Flesch-Kincaid readability scale. A score of 8 indicates an eighth grader can understand the measure; the GJS has a readability score of 5.3, which means is can be understood by persons with less than an eighth grade education (IFAS, 2003).

The Maslach Burnout Inventory (MBI), a 22-item instrument is one of the most widely used measures of burnout, the second outcome variable of this study. Lee and Ashforth (1996) completed a meta-analysis of studies on burnout reported from 1982 to 1994. Their search found 77 studies that used the MBI. Of the 61 studies that met criteria for inclusion in their meta-analysis, 80 percent included samples of human service providers (e.g., teachers, nurses, counselors, police officers, and social workers).

The MBI includes three domains: emotional exhaustion, depersonalization, and personal accomplishment. These are used separately, not summed for a total. High scores for emotional exhaustion and depersonalization and low scores on personal accomplishment indicate burnout. A seven-point Likert-type scale is used to rate items from 0 (never) to 6 (everyday). The MBI has been used in magnet hospital research. Higher scores on Revised Nursing Work Index subscales (which indicate a higher quality practice environment) are associated with lower burnout (Aiken, Havens, & Sloane, 2000; Vahey et al., 2004).

The MBI has been used in nursing home research on burnout (Chappell & Novak, 1992; Mobily, Maas, Buckwalter & Kelley, 1992). It was also used in a study of staff working in residential care homes in the United Kingdom (Jenkins & Allen, 1998) and in a study comparing staff in nursing homes to acute hospital geriatric wards in Italy (Cocco, et al., 2002). The Mobily et al. (1992), Jenkins and Allen (1998), and Cocco et al., reports did not include reliability information for their studies. Chappell and Novak (1992) reported a Cronbach's alpha of .81. However, this appears to be for the three subscales combined. Vahey and colleagues (2004) reported Cronbach alphas of .73 to .89 for the subscales in a study of hospital nurses.

Items for the GJS are found in Section D of the RN and LPN Survey and CNA and CMA Survey (Appendices C and D). The MBI items are found in Section C.

Table 2

Reliability and Scoring of Instruments

Concept	Instrument	# of items	Alpha	Scoring
Nursing practice model	Nursing Practice Models Questionnaire (NPMQ); 4 subscales			Subscales for autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information can be added together.
	Accountability subscale of NPMQ	14*	Not available due to scoring method	Items 24-37 on the NPMQ. Report by RNs and LPNs regarding who RN, LPN, both, CMA) is responsible for various activities. Reported as the percent that indicated which type of staff for each activity.

Concept	Instrument	# of items	Alpha	Scoring
	Other subscales			Rated 1 (Always/almost always), 2 (Sometimes) or 3 (Rarely/Never). Sum of item scores for subscale. Lower score indicates a "better" or "stronger" nursing practice model.
	Autonomy/decision-making subscale of NPMQ	9	.84 (Mueller, 2005)	Total of items 15-23 on the NPMQ.
	Continuity of care provider subscale of NPMQ	5	.69 (Mueller, 2005)	Total of items 5, 6, 7, 13, & 14 on the NPMQ.
	Formal continuity of information subscale of NPMQ	4	.68 (Mueller, 2005)	Total of items 8-12 on the NPMQ.
	Informal continuity of information subscale of NPMQ	5	.72 (Mueller, 2005)	Total of items 1-4 on the NPMQ.
Job satisfaction	General Job Satisfaction Scale (GJS) from Job Diagnostic Survey (JDS)	5	.74-.80 (IFAS, 2003)	Rated from 1 (disagree strongly) to 7 (agree strongly); 2 items must be reversed scored. Items are totaled and divided by the number of items for a final score of 1 to 7. Higher scores indicate greater job satisfaction.
Burnout	Maslach Burnout Inventory (MBI)			Subscales are used separately (not summed for total). Rated from 0 (never) to 6 (everyday). Higher scores indicate higher burnout
	Emotional exhaustion	9	.89 (Vahey et al., 2004)	Total of items 1, 2, 3, 6, 8, 13, 14, 16, & 20 from the MBI
	Depersonalization	5	.73 (Vahey et al., 2004)	Total of items 5, 10, 11, 15, & 22 from the MBI
	Personal accomplishment	8	.76 (Vahey et al., 2004)	Total of items 4, 7, 9, 12, 17, 18, 19 & 21 from the MBI
Total # of items *Accountability subscale completed by RNs and LPNs only.		64 (RNs & LPNs) 50 (CNAs)		

Procedures

Directors of nursing in the sample nursing homes were contacted initially by mail (Appendix E). The letter was printed on pink paper and mailed in a bright pink envelope to call attention to the materials. The letter was followed up with a phone call to discuss the study and invite participation. If they agreed, the investigator asked for an opportunity to present information to staff and distribute surveys to nursing staff at the work site. Multiple visits were made to some facilities to provide opportunities for as many staff as possible from all shifts to participate.

Once facility participation was obtained, the director of nursing was asked to help facilitate staff participation by posting advertisements about the study, and identifying optimal times to present surveys to nursing staff. Potential participants received a letter of invitation including the date and location for the data collection (Appendix F). This letter was made available via individual employee mailboxes in some facilities and by posting in others. The purpose, procedure, risks, and benefits of the study were explained. These were reiterated verbally at the time of data collection; participants were also provided the information in written form (Appendix G). Data was collected in the nursing homes at times convenient to staff, most often following a scheduled staff meeting. Surveys were returned directly to the investigator. Refreshments were provided to participants during survey completion time. In appreciation for their assistance, directors of nursing were offered the opportunity to select an evidence-based protocol from the Gerontological Nursing Interventions Research Center at the University of Iowa College of Nursing. These protocols address a variety of clinical problems common to nursing home residents as well as management issues such as quality improvement and staff retention.

Provision for Protection of Human Subjects

The Oregon Health & Sciences University Institutional Review Board approved this study. Data sources were anonymous. Surveys were given a facility code known only to the investigator. Individual staff surveys were given a unique identifier used for data entry and verification only; it was not linked to participant identity. Data are reported only in an aggregated manner, i.e., not for individual nursing homes. Completion and return of the survey was considered consent to participate.

Data were transported in a locked bag and stored in a locked file cabinet. Data were entered into a computerized database for analysis. The computer used was password protected. The original surveys will be retained for five years after completion of the study.

Analysis Procedures

The analysis plan is summarized by each aim of the study. Preliminary analysis included descriptive statistics (mean, standard deviation, range, skewness, kurtosis) for all variables to obtain a description of the sample and to determine if assumptions were met for further analysis. When feasible and appropriate, variables were combined to simplify the analysis (e.g., charge nurse and RCM roles).

Aim 1: To describe and compare staff (RN, LPN, CNA) perceptions of nursing practice model components of accountability, autonomy/decision-making, informal continuity of information, formal continuity of information, and continuity of care provider. These relationships were tested using analysis of variance (ANOVA). Descriptive statistics were reviewed to assure that data met the assumptions for ANOVA: 1) continuous dependent variables were normally distributed (NPMQ scales for

autonomy/decision-making, continuity of care provider, formal continuity of information, informal continuity of information); and 2) mutually exclusive independent variables with equal variances (Munro, 2005). The analysis plan for Aim 1 is summarized in Table 3.

Table 3

Analysis Plan: Aim 1

Null Hypotheses	**Variables**	**Operationalization**	**Analysis**
Description only	Accountability		Scores will be reported as the overall percent participants identified as the person responsible for each activity (RN, LPN, Both or RN, LPN, CNA)
1.1. There is no difference among RNs, LPNs, and CNAs on perceptions of autonomy/decision-making.	Independent variable: Type of staff • RN • LPN • CNA Dependent variable: Autonomy/decision-making	Type of staff: 1=RN, 2=LPN 3=CNA Score for autonomy/decision-making subscale from NPMQ	ANOVA
1.2. There is no among RNs, LPNs, and CNAs on perceptions of continuity of care provider.	Independent variable: Type of staff • RN • LPN • CNA Dependent variable: Continuity of care provider	Type of staff: 1=RN, 2=LPN 3=CNA Score for continuity of care provider subscale from NPMQ	ANOVA
1.3. There is no difference among RNs, LPNs, and CNAs on perceptions of formal continuity of information.	Independent variable: Type of staff • RN • LPN • CAN	Type of staff: 1=RN, 2=LPN 3=CNA Score for formal continuity of	ANOVA

Null Hypotheses	Variables	Operationalization	Analysis
	Dependent variable: Formal continuity of information	information subscale from NPMQ	
1.4. There is no difference among RNs, LPNs, and CNAs on perceptions of informal continuity of information.	Independent variable: Type of staff • RN • LPN • CNA	Type of staff: 1=RN, 2=LPN 3=CNA	ANOVA
	Dependent variable: Informal continuity of information subscale	Score for informal continuity of information subscale from NPMQ	

Aim 2: To explore if there are differences in these perceptions based on nursing staff characteristics and organizational characteristics. Multivariate analysis of variance and correlation were used for these hypotheses. Data were reviewed to assure that the assumptions were met: 1) continuous dependent variables with a multivariate normal distribution with the same variance covariance matrix in each group; and, 2) mutually exclusive independent variables with equal variances (Munro, 2005). Assumptions for correlation were also evaluated: 1) representative sample; 2) normal distribution of variables to be correlated; 3) approximate equal variability for variables being correlated; and, 4) a linear relationship between variables (Munro, 2005). Ownership was omitted from the analyses as only one facility was not-for-profit. Staffing was used only for a description of the sample (e.g., number of residents usually assigned). Turnover was also eliminated due to incomplete and inconsistent data. The analysis plan for Aim 2 is presented in Table 4.

Table 4

Analysis Plan: Aim 2

Null Hypotheses	Variables	Operationalization	Analysis
Nursing Staff Characteristics			
2.1. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to knowledge.	Independent variables: Educational preparation • <High school • Completed high school • Some college (include LPNs and AD and diploma prepared nurses) • Graduated from college	Educational preparation for all participants: 1= did not complete high school 2=completed high school 3=some college 4= graduated from college)	MANOVA
	Dependent variables: Autonomy/decision-making	Subscale from NPMQ	
	Continuity of care provider	Subscale from NPMQ	
	Continuity of formal information subscale	Subscale from NPMQ	
	Continuity of informal information	Subscale from NPMQ	
2.2. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to experience.	Independent Variables: Length of time worked in this facility	Recoded length of time in facility in months: 1=less than 6 months 2=6-12 months 3=13-36 months 4=37-72 months 5=more than 72 months	Correlation
	Dependent variables: Autonomy/decision-making	Subscale from NPMQ	
	Continuity of care provider	Subscale from NPMQ	
	Continuity of formal information	Subscale from NPMQ	
	Continuity of informal information	Subscale from NPMQ	

Null Hypotheses	Variables	Operationalization	Analysis
2.3. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to **role**.	Independent variables: Role: • Staff LPN • Staff RN • Charge nurse • RCM • Other nurse role • CNA Dependent variables: Autonomy/decision-making Continuity of care provider Continuity of formal information Continuity of informal information	Due to small numbers in the nurse roles, analysis was done using licensed (RNs & LPNs) and unlicensed staff Subscale from NPMQ Subscale from NPMQ Subscale from NPMQ Subscale from NPMQ	MANOVA
Organization Characteristics			
2.4. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to size.	Independent variable: Size Dependent variables: Autonomy/decision-making Continuity of care provider Continuity of formal information Continuity of informal information	Number of licensed beds (item 1 from the Organizational Characteristics form completed by the DON). Subscale from NPMQ Subscale from NPMQ Subscale from NPMQ Subscale from NPMQ	Correlation
2.5. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to assignment pattern.	Independent variable: facility report of assignment pattern. Dependent variables: Autonomy/decision-making Continuity of care provider Continuity of formal information Continuity of informal information	1=Permanent 2=Rotating 3=Other Subscale from NPMQ Subscale from NPMQ Subscale from NPMQ Subscale from NPMQ	ANOVA

Null Hypotheses	Variables	Operationalization	Analysis
2.6. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to work environment.	Independent variable: Participation in culture change	0=No 1=Yes	*t*-test
	Dependent variables: Autonomy/decision-making	Subscale from NPMQ	
	Continuity of care provider	Subscale from NPMQ	
	Continuity of formal information	Subscale from NPMQ	
	Continuity of informal information	Subscale from NPMQ	
2.7. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to type of unit worked on.	Independent variable: Unit type	0=No 1=Yes (transitional/ sub-acute, dementia, rehabilitation)	MANOVA
	Dependent variables: Autonomy/decision-making	Subscale from NPMQ	
	Continuity of care provider	Subscale from NPMQ	
		Subscale from NPMQ	
	Continuity of formal information	Subscale from NPMQ	
	Continuity of informal information		

Aim 3: To determine whether the nursing practice model components of accountability, autonomy/decision-making, informal continuity of information, formal continuity of information, and continuity of care provider predict job satisfaction and burnout after controlling for nurse and organizational characteristics. Data were reviewed for ability to meet assumptions for correlation and regression: 1) the sample is representative of the population; 2) the variables being correlated have a normal distribution; 3) the variables being correlated have approximately equal variability; and,

4) there is a linear relationship between the variables being correlated (Munro, 2005). Correlations were examined for strength of correlation and significance. They were also evaluated for multicollinearity. Variables were entered into the regression using a hierarchical method starting with those expected to be of lesser importance. Nursing staff characteristics were entered first, followed by organization characteristics, and finally NPMQ variables (autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information). The analysis plan for Aim 3 is described in Table 5.

Table 5

Analysis Plan: Aim 3

Null Hypotheses	**Variables**	**Operationalization**	**Analysis**
3.1. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information and job satisfaction.	Independent variables: Autonomy/ decision-making Continuity of care provider Formal continuity of information Informal continuity of information Dependent variables: Job satisfaction	NPMQ subscales for autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information GJS score	Correlation Regression
3.2. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information and emotional exhaustion.	Independent variable: Autonomy/ decision-making Continuity of care provider Formal continuity of information Informal continuity of information Dependent variables: Emotional exhaustion	NPMQ subscales for autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information MBI subscale for emotional exhaustion	Correlation Regression

Null Hypotheses	Variables	Operationalization	Analysis
3.3. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information and depersonalization.	Independent variable: Autonomy/ decision-making Continuity of care provider Formal continuity of information Informal continuity of information Dependent variables: Depersonalization	NPMQ subscales for autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information MBI subscale for depersonalization	Correlation Regression
3.4. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information and personal accomplishment.	Independent variable: Autonomy/ decision-making Continuity of care provider Formal continuity of information Informal continuity of information Dependent variables: Personal accomplishment	NPMQ subscales for autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information MBI subscale for personal accomplishment	Correlation Regression

Summary

This chapter outlined the plan for this cross sectional, correlational study. The setting and sample for data collection were described. Information was presented about the data collection methods and instruments, including background and rationale for instrument selection. Procedures, and plan for protecting human subjects were discussed. The plan for data analysis was presented as related to each aim of the study. The next chapter presents the results of the study.

CHAPTER 4

Results

The purpose of this study was to explore the impact of nursing practice models on the job satisfaction and burnout of nursing staff in nursing homes. The statistical analyses began with descriptive statistics to obtain a description of the sample and to determine if assumptions were met for additional analyses. The description of the sample is presented followed by the results of the regression analyses to answer the aims of the study.

Description of Sample

Nursing Staff Characteristics: Demographics

A total of 183 nursing staff from 11 facilities participated in this study. This included 37 RNs (20% of sample), 30 LPNs (17%) and 115 nursing assistants (63%). One participant did not provide information to allow classification as to type of staff. The sample was predominately female (84%) and white (67%). RNs and LPNs were about 10 to 12 years older than CNAs. Additional demographic information is reported in Table 6. Participants could respond to more than one option for some questions, so totals may be greater than 182 or 100%. Responses are less than 182 for items where there was missing data.

Table 6

Demographics

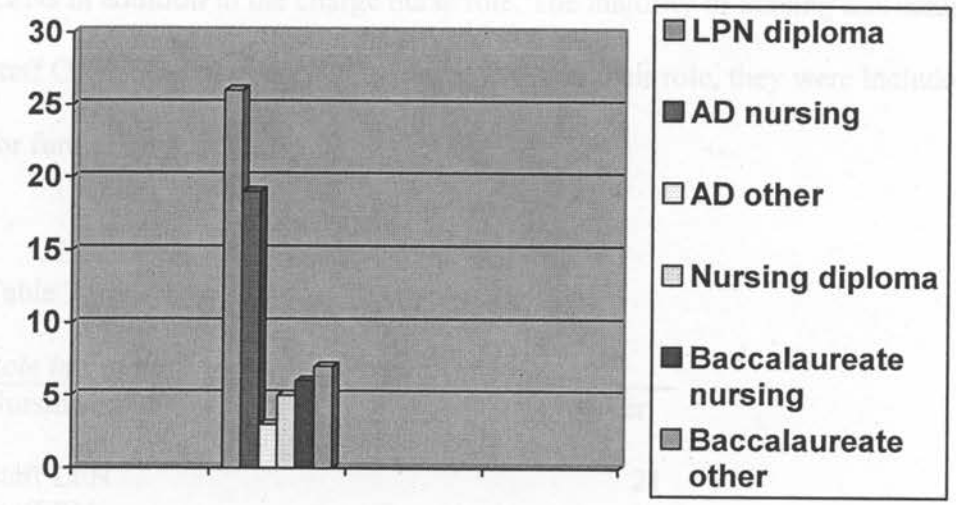
		RNs	LPNs	CNAs	Total
Age (years)	Mean	45.4	48.0	35.5	39.7
	SD	11.9	11.5	13.7	14.0
	Range	24-75	29-67	15-64	15-75
Gender (# (%))					
• Female		30 (81%)	25 (83%)	99 (86%)	153 (84%)
• Male		7 (19%)	5 (17%)	16 (14%)	29 (16%)
Ethnic Background (# (%))					
• Hispanic or Latino		1 (3%)	0	11 (11%)	12 (8%)
• Not Hispanic or Latino		35(97%)	30 (100%)	91 (89%)	156 (92%)
Race (# (%))					
• American Indian or Alaska Native			1 (3%)	4 (4%)	5 (2.6%)
• Asian		2 (6%)	0	10 (9%)	12 (6.3%)
• Black or African American		2 (6%)	0	15 (14%)	18 (9.4%)
• Native Hawaiian or other Pacific Islander		0	1 (3%)	3 (3%)	4 (2.1%)
• White		32 (88%)	28 (94%)	71 (66%)	131 (68.6%)
• Indicated more than one category				5 (4%)	

Participants were asked to report their highest level of education (Figures 3 and 4). LPN diploma (n=26 or 40% of the nurses) and associate degree in nursing (n=19, 30% of nurses) accounted for 70% of educational preparation for nurses. Only 6 (3.1%) of RNs reported having a baccalaureate degree in nursing. Fifty-seven percent of the nursing assistants had completed some college and seven percent had graduated from college.

Sixty-one percent of the total sample had completed some college and 12% had graduated from college.

Figure 3.

Educational Preparation of Nurses.



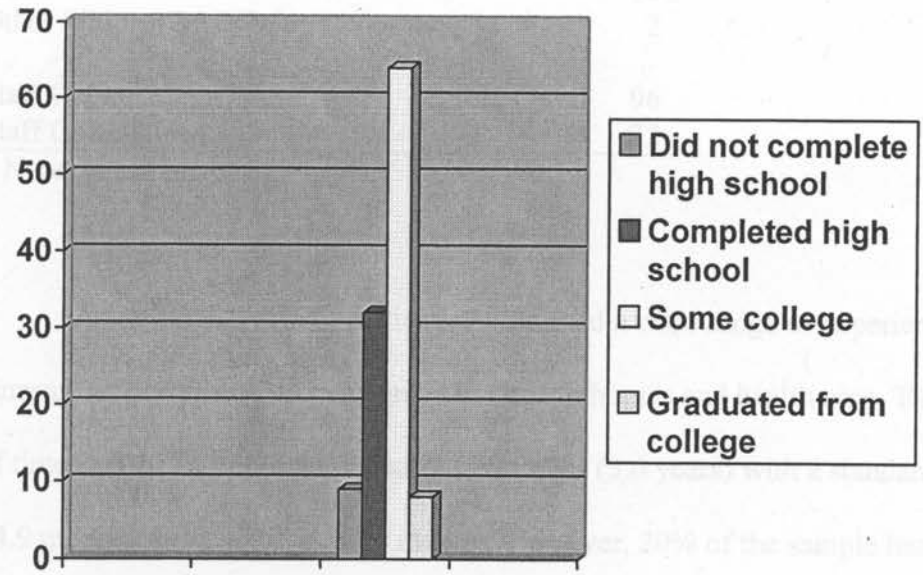


Figure 4.

Educational Preparation of CNAs and CMAs.

Nursing Staff Characteristics: Work Roles

This section will present an overview of work roles in the facility, experience, and some information about residents. Charge nurse was the most common role identified by nurses (n=33; Table 7). Many participants reported that they worked as staff RNs or LPNs in addition to the charge nurse role. The majority of nursing assistants worked as staff CNAs. Because only 22 reported CMA as their role, they were included with CNAs for further analyses.

Table 7

Role in Facility

Nursing Role*	Number
Staff LPN	21
Staff RN	13
Charge nurse	33
RCM	16
Other (did not describe)	2
Staff CNA	96
Staff CMA	22

* Note: could select >1

As noted in Table 8, participants reported a wide range of experience in their current facility as well as experience in nursing homes and health care. The mean length of time in their current facility was 43.7 months (3.6 years) with a standard deviation of 54.9 months and a median of 24 months. However, 20% of the sample had worked in their current facility for six months or less; another 17% had worked there between six and twelve months. RNs and LPNs reported less time in their current facilities but longer experience in nursing homes and health care overall. Because length of time in facility

was highly positively skewed (2.106), these data were recoded into an ordinal variable for use in further analyses (Table 9).

Table 8

Experience (months)

		RNs	LPNs	CNAs	Total
Length of time worked in this facility (months)					
	Mean	34.5	40.9	46.6	43.6
	Median	24.0	20.0	24.0	24.0
	SD	39.1	55.0	58.2	54.8
	Range	.5-184	3-240	0-312	0-312
Length of time worked in nursing homes (months)					
	Mean	129.5	158.2	115.8	126.4
	Median	105.0	168.0	65.0	80.0
	SD	118.4	129.1	121.2	122.3
	Range	1-468	3-468	0-564	0-564
Length of time worked in health care (months)					
	Mean	211.2	260.8	130.5	171.0
	Median	180.0	264.000	82.0	135.0
	SD	158.7	158.1	123.0	147.9
	Range	6-665	18-528	0-564	0-665

Table 9

Length of Time in Facility (total staff)

	Number	Percent
Less than 6 months	36	20
6-12 months	30	17
13-36 months (1-3 years)	56	31
37-72 months (3-6 years)	26	14
More than 72 months (> 6 years)	32	18

Participants reported that they were assigned to an average of 23 residents, with a range of five to 80 (Table 10). The mode for this item was 10. Many participants working in the charge nurse or CMA role reported that they were responsible for 40 or more

residents. Those working only as CNAs reported caring for up to 15 residents. Most participants worked full time (mean 39.58 hours per week). Twenty-eight (16%) worked an average of 17.6 hours per week at another job (Table 10).

Table 10

Number of Residents Assigned and Hours Worked per Week.

Number of resident usually assigned	23.0
Average number of hours worked/week	39.6
Have another job	28
Average number of hours/week worked in other job	17.61

The majority of participants (n=117) worked the day shift, although there was also representation from the evening and night shifts in the sample (Table 11). Eight hours shifts were most commonly reported.

Table 11

Shifts Worked

Type of Shifts*	
• Days	117
• Evenings	79
• Nights	33
• Other	3
Length of shift**	
• 4-hour	5
• 8-hour	138
• 10 hour	11
• 12 hour	18
• Other	14

*Note: could select > 1

**Note: many did not complete the section for length of shift

Participants were asked to identify the type(s) of unit they usually worked on. A general mix of long and short stay residents and units with long-stay residents were most common (Table 12). About half of the sample worked on more than one type of unit. Staff was categorized as working on special (transitional/sub-acute, dementia, or rehabilitation) or general units for additional analyses. They were considered to work on a special unit if they indicated they worked on one for all or some of the time.

Table 12

Type of Unit

Type of Unit*	Number
General mix of long & short stay	83
General long-stay residents	73
Dementia	61
Rehabilitation	56
Transitional/sub-acute	34
Do not usually work on same unit	20
Other	4
Worked on any type of special unit: 102 (57%)	

* Note: could select > 1

Director of Nursing Characteristics

Director of nursing characteristics are reported in Table 13. A typical respondent was female, white, had an associate degree in nursing, in the position for two years, and had extensive experience working in nursing homes and other healthcare settings.

Table 13

Director of Nursing Demographics

Sample size	11
Age	Mean 47.2, range 34-60
Gender (% female)	100
Ethnic Background (#)	
• Hispanic or Latino	0
• Not Hispanic or Latino	9
Race (#)	
• American Indian or Alaska Native	1
• Asian	0
• Black or African American	0
• Native Hawaiian or other Pacific Islander	0
• White	8
Education (#)	
• Associate Degree Nursing	6
• Baccalaureate degree nursing	3
Experience (months)	
• Length of time in nursing or health care	Mean 214.6, SD 143.6, range 93-404
• Length of time in nursing homes	Mean 251.0, SD 147.1, range 93-528
• How long in facility	Mean 36.4, SD 33.0, range 2-102
• How long as DON in this facility	Mean 23.6, SD 19.3, range 2-60
• Previous DON experience (number)	5
• How long	Mean 133.8, SD 125.5, range 36-276
Turnover monitored	6

Organization Characteristics

These data were reported by the director of nursing for all 11 facilities. Only one of the participating facilities was not for-profit. Seven were part of multi-facility corporations. The mean number of licensed beds was 91.18. No large (>120 beds) facilities participated in the study. Facilities reported an average of three directors of nursing and three administrators over the past five years. Two facilities reported having

six administrators in the past five years. Additional facility characteristics are reported in Table 14.

Table 14

Facility Characteristics

Characteristic	
Number of facilities	11
Size	Mean 91.18
• Less than 60 beds	1
• 61-100 beds	6
• 101-120	4
Number of units in facility (range)	1-4
Permanent assignment (number of facilities)	
• For nurses	6
• For CNAs	5
Participation in culture change activities in past 5 years (number of facilities)	4
Special care units	
• Dementia	3
• Rehabilitation	5
• Other	3
Use staff from temporary agencies (number of facilities)	3
Number of shifts/month of temporary staff	2-15
Number of DONs in past 5 years (mean, range)	3.1, 1-5
Number of administrators in past 5 years (mean, range)	3.2, 1-6

Results for Aim 1

The first aim of this study was to describe and explore staff (RN, LPN, CNA) perceptions of nursing practice model components of accountability, autonomy/decision-making, informal continuity of information, formal continuity of information, and continuity of care provider.

Accountability

Items for this variable were completed by RNs and LPNs only. Nurses were asked to identify who was responsible for a variety of activities on their nursing unit. The items and the responses are reported in Appendix H. Several discrepancies were found between practices reported by participants and the scope of RN and LPN practice defined by the Oregon State Board of Nursing. No activities were identified as being the responsibility solely of RNs. For example, 86% reported that only RNs coordinate completion of the MDS (federal regulations require this be done by a RN). Ninety-two percent identified delegation to unlicensed personnel as a responsibility of both RNs and LPNs. This is discussed in more detail in Chapter 5. Based on this result, and the lack of distinctiveness in reported accountability, it was determined that further analysis could combine RN and LPN sub-samples as licensed nurses.

Other Nursing Practice Model Variables

Data for these variables were collected from all nursing staff. Results for type of nursing staff and the total sample are reported in Table 15. Because items are rated from 1 (Always/almost always) to 3 (Rarely/Never), lower scores indicate a "better" model. As this is a new instrument, data are not available for comparison.

Table 15

Additional Process Variables. (Note: lower scores represent a more positive response).

NPMQ Subscale		RNs	LPNs	CNAs	Total
Autonomy/decision-making (scale range: 9-36)	Mean	21.3	22.8	20.9	21.3
	SD	3.9	3.0	4.2	4.0
	Range	13-29	15-27	9-27	9-27
Continuity of care provider (scale range: 5-15)	Mean	7.1	7.9	7.9	7.7
	SD	2.1	2.1	2.3	2.3
	Range	5-11	5-12	5-13	5-13
Formal continuity of information (scale range: 4-12)	Mean	9.3	9.3	8.1	8.5
	SD	2.322	2.7	2.1	2.3
	Range	4-12	4-12	4-12	4-12
Informal continuity of information (scale range: 4-12)	Mean	5.8	5.6	5.9	5.9
	SD	1.8	1.6	1.7	1.7
	Range	4-12	4-9	4-11	4-12

Reliability results for the nursing practice model components and the outcome variables are reported in Table 16. The informal continuity of information subscale initially had a low reliability, Cronbach's alpha of .45. This was recalculated after omitting one item that had a significantly different mean and lower correlations with other items. The reliability increased to .75.

Table 6

Reliability for Measures

Scale/Subscale	Cronbach's alpha
Autonomy decision-making	.83
Continuity of care provider	.75
Continuity formal information	.65
Continuity informal information	.45
Job satisfaction	.77
Emotional exhaustion	.90
Depersonalization	.60
Personal accomplishment	.87

Using ANOVA, no significant differences were found for the other four subscales among the three types of staff. A *t*-test was done combining RNs and LPNs and comparing them to nursing assistants. A significant difference was found for only one variable, formal continuity of information (p=.008), with licensed staff having more positive ratings of formal continuity of information than unlicensed staff.

Results for Aim 2

The second aim of the study was to explore the extent to which nursing staff characteristics and organization characteristics are associated with differences in perceptions of the process variables (autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information) based on nursing staff characteristics and organizational characteristics.

Results Related to Nursing Staff Characteristics

Multivariate analysis of variance (MANOVA) was used to test for a relationship between knowledge and the nursing process variables. No significant relationships were identified.

The relationship with experience was evaluated using length of time in the current facility recoded to five categorical variables (see Table 9). This variable was selected over the other variables related to experience (length of time working in nursing homes and length of time working in health care) because it was most relevant to perspectives of the nursing practice model where participants currently worked. The only significant relationship was for formal continuity of information (F=5.343, p=.000).

The planned analysis to evaluate the relationship between role (e.g., staff LPN, staff RN, charge nurse, RCM, CNA) and the process variables was precluded due to small numbers in each sub-sample.

Results Related to Organization Characteristics

Two variables were omitted from the planned analyses. Ownership was not included because only one of the participating facilities was not for-profit. Turnover was also omitted due to incomplete and inconsistent data. Because turnover of direct care staff has been associated with turnover of management staff, the number of directors of nursing and the number of administrators in the last five years was considered as a possible proxy. Potential relationships were evaluated by correlation (Table 17). As only one small correlation was found with the process variables (number of DONs with informal continuity of information, r = -.179, p=.019), these variables were omitted from further analyses.

Table 17

Correlations (Pearson's r, 2-tailed)

			1	2	3	4	5	6	7	8	9	10	11	12
1	Number of DONs in past 5 years													
2	Number of administrators in past 5 years		.961** .000											
3	Educational preparation	*r* Sig	.088 .241	.071 .344										
4	Number of months in facility	*r* Sig	.059 .183	.075 .316	.224** .003									
5	Size	*r* Sig	-.322 .000	-.376 .000**	.123 .101	-.010 .895								
6	Autonomy/ decision-making	*r* Sig	-.132 .091	.090 .253	.134 .089	.087 .265	.175* .025							
7	Continuity of care provider	*r* Sig	-.128 .097	-.117 .130	-.078 .315	-.114 .140	.120 .120	.110 .170						
8	Formal continuity of information	*r* Sig	.005 .944	.012 .872	.167* .031	.206** .007	.024 .753	.392** .000	-.022 .781					
9	Informal continuity of information	*r* Sig	-.179 .019	-.113 .138	.017 .827	-.009 .911	.048 .535	.290** .000	.098 .212	.341** .000				
10	Job satisfaction	*r* Sig	.124 .110	.083 .290	-.132 .091	-.076 .331	-.050 .524	.096 .242	-.236** .003	-.170* .033	-.405** .000			
11	Emotional exhaustion	*r* Sig	.008 .924	.042 .595	.230** .003	.107 .174	-.039 .619	.180* .027	.005 .954	.254** .002	.262** .001	-.653** .000		
12	Depersonalization	*r* Sig	.048 .549	.060 .454	.110 .166	.040 .619	-.103 .196	.142 .083	.082 .318	.168* .038	.148 .068	-.362** .000	.548** .000	
13	Personal accomplishment	*r* Sig	.147 .069	.143. 078	.207* .011	-133 .102	-.051 .533	.055 .513	-.146 .079	.027 .748	-.075 .366	.-.117 .161	.181* .027	.018 .825

MANCOVA was used to evaluate the relationship between assignment pattern, work environment, and type of unit with the process variables. No significant relationships were found.

Results for Aim 3

The third aim of this study was to determine whether the nursing practice model components of autonomy/decision-making, informal continuity of information, formal continuity of information, and continuity of care provider predict job satisfaction and burnout (emotional exhaustion, depersonalization, and personal accomplishment) after controlling for nurse and organizational characteristics. Multiple regression was used to test for these relationships.

Description of Sample for Outcome Variables

Four outcome variables were included in this study: job satisfaction and the three subscales from the Maslach Burnout Inventory (MBI; emotional exhaustion, depersonalization, and personal accomplishment). Results for these are reported in Table 18.

Table 18

Outcome Variables

Outcome		RNs	LPNs	CNAs	Total
Job satisfaction	Mean	3.5	3.6	3.4	3.5
(scale range: 1-7)	SD	.8	.778	.9	.8
	Range	2.00-4.71	1.71-4.86	1.29-5.00	1.29-5.00
Emotional exhaustion	Mean	20.8	21.5	17.6	19.0
(scale range: 0-54)	SD	11.3	12.4	12.1	12.0
	Range	0-45	1-52	0-52	0-52
Depersonalization	Mean	4.8	5.4	4.4	4.7
(scale range: 0-30)	SD	4.4	6.1	4.4	4.7
	Range	0-16	0-24	0-24	0-24
Personal accomplishment	Mean	36.5	38.6	35.3	36.1
(scale range: 0-48; lower	SD	8.8	7.5	11.6	10.4
score desirable)	Range	0-48	20-48	0-48	0-48

Job satisfaction. The General Job Satisfaction Scale yielded a group mean of 3.5, representing a middle range of job satisfaction. Mean scores were similar for RNs, LPNs, and CNAs and an ANOVA revealed no differences among the groups for this variable.

Emotional exhaustion. Mean score for the total sample was 19.0 with a range of 0 to 52 (maximum possible score 54). RNs and LPNs scored three to four points higher than nursing assistants. An ANOVA revealed no significant differences among the groups. A *t*-test between nurses (RNs and LPNs) and CNAs approached significance (.056). The mean scores represent moderate levels of burnout. However, 25% of the sample reported high levels of emotional exhaustion with scores of 27 or higher.

Depersonalization. Participants reported a mean of 4.7 for depersonalization, with no differences among type of staff. Scores of 0 to 6 are considered a low level of

depersonalization. Only five percent of the sample reported scores of 13 or greater which is considered a high level of depersonalization.

Personal accomplishment. This variable is scored in the opposite direction from emotional exhaustion; lower scores represent greater personal accomplishment and are desirable. The mean score for this item was 36.1, in the moderate range. However, 53% of the sample fell into the low level of personal accomplishment, with scores of 39 or higher. There were no differences by type of staff.

Results of Multiple Regression

The hierarchical method was used to enter variables into the regression equation, beginning with those believed to contribute the least to the outcome variables. In the first step, nursing staff characteristics were entered: knowledge, (level of educational preparation); experience (number of months in the facility converted to the ordinal variables in Table 9); and role (nurse or nursing assistant). Organizational variables were entered next: size (number of licensed beds); assignment pattern for nurses and nursing assistants, and work environment (participated in culture change activities in the past 5 years). The third group of variables entered was the nursing practice model subscales: autonomy/decision-making, continuity of care provider, formal continuity of information, informal continuity of information.

Before proceeding to regression, nursing staff and organization characteristics were evaluated for relationships with the process and outcome variables. Dichotomous variables were evaluated using *t*-tests. For both licensed nurse and CNA assignment pattern, there were significant differences for continuity of care provider ($p = .026$ and .043 respectively) and formal continuity of information (p=.012, .008). For culture

change, there were significant differences for continuity of care provider (p=.004) and informal continuity of information (p=.050).

Significant differences were also found for the outcome variables. Nurse assignment pattern was significantly different for job satisfaction (p=.044) while CNA assignment pattern differed for emotional exhaustion. Differences related to culture change were found for job satisfaction and emotional exhaustion (p = .000 and .008 respectively).

Correlation was used to evaluate continuous variables for inclusion in the regression. As only small correlations (<.30) were found for nursing staff and organizational characteristics (educational preparation, number of months in facility, number of DONs in past five years, number of administrators in past 5 years, and size), these variables were omitted from further analyses. Although there were limited strong correlations for the nursing practice model variables with the outcome variables, these were retained because of support in the literature for relationships among these variables.

Correlations among continuous variables were reviewed for potential multicollinearity. Each variable was significantly correlated with at least one other variable, so all were included in the regression. As reported in Table 17, some significant correlations were present among the outcome variables. Job satisfaction was inversely correlated with emotional exhaustion (r=-.653, p=.000) and depersonalization (r=-.362, p=.000). Emotional exhaustion was directly correlated with depersonalization (r=-.548, p=.000) and personal accomplishment (r=-.181, p=.027). However, as these were not thought to represent multicollinearity, all were included in further analyses.

Correlations were also evaluated separately for licensed (RNs & LPNs) and unlicensed staff (CNAs). All but three variables were significantly correlated with at least one other variable for both groups. For nurses, there were no significant correlations for educational preparation and number of months in facility. For CNAs, there were no significant correlations for licensed beds and any of the other variables. Separate regressions were not done for these two different groups as the size did not meet requirements for regression (Tabachnick & Fidell, 2001).

Job satisfaction. For predicting job satisfaction, one nursing staff characteristic (licensed/unlicensed) accounted for .02% of the variance (non-significant at p= .563). Organizational characteristics accounted for an additional 5.3%, significant at p=.044. The nursing practice model variables accounted for the largest proportion of the variance, 17.8% (p=.000), for a total of 23.4% of the overall variance for job satisfaction. The ANOVA results for this analysis were significant for nursing practice variables (p=.000). Based on the beta weights, continuity of care provider and informal continuity of information (p=.022 and .000 respectively) explained the most variance. Results for each model are reported in Table 19.

Table 19

Hierarchical Regression Results: Job Satisfaction

Variable	Model 1		Model 2		Model 3	
	β	SE	β	SE	β	SE
Step One:						
Nursing Staff Characteristics						
• Licensed/unlicensed	-.047	.081	-.060	.157	.022	.147
Step Two:						
Organization Characteristics						
• Permanent assignment nurses			.058	.162	.033	.146
• Permanent assignment CNAs			.080	.123	-.024	.116
• Culture change activity in past 5 years			.186	.172	.159	.095
Step Three:						
Nursing Practice Model Components						
• Autonomy/decision-making					.085	.082
• Continuity of care provider					-.176*	.076
• Formal continuity of information					-.082	.086
• Informal continuity of information					-.370***	.081
R^2	.002		.056		.234	
R^2 change			.053*		.178***	

*p≤.05, **p, ≤01, ***p ≤ .001

Emotional exhaustion. For this variable, only nursing practice model characteristics predicted a significant amount of variance (9.9%, p=.003). Organizational characteristics added 5.5% (non-significant). The nursing practice model variables accounted for an additional 8.2% (p=.007) for a total of 22.1% of the variance. The ANOVA results for this regression indicated significance for only model 3. Culture change activities in the past five years were significant for mode 2 (p=.036). In model 3, assignment pattern for CNAs, culture change, and informal continuity of information were significant. Results for each model are reported in Table 20.

Table 20

Hierarchical Regression Results: Emotional Exhaustion

Variable	Model 1		Model 2		Model 3	
	B	SE	β	SE	β	SE
Step One:						
Nursing Staff Characteristics						
• Licensed/unlicensed	-.140	.081	-.185	.103	-.222	.148
Step Two:						
Organization Characteristics						
• Permanent assignment nurses			.088	.161	.068	.157
• Permanent assignment CNAs			.180	.123	.249*	.113
• Culture change activity in past 5 years			-.219*	.103	-.202*	.100
Step Three:						
Nursing Practice Model Components						
• Autonomy/decision-making					.044	.086
• Continuity of care provider					.021	.081
• Formal continuity of information					.136	.090
• Informal continuity of information					.226**	.086
R^2	.020		.054		.153	
R^2 change			.034		.099**	

*p≤.05, **p, ≤01, ***p ≤ .001

Depersonalization. This variable explained only a small amount of variance for all 3 models (5.4%). There were no significant relationships for this outcome (Table 21).

Table 21

Hierarchical Regression Results: Depersonalization

Variable	Model 1		Model 2		Model 3	
	β	SE	β	SE	β	SE
Step One:						
Nursing Staff Characteristics						
• Licensed/unlicensed	-.065	.082	-.174	.162	-.190	.161
Step Two:						
Organization Characteristics						
• Permanent assignment nurses			-.012	.169	-.011	.172
• Permanent assignment CNAs			.150	.126	.203	.126
• Culture change activity in past 5 years			-.040	.105	-.012	.123
Step Three:						
Nursing Practice Model Components						
• Autonomy/decision-making					.071	.092
• Continuity of care provider					.085	.085
• Formal continuity of information					.107	.096
• Informal continuity of information					.112	.091
R^2	.004		.015		.068	
R^2 change			.011		.054	

*p≤.05, **p, ≤01, ***p ≤ .001

Personal accomplishment. A small amount of variance was also explained by this variable (total 2.3%). None of these were significant (Table 22).

Table 22

Hierarchical Regression Results: Personal Accomplishment

Variable	Model 1		Model 2		Model 3	
	β	SE	B	SE	β	SE
Step One:						
Nursing Staff Characteristics						
• Licensed/unlicensed	-.099	.084	.123	.163	.149	.165
Step Two:						
Organization Characteristics						
• Permanent assignment nurses			.243	.166	.227	.168
• Permanent assignment CNAs			-.041	.128	-.060	.129
• Culture change activity in past 5 years			.081	.106	.075	.107
Step Three:						
Nursing Practice Model Components						
• Autonomy/decision-making					.103	.094
• Continuity of care provider					-.112	.086
• Formal continuity of information					-.017	.099
• Informal continuity of information					-.081	.092
R^2	.010		.047		.070	
R^2 change						

*p≤.05, **p, ≤01, ***p ≤ .001

Model 3 results for each outcome are summarized in Table 23. Table 24 provides an overview of the results of the hypothesis testing conducted in this study.

Table 23

Summary of Model 3 Standardized Regression Coefficients (β) and R^2 Change from Hierarchical Regressions

Variable	Job Satisfaction	Emotional Exhaustion	Depersonal-ization	Personal Accomplishment
Step One:				
Nursing Staff Characteristics				
• Licensed/unlicensed	.022	-.222	-.190	.149
R^2	.002	.020	.004	.010
Step Two:				
Organization Characteristics				
• Nurse assignment pattern	.033	.068	-.011	.227
• CNA assignment pattern	-.024	.248*	.203	-.060
• Culture change activity in past 5 years	.159	-.202*	-.012	.075
Step 2 R^2 change	.056	.034	.011	
Step Three:				
Nursing Practice Model Components				
• Autonomy/decision-making	.085	.044	.071	.103
• Continuity of care provider	-.176*	-.021	.085	-.112
• Formal continuity of information	-.082	.136	.107	-.017
• Informal continuity of information	-.370***	.226*	.112	-.081
Step 3 R^2 change	.178***	.099**	.054	.037
• Total R^2	.234	.153	.068	.070

*p≤.05, **p, ≤01, ***p ≤ .001

Table 24

Summary of Hypotheses

Hypotheses	Result	Comments
Aim 1		
1.1. There is no difference among RNs, LPNs, and CNAs on perceptions of autonomy/decision-making.	Accepted	
1.2. There is no difference among RNs, LPNs, and CNA on perceptions of continuity of care provider.	Accepted	
1.2. There is no difference among RNs, LPNs, and CNAs on perceptions of formal continuity of information.	Partially Rejected	No differences among three types of staff; there was a difference when RNs and LPNs were combined and compared to CNAs.

Hypotheses	Result	Comments
1.4. There is no difference among RNs, LPNs, and CNAs on perceptions of informal continuity of information.	Accepted	
Aim 2		
2.1. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to knowledge.	Accepted	
2.2. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to experience.	Accepted	
2.3. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to role.	Accepted	Due to small numbers of nurses in various roles, licensed staff (RNs and LPNs) was compared to CNAs but no differences were found.
2.4. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to size.	Accepted	
2.5. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to assignment pattern.	Accepted	
2.6. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to work environment.	Accepted	
2.7. There is no difference in perception of autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information related to type of unit worked on.	Accepted	
Aim 3		
3.1. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and continuity of information with job satisfaction.	Rejected	The total variance explained was 23.4%; nursing practice model variables explained 17.8%. Model 3 was significant for continuity of care provider, and informal continuity of information.

Hypotheses	Result	Comments
3.2. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and continuity of information with emotional exhaustion.	Partially rejected	The four nursing practice model variables explained 9.9% of the variance; total variance explained was 15.3%. Regression results for Model 3 were significant for nurse assignment pattern, work environment (culture change), and informal continuity of information.
3.3. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and continuity of information with depersonalization.	Accepted	There were no significant results for this regression.
3.4. After controlling for staff and organizational characteristics, there is no relationship between autonomy/decision-making, continuity of care provider, formal continuity of information, and continuity of information with personal accomplishment.	Accepted	There were no significant results for this regression.

Summary

This chapter presented the results of the study by describing nursing staff characteristics, organization characteristics, the nursing practice model variables, and the outcome variables. Study findings were reported in relation to the aims of the study. This summary will review the key findings of the study.

There were no significant differences among the three types of nursing staff (RN, LPN, and CNA) regarding their perceptions of autonomy/decision-making, continuity of care provider, formal continuity of information, and formal continuity of information (Aim 1). However, licensed nurses differed from CNAs on perceptions of formal continuity of information with licensed nurses having perceptions of greater continuity.

Aim 2 explored differences in perceptions of the nursing model variables based on staff and organizational characteristics. Differences were found for perceptions related to assignment pattern and culture change activities.

Aim 3 tested the ability of the nursing process variables of autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information to predict job satisfaction and burnout while controlling for nursing staff and organization characteristics. Hierarchical multiple regression was used to evaluate these relationships. These variables contributed significant explanation of variance for job satisfaction (17.8%; total 23.4%) and emotional exhaustion (9.9%; total 15.3%). Significant relationships were also found for the two organizational characteristics, CNA assignment pattern and culture change, and emotional exhaustion.

CHAPTER 5

Discussion

The purpose of this study was to examine the impact of nursing practice models on the job satisfaction and burnout of nursing staff in nursing homes. This discussion begins with the sample and the potential for generalizability of the study results. Next, an interpretation of the major findings of the study will be presented in relation to relevant literature and previous research. Limitations, implications for nursing practice and implications for nursing science will also be discussed.

Sample and Generalizability

Nursing Staff and Organization Characteristics

The sample for this study included 37 RNs, 30 LPNs and 115 CNAs. While the largest group (63%) of participants was CNAs, they are underrepresented in the sample considering that they account for 80-90% of the direct care staff in nursing homes. This may be due to a lower rate of participation in staff meetings where the data were collected for this study. For example, because CNAs earn less than nurses, they may be less willing attend a meeting on a day they are not scheduled to work, especially if they need to make special arrangements for transportation or child care. Participants were predominately female (84%), consistent with the profile of the nursing home workforce. This sample was also predominately white (67%) which probably reflects the geographic location for this study. The racial background for CNAs was more diverse; only 66% were white (compared to 88% of RNs and 94% of LPNs). This differs from some reports in the literature. For example, a recent study of nursing assistants from five states

(Colorado, Florida, Michigan, New York, Oregon) reported that 74% were of a minority race (Castle, Engberg, Anderson, & Men, 2007).

The CNAs in this study also had more formal educational preparation compared to other studies. Sixty four percent had more than a high school education, compared to 8% in the report by Castle and colleagues (2007). Some possible implications of this level of educational preparation are discussed below under Aim 3.

The largest proportion of participants (37%) had worked in the facility for less than one year, compared to 31% who had been there one to three years and 32% for more than three years. These findings are consistent with the literature review – while some staff have worked for an organization for a short period of time, a significant proportion are long-term employees.

The DON profile is consistent with previous research: female, white, associate degree in nursing, and in current position for two years. The average DON tenure (2.5 to 3 years) and educational preparation have not changed in the past 20 years.

As reported in Chapter 4, ten of the eleven facilities that participated in this study were for-profit, which is the most common type of ownership for nursing homes. The sample was mostly small to mid-size facilities, which may limit the generalizability of findings to larger facilities.

Outcome Variables

Participants reported a mean of 3.5 for job satisfaction, the exact midpoint for the instrument used in this study. Further, no score greater than 5 on this 7-point scale were reported. This is similar to other studies of job satisfaction for staff in nursing homes that report scores in the middle range, suggesting that they are moderately satisfied their jobs.

The mean score for emotional exhaustion was 19.0, which falls in the moderate range of burnout. The mean for RNs was 20.8 compared to 21.5 for LPNs and 17.6 for CNAs, not a statistically significant difference. However, 25% of the total sample reported high levels of emotional exhaustion. This is of concern because emotional exhaustion reflects the stress dimension of burnout and may be the main contributor to the outcomes of burnout: decreased job performance (e.g., absenteeism, turnover, disruptive behavior) and health changes (Maslach, Schaufeli, & Leiter, 2001). Moderate levels (16.3) of emotional exhaustion were also reported by Jenkins and Allen (1998) for a study of workers in small residential care home in the United Kingdom. A study done in Italy (Cocco et al., 2002) reported emotional exhaustion scores of 15.0 for nursing home staff compared to 22.0 for hospital staff working with geriatric patients.

The mean score (4.7) for depersonalization fell into the low range, with very little variation among the types of staff. This is an encouraging finding. Depersonalization, sometimes referred to as cynicism in the burnout literature, is thought to be a coping strategy used to manage job demands by placing a distance between the worker and recipient of care (Maslach, Schaufeli, & Leiter, 2001). This low level of depersonalization may be a testimony to the importance nursing home staff place on relationships with residents as the most rewarding part of their jobs, especially for nursing assistants. Depersonalization was also low for the studies referred to above (1.78, Jenkins & Allen, 1998; 4.0 for nursing homes and 5.7 for hospitals, Cocco et al., 2002).

The mean score for personal accomplishment fell into the moderate range. Although this component of burnout is less well understood, it is believed to result from lack of relevant resources; emotional exhaustion and depersonalization are thought to be

consequences of work overload and social conflict (Maslach, Schaufeli, & Leiter, 2001). Moderate personal accomplishment scores were also reported by Jenkins and Allen (36.9; 1998) and Cocco et al., (38.0 for nursing homes and 34 for hospital staff; 2002).

In summary, this sample shared many characteristics with samples from previous research on staff in nursing home. However, it also differed in several important ways, which could potentially limit generalizability.

Interpretation of Results

The major finding of this study is that after controlling for nursing staff and organization characteristics, nursing practice model components explained the largest proportion of variance for two of the outcome variables: job satisfaction and emotional exhaustion. Informal continuity of information was a significant predictor for both job satisfaction and emotional exhaustion. Continuity of care provider was a significant predictor of job satisfaction. Additional findings of the study will be discussed in relation to each of the aims.

Discussion of Findings for Aim 1

The first aim of this study was to describe and explore staff (RN, LPN, CNA) perceptions of nursing practice model components of accountability, autonomy/decision-making, continuity of care provider, formal continuity of information, and informal continuity of information. Accountability will be discussed separately from the other process variables.

Accountability. Only RNs and LPNs completed this section of the survey which asked who was primarily responsible for 14 nursing activities (Appendix H). The majority of responses are inconsistent with the scope of nursing practice for RNs and

LPNs as defined by the Oregon State Board of Nursing. This is consistent with reports in the literature of the tendency to use RNs and LPNs interchangeably (Mueller 2002, 2005).

Other process variables. There were no significant differences among RNs, LPNs, and CNAs on scores for autonomy/decision-making, continuity of care provider, formal continuity of information, or informal continuity of information. This may be due to the small number of RNs (37) and LPNs (30) who participated in the study. When the two groups of nurses were combined and compared with CNAs, there was only a significant difference for formal continuity of information. This may be due to the fact that nurses are more likely to participate in care conferences and shift report, the activities reflected in this subscale.

It was disappointing that more autonomy was not reported by RNs. This may be due in part to the lack of differentiation of roles for RNs and LPNs in this setting. It may also be a reflection of the industry and not the organization. As noted by Batey and Lewis (1982), for nurses, autonomy has two essential components: 1) the ability and willingness to exercise judgment, and 2) the freedom to use autonomy in the work setting. Kubsch (1996) examined different practice environments about the use of independent therapeutic nursing interventions. She described nursing homes as the "least tolerant" of nursing autonomy due to constraints of nursing home corporations and state licensing regulations.

Discussion of Findings for Aim 2

The second aim of the study was to explore if there are differences in perceptions of the nursing practice model variables based on nursing staff characteristics or

organizational characteristics. Differences in perceptions of continuity of care provider and formal continuity of information were found based on assignment patterns for both licensed nurses and CNAs. Differences in perceptions of continuity of care provider and informal continuity of information were found based on culture changes in the organization.

Discussion of Findings for Aim 3

The third aim of the study was to determine whether the nursing practice model variables predict job satisfaction and the burnout domains of emotional exhaustion, depersonalization, and personal accomplishment. Continuity of care provider and informal continuity of information explained significant amounts of the variance for job satisfaction. This was expected for continuity of care provider, based on fairy extensive literature that supports the relationship between staff and residents as the most rewarding part of working in a nursing home (Bowers, Esmond, & Jacobson, 2003; Parsons et al., 2003). The finding for informal continuity of information was somewhat of a surprise. Items on this subscale address exchange of information among nurses and nursing assistants during their work shift. This variable also was significant for predicting emotional exhaustion. One explanation might be that if staff cannot consistently care for the same residents, having the information they need and a system that supports exchange of information contributes to job satisfaction and may provide protection against emotional exhaustion.

One organization characteristic, culture change in the past five years, had a significant relationship with emotional exhaustion. This variable was selected to reflect

the participants' work environment. It may be that organizational changes combined with those describe above result in increased emotional exhaustion.

Limitations

This study has several limitations. The first is use of a design that predicts outcomes and examines interrelationships among variables, but cannot determine the direction of these relationships or causation. There was also no randomization or control group.

Second, a convenience sample was used. Facilities that agreed to participate and staff who actually completed the survey may not be representative of nursing homes in general. Third, the results represent only one point in time. Fourth, the sample size limited the number of analyses that could be done for the RN and LPN subsets of the sample.

A potential problem with self-report data is that those with strong opinions related to the question under study may be more likely to participate, which may result in a response bias. Also, because data was collected at the work site, some employees may have been concerned that employers could learn about their participation or responses.

Although an attempt was made to review surveys for completeness as participants finished the survey, there was still a fair amount of missing data. Some participants simply did not know the answer to some of the questions. For example, staff who worked the evening or night shifts wrote in that they did not know who attended care conferences as this activity did not occur during their work time. Others may not have spent enough time to complete the survey accurately. Based on information for individual instruments,

it was estimated it would take 30 to 45 minutes to complete the survey. Most participants completed it in 15 to 20 minutes.

English as second language appeared to be an issue for some participants. For example, several times the investigator observed some staff trying to assist others to understand the questions on the survey. One said "I know I can't answer the questions for her, I'm trying to help her understand the question." Another CNA stayed about 10 minutes after all other staff had completed survey and tried to finish, but said, "I'm sorry, it's hard for me, I can't spend any more time."

Implications for Nursing Practice

While one use of the Nursing Practice Model Questionnaire is as a research instrument, Mueller (2005) also suggested it could also be used by nurse administrators "as a decision-making tool to characterize and diagnose their NPMs and modify aspects of the NPM on their unit and/or facility to improve resident, staff and organization outcomes" (p. 2). The content areas of each subscale of the NPMQ could also serve as a place to begin discussions to clarify roles and responsibilities, as well as to review organizational effectiveness. Some suggested activities will be presented related to each subscale.

Accountability

As noted above, the results of this study present some troubling findings about the practice of using RNs and LPNs interchangeably in nursing homes. Several factors may contribute to this practice. First, while all health care settings are experiencing a shortage of nurses, nursing homes face additional challenges to recruiting and retaining staff because of low wages and an unfavorable image. Second, nurses in nursing homes may

be less likely to belong to professional organizations or participate in meetings were these issues are discussed. This may be due to lower salaries (making professional organization membership potentially less affordable) and fewer educational and other professional benefits available to nurses in this setting (Coward et al., 1995; Krichbaum & Ryden, 1996). Third, directors of nursing may also not be aware of the problems with this practice due to the emphasis on the state survey process as the method for evaluating quality of care – i.e., if surveyors do not issue a citation about inappropriate use of nurses, it will not be perceived as a problem.

To be fair, this study did not include the perspective of the DONs about the items on the accountability subscale. Consequently, it is not known if the perspectives of staff are consistent with the plan the DON has designated for nursing staff.

Several strategies might help address this issue. One is formal continuing educational programs designed specifically for long-term care nurse administrators. One current example is a regional program sponsored by the University of Washington (Siegel, Blachly, & Craven, 2007). Another example is the Long-Term Care Nurse Leadership Development/Retention Task Force sponsored by the Oregon Center for Nursing. Such programs and activities could provide assistance to DONs to synthesize and integrate the multiple and potentially competing sets of regulations and other expectations (e.g., corporate practices) they must meet. This would also provide opportunities to learn about "best practices" in nursing management and administration.

Raising these issues can be difficult. Some LPNs who have worked for extended periods of time in "charge nurse" roles may feel threatened by these discussions. However, others may be stressed by being asked to assume responsibilities they are not

prepared for. As noted by Remsberg et al., (2001), discussions about how and why different types of staff are allowed to do certain activities resulted in improved communication between licensed and unlicensed staff. It is also critical to address these issues considering recent research demonstrating the important relationships of RNs to quality of care in nursing homes.

Autonomy/Decision-Making

In this study, there were no significant differences among the types of staff for autonomy/decision-making. This may be related to a tendency for nursing homes to be focused on meeting regulations. It may also be related to workload – that staff feel so overwhelmed that they can only focus on the most essential activities and may not feel they have the time or energy for expecting or asking for additional autonomy or be more involved in decisions. For example, some charge nurses and medication aides reported that they were responsible for 40 or more residents.

An alternative possibility is that autonomy may not be as important to nursing staff in long-term care as it is in to nursing staff in acute care or as important as other components of the nursing practice model. This may also be a reflection of the different staff mix present in nursing homes.

Empowerment is a concept similar to autonomy and has also been a focus of organizational change strategies. LEAP (Learn, Empower, Achieve, Produce) is a program designed to improve retention of nursing staff in nursing homes with promising results. (Hollinger-Smith & Ortigara, 2004). The program has two main components: 1) development of nurses in staff and management roles and 2) career development for CNAs. One year after 14 nursing homes implemented LEAP, staff reported increased job

satisfaction, empowerment, perceived organizational climate, and work effectiveness. This program has been widely adopted by nursing homes throughout the United States.

Continuity of Care Provider

As noted in the literature review, relationships with residents is what keeps nursing staff in nursing homes and in this study was a predictor of job satisfaction. Strategies to develop permanent assignment should be supported.

Formal Continuity of Information

Change of shift communication and care conferences are the focus of formal continuity of information. These are activities that typically fall within the responsibilities of licensed nurses. These communication processes are essential for effective care planning development and implementation (Colon-Emeric et al., 2006b). However, there also needs to be a process for getting information from those most directly involved with residents (CNAs) so that even if they do not participate in the actual conference, those developing the care plan have the most relevant information. There also needs to be a mechanism to get the decisions made at the conference back to the staff providing the direct care.

Anecdotal reports suggest that many facilities have eliminated shift overlap for nursing assistants as a cost-saving strategy. Fifteen of the participants in this study reported working 37.5 hours/week (7.5 hours/day). This limits the ability of nursing assistants from different shifts to interact and share information.

Informal Continuity of Information

This concept assumed a surprising prominence in this study. As noted above, it may represent a second best alternative to consistently caring for the same residents.

This suggests a need for systems that provide caregivers with essential information to provide care. For example, many nursing homes use worksheets for nursing assistants that they can carry with them that briefly identifies approaches to meeting resident needs (e.g., assistance for transfers, safety issues, bath day, need for hearing aides, etc.). Although usually prepared using word processing program, staff (usually by charge nurses or managers) spends significant amounts of time updating these documents. Technology is needed to facilitate this process. For example, while there are computer programs available for writing care plans, these programs apparently do not have the ability to automatically generate a bedside of "pocket" care plan for use by nursing assistants.

Other

As noted in previous sections, the educational preparation of directors of nursing in nursing homes had not changed significantly over the past twenty years, with the majority having an associate degree or diploma in nursing. This is also well below the ANA standard of a master's degree or above for nurse administrators. While continuing education programs are helpful, they do not provide the credentials essential in today's complex long-term care environment. Barriers to obtaining additional educational preparation must be reexamined and creative strategies identified.

One recommendation is to develop a "fast track" BSN to masters in nursing administration that could be completed in a three-year time frame. Grant funding may be available to support cohorts of students to complete such a program. A program focused on long-term care with course assignments tailored to the student's work responsibilities would help attract potential students. The current emphasis of masters programs on

quality improvement and evidence-based practice would also significantly strengthen a DON's ability to develop strategies to improve quality of care.

Implications for Nursing Science

In this section, the fit of the Nursing Role Effectiveness Model (NREM) for this study will be discussed. Areas for further research are also presented.

Fit with Nursing Role Effectiveness Model

This study used a relatively new model as the conceptual framework. The associations between continuity of care provider and informal continuity of information with job satisfaction and emotional exhaustions confirm the assumptions of NREM that process variables impact outcomes for nursing staff.

Previous research on hospital nurses using the NREM included autonomy as a structural variable with mixed results. Autonomy had a negative effect on patient report on quality of care and care coordination, although a positive effect on communication (Doran, Sidani, Keatings, & Doidge, 2002). Since autonomy has both structural (nurse characteristics) and process components (Batey & Lewis, 1982), one suggestion might be to consider measuring autonomy from both perspectives.

A critique of the Donabedian (1966) model of quality improvement (from which the NREM is modeled) is that it attempts to simplify complex relationships into a linear model and thus may fail to describe the relationships accurately. Others have suggested complexity science, a nonlinear model, as a more accurate reflection of organizations (Anderson, Corazzini, & McDaniel, 2004).

Areas for Further Research

Although there has been a significant amount of nursing research on autonomy, several unanswered questions remain. There is little information in the literature about how autonomy is balanced among those involved in care (e.g., where does one person's end and another's begin, how is it negotiated among multiple care givers). There is also limited research on autonomy of nursing staff in long-term care. How is autonomy similar and different for different types of staff? Is autonomy "proportionate" based on knowledge, skills, and role? Are there different expectations for RNs, LPNs, and CNAs from the perspectives of the individual and the organization?

This study used a very general measure of work environment by asking DONs to report participation in any culture change activities in the past five years. Using a more precise measure might provide more useful data. For example, Scott-Cawiezell, Jones, Moore, & Vojir (2005) recently evaluated the Competing Values Framework Organizational Assessment for use in the long-term care setting.

This study suggests several areas for further work related to instrument development. Tourangeau and Widger (2007) recently presented an update on the psychometric properties of the MBI from a study of over 8000 nurses in Canada. The results of confirmatory factor analysis supported the three subscales (emotional exhaustion, depersonalization, and personal accomplishment) but also found that the tool could be reduced from 22 to 15 items. This has the potential to reduce participant burden.

Many of the job satisfaction instruments available were originally developed for use outside of health care or for use with nurses in acute care. Consequently, there are questions about their applicability for use with nursing home settings. Castle, et al. (2007)

reported on development of a job satisfaction measure specifically for nursing assistants in long-term care. However, this raises questions similar to those that led to the development of the NPMQ: the value of having an instrument that can be used by the whole work group (RNs, LPNs, and CNAs). The argument for developing a job satisfaction tool specifically for CNAs is that different factors may influence their job satisfaction. However, it seems that this concern could be addressed by using a measure that includes subscales to look at various aspects of job satisfaction (e.g., the nature of the work, relationships with co-workers, relationships with supervisors, pay and benefits, etc.).

Further development is also needed for the NPMQ. Will the subscales be consistent in further research? Are there critical thresholds or levels that differentiate between "good" and "poor" practice models? Can results from the subscales be used to design and evaluate interventions to improve quality of care? Is the NPMQ sensitive to change over time?

The original version of the NPMQ included a collaboration subscale, based on the literature review and responses from focus groups. However, this subscale was dropped based on the results of the factor analysis. The subscale only had three items and it was difficult to identify additional items (C. Mueller, personal communication, June 3, 2005). It seems important to reconsider this construct, especially since collaboration with physicians is one of the key components of magnet hospitals. Communication between nurses and physicians in long-term care has been studied to limited extent, but the research available reports concerns about a tendency to focus on regulatory requirements and tensions related to perceived competency (Cadogan, Franzi, Osterweil, & Hill, 1999;

Colon-Emeric et al, 2006b). Measurement of collaboration in nursing homes might also include residents and families as well as other disciplines. This also fits with the Interdependent Role in the Nursing Role Effectiveness Model.

Summary

The major finding of this study is that after controlling for nursing staff and organization characteristics, nursing practice model components explained the largest proportion of variance for two of the outcome variables: job satisfaction and burnout as represented as emotional exhaustion. Informal continuity of information was significant for both outcomes; continuity of care provider predicted job satisfaction. Three structural variables explained smaller amount of variance. Educational preparation and length of time in facility were associated with both job satisfaction and emotional exhaustion, while culture change activities were associated with emotional exhaustion. Additional research is needed to learn more about the direction and nature of these relationships.

This study adds to the limited knowledge about the contributions of process variables to quality of care, particularly in nursing homes. As noted in Chapter 2, most research has focused on structure and outcomes of health care.

An important implication of this research is that the variables that had the most impact on the outcomes (e.g., continuity of care provider, informal continuity of information, assignment pattern, and culture change) are all things that are possible for individuals working within organizations to change. While the challenges should not be underestimated, these are feasible and relatively low-cost changes. It is also important to remember that if a nursing practice model is not designed and implemented by plan, one will develop by default.

This study focused on two nursing staff outcomes, job satisfaction and burnout. Organizations and individuals frequently place patient/resident/client needs ahead of those of staff. While this may ethically be the appropriate priority, it can be short-sighted if taken to an extreme. Job satisfaction and low burnout are not just desirable benefits from a job. From the magnet hospital research, we know that desirable outcomes for staff are related to desirable outcomes for patients. They may also have financial advantages such as lower costs due to improved productivity from lower turnover.

Working in a nursing home is difficult work that is not fully appreciated by society. However, it can be highly satisfying and rewarding work, especially when staff can develop long-term relationships with residents. Effective nursing practice models offer a way to improve the work environment for all nursing staff – RNs, LPNs, and nursing assistants – as well as contributing to improved outcomes for residents and organizations.

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Appendix A

Organizational Characteristics (completed by Director of Nursing)

1. What is the total number of licensed beds in your facility? _____ beds

2. What type of ownership describes you nursing facility? (check all that apply).
   _____ Not for profit
   _____ For profit
   _____ part of a multi-facility chain

4. How would you describe the usual staff assignment pattern for **nurses** in your facility?
   _____ Permanent (nurses are consistently assigned to specific residents)
   _____ Rotating (nurses are assigned to a group of residents and rotate by a predetermined schedule
   _____ Other (please describe)

5. How would you describe the usual staff assignment pattern for **CNAs** in your facility?
   _____ Permanent (CNAs are consistently assigned to specific residents)
   _____ Rotating (CNAs are assigned to a group of residents and rotate by a predetermined schedule
   _____ Other (please describe)

6. How many separate nursing units are in your facility? _____units

7. Do you use staff from temporary of supplemental staffing agencies? _____ yes _____ no

8. If yes, how many shifts per month are typically covered by agency staff? _____shifts

9. How many directors of nursing has your facility had in the past 5 years? _____

10. How many administrators has your facility had in the past 5 years? _____

11. Has your facility participated in any "culture change" activities in the past 5 years? _____ yes _____ no

12. If yes, did these include?
    _____ Best Friends
    _____ Person-Centered Care
    _____ Better Jobs Better Care
    _____ Other (please describe)

13. Does your facility have any special care units? _____ yes _____ no

14. If yes, what type?
    _____ Transitional/subacute care
    _____ Dementia care
    _____ Rehabilitation
    _____ Other (please describe)

Please answer these staffing questions as well as you are able.

15. What is the total number and/or FTE of staff in each of these categories?

Number:	FTE:
_____ CNAs	_____ CNAs
_____ LPNs	_____ LPNs
_____ RNs	_____ RNs

16. What is the total number and/or FTE of staff who have left in the past 12 months?

Number:	FTE:
_____ CNAs	_____ CNAs
_____ LPNs	_____ LPNs
_____ RNs	_____ RNs

17. What is the total number of staff hired in the past 12 months?

Number:	FTE:
_____ CNAs	_____ CNAs
_____ LPNs	_____ LPNs
_____ RNs	_____ RNs

Appendix B

Director of Nursing Survey

1. What is your age? _____years

2. What is your gender? _____ male _____ female

3. What is your ethnic background?
_____ Hispanic or Latino
_____ Not Hispanic or Latino

4. What is your race?
_____ American Indian or Alaska Native
_____ Asian
_____ Black or African American
_____ Native Hawaiian or Other Pacific Islander
_____ White

5. Education (check highest degree)
_____ Associate degree in nursing
_____ Associate degree – other field; please specify:
_____ Nursing diploma
_____ Baccalaureate degree in nursing
_____ Baccalaureate degree - other field; please specify:
_____ Masters degree – nursing
_____ Masters degree – other field; please specify:

8. How long have you worked in nursing or health care? _____ years _____months

9. How long have you worked in nursing homes? _____ years _____months

10. How long have you worked in this facility? _____ years _____months

11. How long have you been Director of Nursing in this facility? _____ years _____months

12. Do you have previous experience as a Director of Nursing? _____ yes _____ no

13. If yes, how long? _____ years _____months

14. Do you monitor turnover of nursing staff? _____ yes _____ no

15. If yes, please describe how you calculate turnover.

Appendix C

RN and LPN Survey

Section A:
Please share the following information about yourself.

1. What is your age? _____years

2. What is your gender? _____ male _____ female

3. What is your ethnic background?
   _____ Hispanic or Latino
   _____ Not Hispanic or Latino

4. What is your race?
   _____ American Indian or Alaska Native
   _____ Asian
   _____ Black or African American
   _____ Native Hawaiian or Other Pacific Islander
   _____ White

5. Education (check highest degree)
   _____ LPN diploma
   _____ Associate degree in nursing
   _____ Associate degree – other field; please specify:
   _____ Nursing diploma
   _____ Baccalaureate degree in nursing
   _____ Baccalaureate degree - other field; please specify:
   _____ Masters degree – nursing
   _____ Masters degree – other field; please specify:

6. What is your role in the nursing home? (check all that apply).
   _____ Staff LPN
   _____ Staff – RN
   _____ Charge nurse
   _____ Resident care manager (RCM)
   _____ Other (please describe)

8. How long have you worked in this facility? _____ years _____months

9. How long have you worked in nursing homes? _____ years _____months

10. How long have you worked in nursing or health care? _____ years _____months

11. What is the number of residents you are usually assigned to care for? _____ residents

12. What is the average number of hours you work each week at this job? _____ hours/week

13. Do you have another job? _____ Yes _____ No

14. If yes, what is the average number of hours you work at that job? _____ hours/week

15. What types of shifts do you work? (Check all that apply)

_____ Days
_____ Evenings
_____ Nights
_____ Other (please describe):

_____ 4-hour shift
_____ 8-hours shift
_____ 10-hours shift
_____ 12-hours shift
_____ Other (please describe):

16. What type of unit do you usually work on?

_____ Transitional/subacute care
_____ Dementia care unit
_____ Rehabilitation unit
_____ General unit for long-stay residents
_____ General unit with a mix of long stay and short stay residents
_____ Other (please describe)
_____ I do not usually work on the same unit

Section B: Work Related Activities and Responsibilities.

This section asks for information about your activities and responsibilities when working with residents. Please circle the answer that best fits your usual experiences.

1. On my nursing unit, nursing assistants attend and participate in resident care conferences	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
2. On my nursing unit, licensed nurses attend and participate in resident care conferences	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
3. On my nursing unit, all nursing staff caring for residents attend and participate in shift report at the beginning of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
4. On my nursing unit, all nursing staff caring for residents attend and participate in shift report at the end of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
5. On my nursing unit, the same registered nurses consistently work each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
6. On my nursing unit, the same licensed practical nurses consistently work each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
7. On my nursing unit, the same nursing assistants consistently work each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
8. On my nursing unit, licensed nurses and nursing assistants usually exchange information about residents' needs, concerns and observations at the beginning of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**

9. On my nursing unit, licensed nurses and nursing assistants usually exchange information about residents' needs, concerns and observations at the end of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
10. On my nursing unit, licensed nurses and nursing assistants usually exchange information about residents' needs, concerns and observations throughout the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
11. On my nursing unit, licensed nurses and nursing assistants usually do not exchange information about residents' needs, concerns and observations.	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
12. On my nursing unit, the communication between nursing staff about the needs of residents is good.	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
13. On my nursing unit, nursing assistants have the same group of residents	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
14. I am assigned to only work on my nursing unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
15. On my nursing unit, nursing staff participate in developing the monthly staffing schedule	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
16. On my nursing unit, nursing staff participate in deciding how the nursing unit will be staffed each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**

17. On my nursing unit, nursing staff participate in developing the standards of care or policies that will be used. For example, nursing staff determine the types of toileting programs that will be used or ambulation programs	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
18. On my nursing unit, nursing staff participate in determining the work responsibilities for nursing staff (RNs, LPNs, CNAs)	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
19. On my nursing unit, nursing staff participate in the recruitment of other nursing staff to work in the facility or on the unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
20. On my nursing unit, nursing staff participate in interviewing and selecting RNs, LPNs, and CNAs to work on the unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
21. On my nursing unit, nursing staff participate in selecting their unit manager or coordinator.	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
22. On my nursing unit, nursing staff participate in determining budget needs for the nursing unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
23. On my nursing unit, nursing staff participate in determining equipment and supply needs for the unit (for example, type of incontinent pads and briefs; types of lifts)	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**

To be completed by RNs or LPNs only

On your nursing unit, who is **PRIMARILY** responsible for the following :

24. Completing focused resident assessments (e.g. change in condition; fall risk assessments; skin integrity assessments)	**RN**	**LPN**	**Both**
25. Completing some or all of the MDS	**RN**	**LPN**	**Both**
26. Coordinating the completion of the MDS	**RN**	**LPN**	**Both**
27. Identifying problems from the resident assessments that should be addressed on the care plan.	**RN**	**LPN**	**Both**
28. Developing and/or revising residents' care plans based on assessments.	**RN**	**LPN**	**Both**
29. Contributing to the development and/or revision of the residents' care plans	**RN**	**LPN**	**Both**
30. Delegating responsibilities and tasks to unlicensed personnel to carry out the residents' care plans	**RN**	**LPN**	**Both**
31. Monitoring residents' nursing care provided by others.	**RN**	**LPN**	**Both**
32. Monitoring residents' care to evaluate if the plan of care is effective.	**RN**	**LPN**	**Both**
33. Supervising and overseeing the care that was delegated to unlicensed staff	**RN**	**LPN**	**Both**
34. Administering medications (Circle **each** who administer medications)	**RN**	**LPN**	**CMA**
35. Administering treatments	**RN**	**LPN**	**Both**
36. Documenting the effectiveness of care in the resident's medical record	**RN**	**LPN**	**Both**
37. Documenting resident assessment data (e.g. change in condition, vital signs)	**RN**	**LPN**	**Both**

Section C: Feelings Related to Job

The purpose of this survey is to discover how various persons in the human services or helping professions view their jobs and the people with whom they work closely. Because persons in a wide variety of occupations will answer this survey, it uses the term recipients to refer to the people for who you provide your service, care treatment, or instruction. When answering this survey, please think of these people as recipients of the service you provide, even though you may use another term in your work.

Listed below are 22 statements of job-related feelings. Pleas read each statement carefully and decide if you ever feel this way *about your job*. If you have *never* had this feeling, write "0" (zero) before the statement. If you have had this feeling, indicate below *how often* you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way. An example is shown below.

Example:

HOW OFTEN	
_____	I feel depressed at work.

If you never feel depressed at work, you would write the number "0" (zero) under the heading "HOW OFTEN". If you rarely feel depressed at work (a few time a year or ness), you would write the number "1". If you feelings of depression are fairly frequent (a few times a week, but not daily), you would write a "5".

0 **Never**	**1** **A few times a year or less**	**2** **Once a month or less**	**3** **A few times a month**	4 Once a week	**5** **A few times a week**	**6** **Daily**

HOW OFTEN

1. _____ I feel emotionally drained from my work.
2. _____ I feel used up at the end of the workday.
3. _____ I feel fatigued when I get up in the morning and have to fact another day on the job.
4. _____ I can easily understand how my recipients feel about things.
5. _____ I feel I treat some recipients as if they were impersonal objects.

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Daily

6. _____ Working with people all day is really a strain for me.

7. _____ I deal very effectively with the problems of my recipients.

8. _____ I feel burned out from my work.

9. _____ I feel I'm positively influencing other people's lives through my work.

10. _____ I've become more callous toward people since I took this job.

11. _____ I worry that this job is hardening me emotionally

12. _____ I feel very energetic.

13. I feel frustrated by my job.

14. _____ I feel I'm working too hard on my job.

15. _____ I don't really care what happens to some recipients.

16. _____ Working with people directly puts too much stress on me.

17. _____ I can easily create a relaxed atmosphere with my recipients.

18. _____ I feel exhililarated after working closely with my recipients.

19. _____ I have accomplished many worthwhile things in this job.

20. _____ I feel like I'm at the end of my rope.

21. _____ I my work, I deal with emotional problems calmly.

22. _____ I feel recipients blame me for some of their problems.

Section D: Thoughts About Your Job

Directions: This section also asks about feelings related to your job. Please use these numbers to describe whether you agree or disagree with each of the statements.

1 **Disagree Strongly**	2 **Disagree**	3 **Disagree slightly**	4 **Neutral**	5 Agree slightly	6 **Agree**	7 **Agree Strongly**

1. _____ Generally speaking, I am very satisfied with this job.
2. _____ I frequently think of quitting this job.
3. _____ I am generally satisfied with the kind of work I do in this job.
4. _____ Most people on this job are very satisfied with the job.
5. _____ People on this job often think of quitting.

Section E: Anything Else?

Thank you for completing this survey. Is there anything I have forgotten to ask about that you would like to share?

Appendix D

CNA and CMA Survey

Section A:

Please share the following information about yourself.

1. What is your age? _____years

2. What is your gender? _____ male _____ female

3. What is your ethnic background?
   _____ Hispanic or Latino
   _____ Not Hispanic or Latino

4. What is your race?
   _____ American Indian or Alaska Native
   _____ Asian
   _____ Black or African American
   _____ Native Hawaiian or Other Pacific Islander
   _____ White

5. Education (check highest degree)
   _____ Did not complete high school
   _____ Completed high school
   _____ Some college
   _____ Graduated from college

6. What is your role in the nursing home? (check all that apply).
   _____ Staff CNA
   _____ Staff CMA

8. How long have you worked in this facility? _____ years _____months

9. How long have you worked in nursing homes? _____ years _____months

10. How long have you worked in nursing or health care? _____ years _____months

11. What is the number of residents you are usually assigned to care for? _____residents

12. What is the average number of hours you work each week at this job? _____ hours/week

13. Do you have another job? _____ Yes _____ No

14. If yes, what is the average number of hours you work at that job? _____ hours/week

15. What types of shifts do you work? (Check all that apply)

_____ Days
_____ Evenings
_____ Nights
_____ Other (please describe):

_____ 4-hour shift
_____ 8-hours shift
_____ 10-hours shift
_____ 12-hours shift
_____ Other (please describe):

16. What type of unit do you usually work on?

_____ Transitional/subacute care
_____ Dementia care unit
_____ Rehabilitation unit
_____ General unit for long-stay residents
_____ General unit with a mix of long stay and short stay residents
_____ Other (please describe)
_____ I do not usually work on the same unit

Section B: Work Related Activities and Responsibilities.

This section asks for information about your activities and responsibilities when working with residents. Please circle the answer that best fits your usual experiences.

1. On my nursing unit, nursing assistants attend and participate in resident care conferences	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
2. On my nursing unit, licensed nurses attend and participate in resident care conferences	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
3. On my nursing unit, all nursing staff caring for residents attend and participate in shift report at the beginning of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
4. On my nursing unit, all nursing staff caring for residents attend and participate in shift report at the end of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
5. On my nursing unit, the same registered nurses consistently work each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
6. On my nursing unit, the same licensed practical nurses consistently work each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
7. On my nursing unit, the same nursing assistants consistently work each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
8. On my nursing unit, licensed nurses and nursing assistants usually exchange information about residents' needs, concerns and observations at the beginning of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**

9. On my nursing unit, licensed nurses and nursing assistants usually exchange information about residents' needs, concerns and observations at the end of the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
10. On my nursing unit, licensed nurses and nursing assistants usually exchange information about residents' needs, concerns and observations throughout the shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
11. On my nursing unit, licensed nurses and nursing assistants usually do not exchange information about residents' needs, concerns and observations.	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
12. On my nursing unit, the communication between nursing staff about the needs of residents is good.	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
13. On my nursing unit, nursing assistants have the same group of residents	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
14. I am assigned to only work on my nursing unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
15. On my nursing unit, nursing staff participate in developing the monthly staffing schedule	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
16. On my nursing unit, nursing staff participate in deciding how the nursing unit will be staffed each shift	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**

17. On my nursing unit, nursing staff participate in developing the standards of care or policies that will be used. For example, nursing staff determine the types of toileting programs that will be used or ambulation programs	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
18. On my nursing unit, nursing staff participate in determining the work responsibilities for nursing staff (RNs, LPNs, CNAs)	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
19. On my nursing unit, nursing staff participate in the recruitment of other nursing staff to work in the facility or on the unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
20. On my nursing unit, nursing staff participate in interviewing and selecting RNs, LPNs, and CNAs to work on the unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
21. On my nursing unit, nursing staff participate in selecting their unit manager or coordinator.	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
22. On my nursing unit, nursing staff participate in determining budget needs for the nursing unit	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**
23. On my nursing unit, nursing staff participate in determining equipment and supply needs for the unit (for example, type of incontinent pads and briefs; types of lifts)	**1 Always/almost always**	**2 Sometimes**	**3 Rarely/Never**

Section C: Feelings Related to Job

The purpose of this survey is to discover how various persons in the human services or helping professions view their jobs and the people with whom they work closely. Because persons in a wide variety of occupations will answer this survey, it uses the term recipients to refer to the people for who you provide your service, care treatment, or instruction. When answering this survey, please think of these people as recipients of the service you provide, even though you may use another term in your work.

Listed below are 22 statements of job-related feelings. Pleas read each statement carefully and decide if you ever feel this way *about your job*. If you have *never* had this feeling, write "0" (zero) before the statement. If you have had this feeling, indicate below *how often* you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way. An example is shown below.

Example:

HOW OFTEN	
_____	I feel depressed at work.

If you never feel depressed at work, you would write the number "0" (zero) under the heading "HOW OFTEN". If you rarely feel depressed at work (a few time a year or less), you would write the number "1". If you feelings of depression are fairly frequent (a few times a week, but not daily), you would write a "5".

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Daily

HOW OFTEN

1. _____ I feel emotionally drained from my work.
2. _____ I feel used up at the end of the workday.
3. _____ I feel fatigued when I get up in the morning and have to fact another day on the job.
4. _____ I can easily understand how my recipients feel about things.
5. _____ I feel I treat some recipients as if they were impersonal objects.

0 Never	1 A few times a year or less	2 Once a month or less	3 A few times a month	4 Once a week	5 A few times a week	6 Daily

6.	_____	Working with people all day is really a strain for me.
7.	_____	I deal very effectively with the problems of my recipients.
8.	_____	I feel burned out from my work.
9.	_____	I feel I'm positively influencing other people's lives through my work.
10.	_____	I've become more callous toward people since I took this job.
11.	_____	I worry that this job is hardening me emotionally
12.	_____	I feel very energetic.
13.	_____	I feel frustrated by my job.
14.	_____	I feel I'm working too hard on my job.
15.	_____	I don't really care what happens to some recipients.
16.	_____	Working with people directly puts too much stress on me.
17.	_____	I can easily create a relaxed atmosphere with my recipients.
18.	_____	I feel exhilarated after working closely with my recipients.
19.	_____	I have accomplished many worthwhile things in this job.
20.	_____	I feel like I'm at the end of my rope.
21.	_____	I my work, I deal with emotional problems calmly.
22.	_____	I feel recipients blame me for some of their problems.

Section D: Thoughts About Your Job

Directions: This section also asks about feelings related to your job. Please use these numbers to describe whether you agree or disagree with each of the statements.

1 **Disagree Strongly**	2 **Disagree**	3 **Disagree slightly**	4 **Neutral**	5 Agree slightly	6 **Agree**	7 **Agree Strongly**

1. _____ Generally speaking, I am very satisfied with this job.
2. _____ I frequently think of quitting this job.
3. _____ I am generally satisfied with the kind of work I do in this job.
4. _____ Most people on this job are very satisfied with the job.
5. _____ People on this job often think of quitting.

Section E: Anything Else?

Thank you for completing this survey. Is there anything I have forgotten to ask about that you would like to share?

Appendix E

Director of Nursing Contact Letter

(Date)

Dear Director of Nursing Service,

I am a doctoral student at the School of Nursing at Oregon Health & Sciences University. My past experience includes 13 years of working in nursing homes as well as several years as a clinical instructor with RN students in this setting. I am committed to continuing to improve the quality of care for residents and the work environment for nursing staff. For my dissertation research, I will be examining how the organization of the nursing staff, often referred to as a nursing practice model, impacts job satisfaction and burnout. I have enclosed a summary of the study.

I am writing to invite you and your nursing staff to participate in this study. RNs, LPNs, and nursing assistants will be asked to complete an anonymous survey. The survey will take about 30-45 minutes to complete. I will need your assistance to share information about the study with staff, to encourage their participation, and to help arrange times and space for staff to complete the survey.

The survey is anonymous; no one at the nursing home will know the answers. The results of the survey will be reported in summary form only. The primary discomfort of participating in this project is the amount of time it will take to complete the survey. The benefit of participating in the study is to be able to provide feedback that could improve working conditions for staff and outcomes for residents.

I will provide refreshments for staff during the time they are completing the survey. In appreciation for your assistance, directors of nursing will be offered the opportunity to select an evidence-based protocol from the Gerontological Nursing Interventions Research Center at the University of Iowa College of Nursing. These protocols address a variety of clinical problems common to nursing home residents as well as management issues such as quality improvement and staff retention.

I will be contacting you shortly to learn of your willingness to participate in this study. If you have any questions before then, please contact me at 503 244-8744 or by email at obrienje@ohsu.edu. You may also contact my advisor, Heather Young, GNP, PhD at 541 552-6706 or by email at younghe@ohsu.edu. The Institutional Review Board of Oregon Health & Sciences University has approved this study.

Thank you for considering this request. I look forward to talking with you about this project.

Sincerely,

Jeannette O'Brien, RN, MSN

Appendix F

Pre-Survey Letter

Date

Dear (Director of Nursing)

Thank you again for agreeing to participate in my research study. Enclosed you will find the following materials:

1) A letter from you providing staff information about the study. Please distribute these as you believe will work best in your facility (e.g., to staff mailboxes or in a general location).
2) A 2-page "Organizational Characteristics" form that covers some demographic information about your facility (you or the DNS may complete this).
3) A 1-page Director of Nursing Survey.
4) Information about the evidence-based protocols from the Gerontological Nursing Interventions Research Center at the University of Iowa College of Nursing. Please select a protocol that you believe will be of interest and useful for your facility. This is a "thank you" gift in appreciation for your assistance.

I look forward to visiting your facility and meeting with your staff.

Sincerely,

Jeannette O'Brien, RN, MSN
503 244 8744
E-mail: obrienje@ohsu.edu

(Date)

Dear RNs, LPNs, CMAs, and CNAs,

Our nursing home has agreed to participate in a research study to learn about perspectives nursing staff have on their work environment. This study is being conducted by Jeannette O'Brien, RN, MSN, a graduate student at Oregon Health & Sciences University School of Nursing.

Jeannette will be asking RNs, LPNs, and nursing assistants to fill out an anonymous survey that asks for your views about your job responsibilities and decision making. The survey will also ask about your satisfaction with your job. The survey will take about 30-45 minutes to complete.

The primary discomfort of participating in this project is the amount of time it will take to complete the survey. We have tried to identify the best times to make it convenient and refreshments will be available for you while you complete the survey. The benefit of participating in the study is to be able to provide feedback that could improve working conditions and outcomes for residents.

The survey is anonymous; no one at the nursing home will know your answers. The results of the survey will be reported in summary form only. Your completion of the survey will indicate your willingness to participate in this project. You are under no obligation to participate.

If you have any questions about this study, please contact Jeannette O'Brien at 503 244-8744 or by email at obrienje@ohsu.edu.

Your ideas are important. The survey will be done:

Thank you for considering this request.

Sincerely,

(Name)
Director of Nursing Service

Appendix G

Participant Information Sheet

Dear RNs, LPNs and nursing assistants,

Thank you for considering participating in this research study to learn your perspectives about your work environment. This study is being conducted by Jeannette O'Brien, RN, MSN, a graduate student at Oregon Health & Sciences University School of Nursing.

If you decide to participate, you will fill out an anonymous survey that asks for your views about your job responsibilities and decision making. The survey will also ask about your satisfaction with your job. The survey will take about 15-20 minutes to complete. When you complete the survey, you will give it directly to the researcher. No one at the nursing home will see your answers.

The primary discomfort of participating in this project is the amount of time it will take to complete the survey. It may also be stressful to recall unpleasant feelings about your work. Sometimes having a chance to express unpleasant feelings is helpful. The benefit of participating in the study is to be able to provide feedback that could improve working conditions and outcomes for residents.

The survey is anonymous; no one at the nursing home will know your answers. Your completion of the survey will indicate your willingness to participate in this project. You are under no obligation to participate. The results of this survey will be reported in summary form only.

A long-term goal of this study is to improve the work environment of nursing home staff so that you can provide good care to residents. To accomplish this goal, the information learned from this study may be presented at conferences or in journal articles.

If you have any questions about this study in general or any concerns while completing the survey, please talk with the researcher. You may also contact the researcher at the phone number listed below.

Jeannette O'Brien
503 244-8744

Appendix H

Results for Accountability Subscale

Item	RNs	LPNs	Both
Completing focused resident assessments (e.g. change in condition; fall risk assessments; skin integrity assessments)	33%		66%
Completing some or all of the MDS	84%		16%
Coordinating the completion of the MDS	86%		14%
Identifying problems from the resident assessments that should be addressed on the care plan.	24%		76%
Developing and/or revising residents' care plans based on assessments.	38%		62%
Contributing to the development and/or revision of the residents' care plans	18%		82%
Delegating responsibilities and tasks to unlicensed personnel to carry out the residents' care plans	8%		92%
Monitoring residents' nursing care provided by others	3%	5%	92%
Monitoring residents' care to evaluate if the plan of care is effective.	15%	2%	83%
Supervising and overseeing the care that was delegated to unlicensed staff	6%		94%
Administering medications (Circle **each** who administer medications)	RN n=54	LPN n=59	CMA n=66
Administering treatments		6%	94%
Documenting the effectiveness of care in the resident's medical record	6%	2%	92%
Documenting resident assessment data (e.g. change in condition, vital signs)	2%		98%