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Organizational Context, Shared Governance Structure and Outcomes in Veteran Affairs Hospitals

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ORGANIZATIONAL CONTEXT, SHARED
GOVERNANCE STRUCTURE, AND OUTCOMES IN
VETERANS AFFAIRS HOSPITALS

BY

BONNIE J. CHARLAND

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
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DOCTOR OF PHILOSOPHY DISSERTATION

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Abstract

For decades nurse executives have implemented shared governance structures as a nursing management innovation to transform the nursing organization from a bureaucratic hierarchy to a more organic, relational partnership. However, there is little generalizable evaluation of the effects of shared governance on nurse and patient outcomes. The purpose of this study is to examine organizational context and quality outcomes in relation to shared governance structures at VA hospitals. Structural contingency theory guided this ex post facto descriptive correlational study of the relationships between organizational context, nursing shared governance, and outcomes in VA hospitals in the United States. Veterans Health Administration administrative data from 54 VA hospitals were aggregated at the facility level for analysis. Context variables were hospital complexity level, case mix index, hospital teaching status, number of hospital beds, RN education level, and in-patient turbulence. Nurse executives reported on shared governance implementation including formal documentation of the structure in the form of policy, charter or by-laws, and total years. The outcomes analyzed were registered nurse (RN) job satisfaction, patient satisfaction, length of stay (LOS), hospital acquired Methicillin resistant *Staphylococcus Aureus* (MRSA), and hospital acquired pressure ulcers (HAPU). Data analysis included: descriptive statistics, correlation, MANOVA, ANOVA, and regression. Results indicated that 70% of VA hospitals had formally documented shared governance structures. RN satisfaction increased with more mature shared governance. HAPUs were significantly related to shared governance maturity. Increased in-patient turbulence was predictive of shorter LOS and fewer HAPUs. This

study provides evidence of the impact of shared governance structure and the context of turbulence on nurse and patient outcomes enabling VA nurse executives to make evidence-based management decisions about how to best structure the nursing organization.

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Trust in the Lord with all your heart, and do not lean on your own understanding. In all your ways acknowledge him, and he will make straight your paths (Proverbs 3:5-6). I give thanks to the Lord for he is good; his mercy endures forever. His loving kindness and grace have blessed every step of this journey.

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Chapter I

Introduction

There are monumental changes occurring in the US health care system. On March 23, 2010, President Obama signed into law the Patient Protection and Affordable Care Act (PPACA). This legislation, along with the Health Care and Education Reconciliation Act of 2010, will result in sweeping changes to the U.S. health care system in the coming years. Healthcare leaders are facing tremendous pressure to increase efficiency, improve performance, and deliver quality to patients in their healthcare system. Restructuring of the health care system and transformation of the work environment are essential to meeting these higher expectations. With more than 3.1 million nurses represents the largest sector of health professionals and will have a key role as team members and leaders in building a better integrated, patient centered, health care system (Institute of Medicine (IOM), 2011). Nurses are closest to patients and the point of care. They hold scientific knowledge upon which to provide care across the continuum of healthcare services. Nurses have the unique ability to partner with other health care professionals in redesigning the healthcare system. In 2004, a foundational Institute of Medicine (IOM) report identified the profession of nursing as essential to transforming the health care work environment and keeping patients safe (IOM, 2004). There is evidence that the quality of patient care is directly impacted by the degree to which staff nurses are actively involved in decision making at two levels, the point of care level and at the organizational level (IOM, 2004). This IOM report outlines the importance of an organizational structure that provides for Chief Nursing Officer (CNO) and staff nurse involvement in decision-making.

The traditional top down, hierarchical, rigid command structure has proven to be a major flaw in healthcare management (Toussaint & Gerard, 2010). Changing from autocratic leadership to collaborative leadership was identified as essential to sustainability of organizational improvements (Toussaint & Gerard, 2010). Since the late 1980s nursing executives have increasingly implemented shared governance as an organizational structure that provides for shared decision-making based on the principles of partnership, equity, accountability, and ownership at the point of service (Swihart, 2006). Shared governance has been widely implemented as a nursing management innovation to transform the nursing organization from a bureaucratic, hierarchy to a more organic, relational partnership. A shared governance model is seen as an initial step toward professional nursing excellence that provides a means of achieving high quality and performance (Watters, 2009). However, there is little generalizable evaluation of the effects of shared governance beyond specific implementation sites. The scientific evidence supporting shared governance implementation as a structure resulting in high performance and quality is not strong (Hess, 1994). In this current healthcare environment of increasing demands and financial constraints nurse executives, now more than ever, need evidence that a shared governance as a nursing organizational structure will produce improvements in nurse and patient outcomes and result in organizational quality and efficiency.

Shared governance has been described as a nursing governance structure that advances nurses' control over practice, while extending staff input and influence on decision making that had previously been controlled by management (Hess, 2004). The overall goal of shared governance is to create a more flexible and adaptable

organization that can respond to the changing healthcare environment by using new tools of work effectiveness, work relationships, and decision-making through an organizational structure designed to directly support the work of the hospital. Early estimates indicated that there were thousands of healthcare organizations implementing shared governance (Porter-O'Grady, 1992).

Over the past three decades, a growing body of evidence supports the benefits of shared governance. Predominantly this evidence comes from case study exemplars that describe various implementation strategies, and provide a road map for the design of a shared governance structure. (Barden, Griffin, Donahue, & Fitzpatrick, 2011; Brandt, Edwards, Cox-Sullivan, & Zehler, 2012; Bretschneider et al., 2010; DeBaca, Jones, & Tornabeni, 1993; Dunbar et al., 2007; Frith & Montgomery, 2006; Jacobs & Ward, 2012; Malleo & Fusilero, 2009; Pinkerton, 2008; Rheingans, 2012; Scott & Caress, 2005; Watters, 2009). These studies provide anecdotal evidence of successful implementation and positive outcomes by subjectively reporting increased registered nurse job satisfaction (Bretschneider et al., 2010; Jacobs & Ward, 2012; Jones, Stasiowski, Simons, Boyd, & Lucas, 1993; Pinkerton, 2008), increased nurse empowerment (Barden et al., 2011), improved work environment (Jones et al., 1993), decreased nurse turnover (Watters, 2009), decreased nurse call offs (Pinkerton), improved financial performance (DeBaca et al., 1993; Finkler, Kovner, Knickman, & Hendrickson, 1994), improved patient satisfaction (Watters, 2009), and improved patient outcomes (Rheingans, 2012; Watters, 2009). While these reports provide some indication of outcomes of shared governance, much of this evidence has been criticized. The two predominant criticisms are the lack of rigor in scientific methods

and study designs that do not incorporate empirical evaluation of the shared governance structure, processes or outcomes.

Several studies have investigated shared governance implementation on a larger scale, such as, in an integrated health network using cross sectional or longitudinal designs. However, this empirical research has had varied purposes, using differing theoretical perspective and scientific methods including: instrument development (Fray, 2011), development of leadership behavior in professional nursing practice (George et al., 2002), and comparing governance types (Stumpf, 2001). Two longitudinal studies investigated the effect of shared governance on nurse and patient outcomes over a three and four year period. Results showed increased staff nurse empowerment (Erickson, Hamilton, Jones, & Ditomassi, 2003; George et al., 2002), nurse satisfaction (George et al., 2002) and patient satisfaction (George et al., 2002). Research designs, theory, methods, and instruments utilized in these studies were not similar; data analysis was limited to descriptive, limited correlations. and qualitative approaches. Both studies focused on measuring outcomes for a specific shared governance implementation at the unit level. There have been few empirical studies that focus on organizational, nurse and patient outcomes of shared governance. Of these, most are single setting, cross-sectional, or longitudinal in design and do not allow for generalization (George et al., 2002; Rheingans, 2012; Watters, 2009).

A few studies examine the implementation of shared governance in highly bureaucratic healthcare organizations, such as within the Department of Veteran Affairs (VA) Hospitals which support positive aspects of shared governance such as; increased staff satisfaction with resources, participation, and control of practice

(Howell et al., 2001); increased staff participation in decision making, productivity, and cost (Richards et al., 1999); increased nurse empowerment (Brandt et al., 2012; McDonald, Tullai-McGuinness, Madigan, & Shively, 2010); improved nursing organizational structure (Dunbar et al., 2007). These were single site studies that did not examine shared governance structure implementation in relation to patient outcomes. In summary, all of the studies conducted within the VA system supported positive aspects of shared governance; however, they were single site studies that did not evaluate the impact of shared governance on patient outcomes.

Thus, from the research to date, many questions remain about the effectiveness of shared governance and the relationship of the type of structure to nurse and patient outcomes. The implementation of shared governance in health care organizations is a long journey with many challenges (Jenkins, 1988; Wilson, 1989). VA nurse executives have the additional challenge of leading in a highly bureaucratic organization serving more than 8 million of American heroes during times of economic crisis. The VA healthcare system is an ideal organization in which to conduct this research. Beginning in the 1990s The Veterans' Health Administration (VHA) launched an organizational transformation to improve the quality of care. Part of this transformation included the Office of Nursing Service (ONS) supporting shared governance implementation and Magnet designation. There are 128 VA acute care hospitals designed with similar foundational organizational structures and numerous shared governance implementations that provide an ideal sample for examining the impact of organizational context on shared governance structure and patient outcomes.

An improved work environment, job satisfaction, and retention of nurses continue to be primary outcomes of organizations that have implemented shared governance (Aiken, Havens, & Sloane, 2000; Havens, 2001; Scott, Sochalski, & Aiken, 1999; Upenieks, 2003). Mark, Salyer, and Wan (2003) found that at both the hospital and nursing unit levels, the relationship between professional nursing practice and nursing work satisfaction was large and statistically significant. In this study organizational structure was conceptualized as professional nursing practice defined as “decentralization of decision-making enhanced autonomy and collaborative relationships” (Mark et al., p. 224). There is a significant body of research on Magnet hospital characteristics that examines structural elements to a health work environment which includes “empowered, shared decision-making structures for control of the context of nursing practice” (Kramer, Schmalenberg, & Maguire, 2010, p. 10).

This seminal research study on Magnet Hospital designation was conducted in the 1980s during a national nursing shortage. Many hospitals struggled to attract and retain nurses. However, there were some hospitals that were able to attract and retain qualified nurses and who provided “quality patient care.” A task force was formed “to examine characteristic of systems impeding and/or facilitating professional nursing practice in hospitals” (McClure, Poulin, Sovie, & Wandelt, 1983, p. 2). This study examined variables in the hospital organization and its nursing service that create a magnetism that attracts and retains professional nurses on its staff (McClure et al., 1983). These hospitals were identified as “magnet” hospitals. A combination of variables were examined which led to the development of models of hospital nursing

practice in which nurses receive professional and personal satisfaction to the degree that resulted in recruitment and retention of qualified staff (McClure et al., 1983).

In the three succeeding decades, research examining Magnet hospital characteristics has resulted in a significant accumulation of knowledge about a professional nursing practice and healthy work environments. The early studies by Kramer and Schmalenberg (1987) inferred that the Magnet Hospitals were identified as good places to work because there was high job satisfaction and high quality of nursing care. A later study by Lacey et al. (2007) also found that Magnet hospitals were more likely to retained professional nurses than non-Magnet hospitals. Magnet hospitals boast a long history of nurse satisfaction (Kramer & Schmalenberg, 2005; Laschinger, Shamian, & Thomson, 2001; Schmalenberg & Kramer, 2008; Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2007). Kramer et al. (2010) have specifically focused on identifying structures and processes in Magnet hospitals which have resulted in healthy work environments. Empowered, shared decision-making structures for control over the context of nursing practice was identified as a best structure for a healthy work environment. This structure was typically achieved through a shared governance models that provides a flat, decentralized organizational structure that promoted shared decision-making.

Magnet hospital research has moved beyond nurse satisfaction as an outcome. There are a few studies that examined patient outcomes. Aiken, Smith, and Lake (1994) provided the first compelling evidence of significantly better patient outcomes at Magnet hospitals when compared to non-Magnet hospitals. In their first study of patient outcomes, Aiken et al. found a lower risk-adjusted mortality among Medicare

patients in the original Magnet hospitals than in non-Magnet hospitals. Lake, Shang, Klaus, and Dunton (2010) using the 2004 National Database of Nursing Quality Indicators (NDNQI) from 108 Magnet and 528 non-Magnet hospitals examined the relationship between Magnet status and patient falls. Multivariate models showed a 5% lower fall rate in Magnet hospitals (Lake et al., 2010). Another study analyzing NDNQI data from 2005 and 2006 showed a 10.3% lower fall rate and lower hospital-acquired pressure ulcers (HAPU) in Magnet hospitals (Dunton, Gajewski, Klaus, & Pierson, 2007). In a comparison of patient outcomes in Magnet and Non-Magnet hospitals Goode, Blegen, Shin Hye, Vaughn, and Spetz (2011) found that non-magnet hospitals had better patient outcomes with infections, postoperative sepsis, and postoperative derangement while the Magnet hospitals had slightly better outcomes for pressure ulcers. More recently in a study of 80 Magnet and 80 non-Magnet hospitals by Mills and Gillespie (2013) there was no conclusive evidence that the risk-adjusted rates of pressure ulcers and failure to rescue are better in Magnet hospitals. In summary, the research related to patient outcomes in Magnet hospitals shows beginning evidence of better outcomes, but more research is needed. Also, this research provides evidence linking organizational structure to nurse and patient outcomes.

Despite tremendous popularity and great potential, adaptation and implementation of shared governance has not been universally successful. There have been a few reports of the difficulties of changing the organizational structure by implementing shared governance. Havens (1994, p. 61) found that “cynicism, unwillingness to be accountable, and lack of decision making were also reported in a

nationwide survey.” Kramer and Schmalenberg (Kramer, 2004, 2005; Schmalenberg & Kramer, 2008) found that in 3 of 34 Magnet hospitals, staff nurses reported that the shared governance structures were not viable or workable. There are likely many more accounts of failed attempts at shared governance that has not been published.

Structural Contingency Theory (SCT) provides the underlying theoretical framework for this study (Donaldson, 2001). “The essence of the contingency theory paradigm is that organizational effectiveness results from fitting characteristics of the organization, such as its structure, to contingencies that reflect the situation of the organization” (Donaldson, p. 1). SCT is based on three core principles. First, there is an association between contingency and the organizational structure. Second, contingency determines the organizational structure, and third there is fit of some level of contingency with some level of structure that results in higher performance (Donaldson). The three major theoretical constructs of context, organizational structure, and organizational effectiveness will be used as a framework for conceptually organizing the study variables.

In SCT, context is inclusive of contingencies that are reflected in both the external and the internal environment of organization (Donaldson, 2001). Context has been broadly defined in terms of environment, technology, and size. Environmental context can be defined as inputs to the organization that determine how the work will be accomplished, while technology can be defined as work processes that are required to transform inputs into outputs. Together technology, environment, and size are seen as manifestations of the larger organizational context. In the proposed study, context will include key hospital characteristics that describe the external and internal

environments of the organization. Hospital characteristics of interest in this study include the complexity of services offered (as determined by VA classification), case mix index, the hospital's teaching status, and the number of hospital beds (size). Nursing characteristics include education level of the nurses, and turbulence (the patient turnover of inpatient admissions, discharges, and transfers).

Organizational structure can be defined as a hierarchical arrangement demonstrating how authority and responsibility for decision-making are distributed in an organization. SCT posits that there is no single organizational structure that is highly effective for all organizations (Clegg & Hardy, 1999). The optimal structure is contingent on the context of the organization. In order to be effective the organization must fit its structure to the environment. The shared governance literature continues to support that shared governance structures are nearly impossible to define because of the specificity to the organization. Hess (2004, p. 10) explained that shared governance structures and processes are different in every organization, and implementation is so unique that it is "like pinning Jell-O® to a wall."

In this study, organizational structure is conceptualized as the governance structure articulated by organizational policy or charter and validated by the Nurse Executive. A formal shared governance model is decentralized decision making that has been formalized by policy, charter or by-laws. There are four types of nursing shared governance models identified in the literature: unit based, congressional, councilor, and administrative (Porter-O'Grady & Finnigan, 1984; Swihart, 2006). Mature shared governance models that extend beyond nursing practice and integrate other medical center services have been defined in the literature as integrated shared

governance models (Aikman, Andress, Goodfellow, LaBelle, & Porter, 1998; Miller, 2002). Whole system shared governance moves even further by creating a structure for decision making, ownership, and accountability at every level of the organization (Evan et al., 1995). The governance structure will be differentiated as traditional hierarchical (no shared governance), shared governance, integrated shared governance, or whole system shared governance.

Although multiple definitions of organizational effectiveness have been described in the literature, effectiveness in this study is defined as the ability of the organization to succeed at achieving organizational and patient outcomes. SCT posits that organizational effectiveness results when the organizational structure “fits” with the context of the organization (Donaldson, 2001). The organizational outcomes most often associated with shared governance include nurses’ job satisfaction, nursing turnover, patient satisfaction, 30-day mortality, patient length of stay, patient falls, and pressure ulcers. The outcomes of interest in this study include: nurses’ job satisfaction, nursing turnover, patient satisfaction, patient length of stay, hospital acquired MRSA, and pressure ulcers. Figure 1 provides a diagram of the relationships investigated in this study.

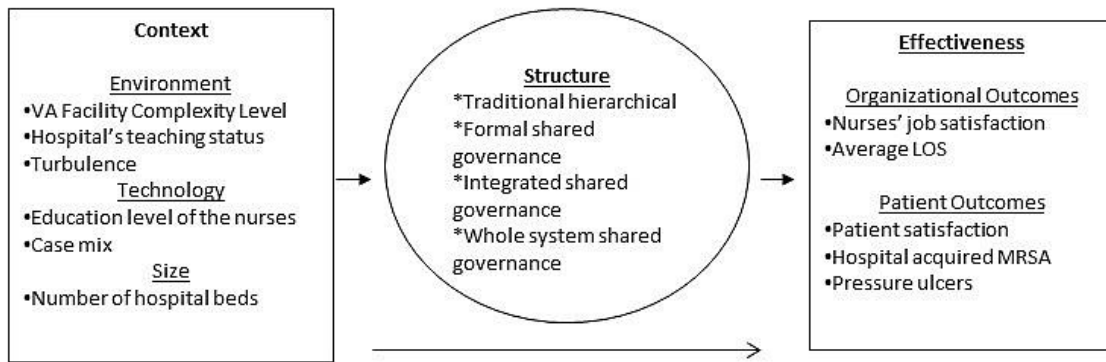


Figure 1. Structural Contingency Theory and Study Constructs

Purpose of Research

The first purpose of this study is to determine if there are differences in quality outcomes across VA hospitals with differing shared governance structures. The second purpose was to evaluate the individual and combined effects of organizational context, shared governance structure and outcomes controlling for hospital size and turbulence. The third purpose was to determine if there are relationships between organizational context and governance structure that predict quality outcomes.

Research Questions

1. Are there significant differences in quality outcomes among VA hospitals with a shared governance structure and in VA hospitals without shared a governance structure?
2. What are the individual and combined effects of organizational context and shared governance structure on quality outcomes, controlling for hospital size, and turbulence?
3. Are there relationships between organizational context and shared governance structure that predict quality outcomes?

This ex post facto descriptive correlational study will examine the relationships between organizational context, governance structure, and outcomes in VA hospitals. The proposed study will be accomplished utilizing Veterans Health Administration data and Nurse Executive query.

Data analysis will begin with descriptive statistics to summarize the distribution, outliers, missing values, and data entry errors on each variable and to compare the structure groups for similarities. Descriptive statistics will be examined for correlations among variables and to evaluate the assumptions of normality, homoscedasticity, and linearity. Correlational analyses will be utilized to examine relationships among context, structure, and outcome variables. Specific analysis is described below for each of the research questions.

1. Are there significant differences in quality outcomes among VA hospitals with different shared governance structure and in VA hospitals without shared governance structure?

Research question one will be analyzed by Multivariate Analysis of Variance (MANOVA) with the four levels of shared governance structure as the factor and the dependent measures are quality outcomes of nurse job satisfaction, LOS, patient satisfaction, MRSA infection rate, and HAPU rate. If MANOVA is significant post hoc analysis will be done using Tukey (1953) test and significance level will be set at an alpha level of 0.05.

2. What are the individual and combined effects of organizational context and shared governance structure on quality outcomes, controlling for hospital size, and turbulence?

Research question two will be analyzed using regression models for each of the quality outcome variables of nurse job satisfaction, LOS, patient satisfaction, MRSA infection rate, and HAPU rate. Structure Variables will be system shared governance with an additional variable related to maturity. Context variables will be hospital complexity, Case Mix Index, teaching status, RN level of education and number of hospital beds. Additional analysis will be conducted controlling for context variable of size and turbulence based on SCT which has identified three main contingencies of size, uncertainty, and technology (Donaldson, 2001).

3. Are there relationships between organizational context and structure variable that predict quality outcomes?

Regression analysis will be used to explore relationships and test potential hypothesized relationships based on SCT theory.

Chapter II

Literature Review

In the current healthcare environment of increasing demands and financial constraints nurse executives, now more than ever, need evidence that shared governance is a nursing organizational structure that results in improved nurse and patient outcomes and organizational efficiency. Shared governance has been widely implemented as a nursing management innovation to transform the nursing organization from a bureaucratic, hierarchy to a more organic, relational partnership. A shared governance model is seen as an initial step toward professional nursing excellence that provides a means of achieving high quality and performance (Watters, 2009).

Literature Search Method

The literature review for the proposed study will begin with a historical overview of shared governance and its development in the nursing literature. This review covers the healthcare context of the United States beginning in the 1970s to the present day. Next, a historic review of the body of knowledge from Magnet designated hospital research in relation to shared governance structures and staff and patient outcomes will be presented beginning with an overview of the American Nurses Credentialing Center (ANCC) Magnet designation program. A review of the selected outcome variables as they relate to the body of knowledge on organizational and nurse sensitive outcomes with particular focus on VA hospital studies. The outcomes include patient satisfaction, hospital acquired Methicillin Resistant Staph Aureus (MRSA), hospital acquired pressure ulcers (HAPU), and average patient length of stay (LOS).

Lastly, a review of the historical development of structural contingency theory with particular focus on this theoretical framework to guide investigation of nursing phenomena will be presented.

Shared Governance

Shared governance in nursing emerged in the late 1970s and early 1980s from business and management literature as a direct response to a national nursing shortage. The societal and economic context of healthcare was changing rapidly and nursing was greatly impacted. Societal changes toward roles and expectations of woman in the workplace had a dramatic effect on women's career choices. Many women were choosing careers other than nursing which resulted in fewer nurses enrolling in nursing programs and fewer nurses for the healthcare delivery system (Porter-O'Grady & Finnigan, 1984). At the same time employee relations were also changing with the organizational work of Maslow, Drucker, Herzberg, and the Tavistock Institute.

Professional workers were increasingly more interested in lateral, rather than hierarchical communication and decision making (Porter-O'Grady, 1992). Shared governance was proposed as a management structure for shared decision making based on the principles of partnership, equity, accountability, and ownership (Swihart, 2006). The intent of the structure is to engage all members of the workforce in advancing the mission and vision of the healthcare organization by supporting decision making at the point-of-service. This is a decentralized, collaborative management structure characterized by the balancing of power between management and staff on issues relating to professional nursing practice. Communication and decision making is accomplished through a matrix of councils or representative bodies empowered with

authority and accountability for professional decision making (Porter-O'Grady).

Defining shared governance has been described “as nailing Jello™ to a wall” as each structure looks different when appropriately implemented in an organization (Hess, 1995, p. 14).

There was a significant departure from scientific management to a human resource era of valuing employees as an important organizational asset (Porter-O'Grady, 1995). Additionally, Kanter's (1977) introduction of structural empowerment emphasized that the structure of work should be viewed from the point of service outward rather than from the organization down, as typical of traditional hierarchical bureaucracy. Studies from manufacturing, education, and nursing organizations with participatory management almost universally found that increased participatory decision making at all levels of the organization resulted in increased job satisfaction (Alutto & Acito, 1974; Alutto & Vredenburg, 1977). Additionally, two major studies recommended that nursing be incorporated into the hospital governance structure to improve patient, professional, and organizational health (McClure, et al., 1983; Medicine, 1983).

Shared governance literature during the 1980s.

Entering the decade of the 1980s, nursing was described as being at a crossroads with regards to professional nursing practice (Porter-O'Grady & Finnigan, 1984). Of particular concern was “who would control nursing practice” (Cleland, 1978, p. 40). With the healthcare system facing regulatory, economic, and policy changes there was an opportunity for nursing to emerge more fully into a professional practice. Nurse administrators needed to develop organizational structures which

brought together the collective power of nursing, structures which allowed nursing staff and administrators to share in the control over nursing practice (Cleland, 1978). Shared governance was described as the new “buzz” word in nursing (Peterson & Allen, 1986, p. 9). As a management innovation, shared governance implementation was a strategy to enhance professional nursing practice and to transform the organization. Porter-O’Grady and Finnigan (1984) published the book *Shared Governance for Nursing* which provided the first practice-based text to outline the structures and processes of implementing shared governance from concept to system integration. This book provides a blueprint for designing and implementing a professional nursing organization (Porter-O’Grady & Finnigan, 1984).

Porter-O’Grady and Finnigan (1984) provided foundational literature on how to transform the organization with shared governance implementation. However, Porter-O’Grady and Finnigan outline the features of shared governance that guide the design of the structure within the nursing organization. Figure 2 is the nursing operational framework organizational structure presented in the book (Porter-O’Grady & Finnigan, 1984).

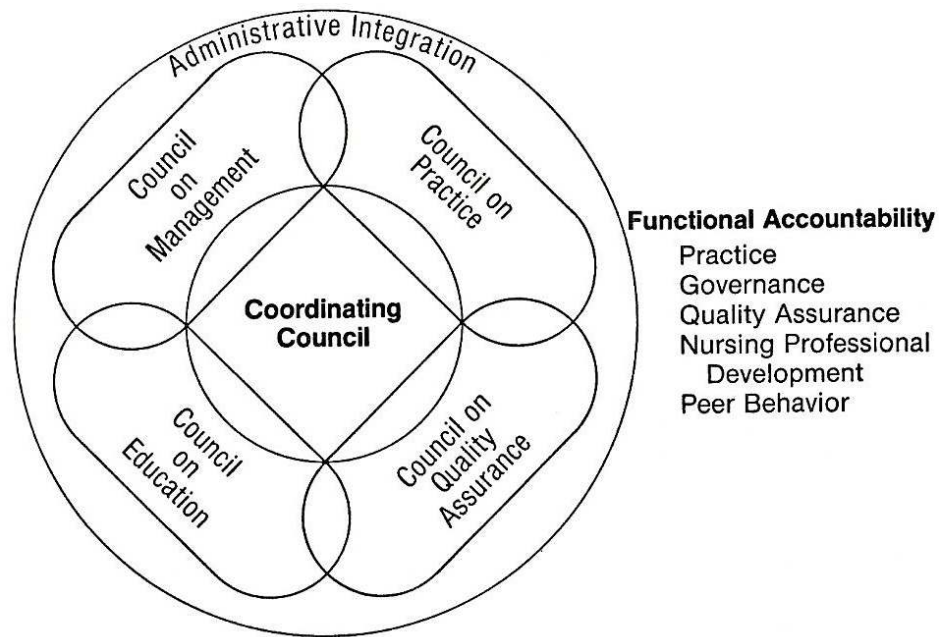


Figure 2. Nursing operational framework organizational structure (Porter-O'Grady & Finnigan, 1984).

Numerous articles in the 1980s describe the design and implementation of shared governance. In 1982, *Nursing Administration Quarterly* featured an entire section on the design and development of shared governance at Saint Joseph's Hospital in Atlanta, GA. This case study begins with the recognition of the 50-year struggle of integrating a professional practice in the traditional bureaucratic framework. The changing context of society and healthcare which called for a restructuring of hospital administration that emphasized collaboration, a defined knowledge base, autonomous practice, and shared decision making (Carroll, Wheeler, & Porter-O'Grady, 1982; McDonagh, Rhodes, Sharkey, & Goodroe, 1989). This two year journey to implementing a councilor model of shared governance reports that implementation resulted in increased ability to recruit qualified, committed professional nurses eliminating 40 full time vacancies, forming a per diem pool, and expanding bed

capacity from 100 to 300 (Carroll et al., 1982). Jones and Ortiz (1989) describe a similar struggle with traditional bureaucratic hierarchical model and development of a shared governance model. At year two of implementation, shared governance is described as a giant step forward in increasing nurse autonomy and the professional recognition of nursing, but no outcomes of the anticipated increased nurse job satisfaction are reported (Jones & Ortiz, 1989).

In another descriptive single hospital study Ludemann and Brown (1989) examine staff perceptions of shared governance at Rose Medical Center, Denver, Colorado from 1983 to 1984. This descriptive correlational survey study was conducted a year and a half after the implementation of the congressional shared governance model. A second survey was administered six months later because the response rate on the first survey was only 28% following a nurse lay-off due to declining patient census and to increase reliability of the findings (Ludemann & Brown, 1989). The instrument developed for this study had reliability coefficients ranging from .95 to .90 a shortened version was used for the second survey with reliability coefficients of .95 to .72 (Ludemann & Brown, 1989). The results suggested that the nurses perceive themselves to have more influence, autonomy, and freedom to innovate and more job satisfaction following the shared governance implementation at a statistically significant level (Ludemann & Brown, 1989). Additionally, staff characteristics were examined in relation to commitment to the model and the organization. The characteristics associated with greater commitment included greater age, higher position, more experience in the organization, and more years of education (Ludemann & Brown, 1989). Unfortunately, this study has significant design and

theoretical limitations. The before and after ex post facto survey for measuring perceptions asked nurses to recall their perceptions two years prior to and at present which was not an ideal design to compare perceptions accurately. Before and after comparative repeated measures would have strengthened this study. The response rate of 28% was rather low, but a second survey administered six months later with a 37% response rate yielded similar results. Also noted as a limitation was the lack of theoretical underpinning and definitional clarity of shared governance (Ludemann & Brown, 1989).

Later in this decade, the majority of the literature focused on the many challenges and the costs of implementation. Wilson (1989) describes the challenge of change in implementing a councilor model of shared governance which included: conceptual ambiguity, determining readiness, role anxiety, decision making uncertainty, and information management. Most notable is the identification that making the transition to shared governance requires careful planning and clear understanding of the organizational context.

Recognizing that the literature was offering little substantive evidence of the outcomes of shared governance, Allen, Calkin, and Peterson (1988) presented a conceptual model to facilitate design and evaluation of shared governance structures to “fit” a particular organization. Based on a review of more than 100 research articles in participatory management literature a universal relationship was identified linking participation in decision making to employee satisfaction. This relationship is the overarching premise for the model which can guide examination of intra- and extra-organizational factors that can influence the relationship among satisfaction and other

desirable goals, such as turnover and performance (Allen et al., 1988). There is no evidence of further development or testing of this theoretical model in the literature.

Jenkins (1988) interested in understanding the costs of implementing and sustaining a shared governance model outlined the organizational changes during implementation of a councilor model and conducted a cost analysis related to the structure and meeting time before and after implementation. The study was conducted at a tertiary care children's hospital in the South where six years into implementation of a shared governance model cost was of administrative concern, particularly related to maintaining the structure. Committee structures and meeting times were evaluated before and after implementation demonstrating only a 3% increase in meeting hours which netted a decrease in meeting hours per full time equivalent (FTE) due to a 20% increase in FTE. This study lacked specific statistical analysis, but provided a blueprint for future studies interested in conducting a cost/benefit analysis of shared governance implementation.

In summary, the literature of the 1980s begins with significant enthusiasm for shared governance as a solution to increase professionalism, staff autonomy, and nurse satisfaction while reducing vacancy and turnover. However, later in the decade the literature clearly begins to identify the challenges of implementation and suggests a staff with greater age, higher position, more experience in the organization, and more years of education might demonstrate better acceptance of the change to governance structure (Ludemann & Brown, 1989).

Shared governance literature during the 1990s.

The 1990s was considered a decade of health care legislation (Beazley, 2007). However, healthcare reform that was the talk in Congress did not materialize into revolutionary restructuring, but there were still significant changes to the system. The Health Care Financing Administration introduced the Stark legislation which imposed proscribing rules on physicians with financial interests in referral agencies. In 1994, the University of Washington Medical Center, Seattle was the first facility designated Magnet by the American Nurses Credentialing Center (McClure & Hinshaw, 2002). Magnet designation is detailed later in the chapter. There were reports of Medicare and Medicaid fraud, a war on medical errors, and then the IOM report “To Err is Human: Building a safer health care system” which suggested that more than 98,000 patients die annual due to medical error (Kohn, Corrigan, & Donaldson, 2000). Internal to the health care organizations, the 1980s era of employee empowerment was now being integrated with business philosophies of Deming (2000) who introduced new approaches to quality management that empowered workers at the front line to actively engage with leadership in improving quality and productivity.

This context is evident in the nursing shared governance literature with continued descriptions of shared governance implementations. Porter-O'Grady (1992) published a second text on implementing shared governance which outlines four structural models: congressional, councilor, administrative, and unit-based. The congressional model is similar to the federal government with elected representatives from staff and management serving on the committees. The congressional model features a staff congress composed of an elected president, a cabinet of officers, and all

of the professional staff including management to make up functional committees of the congress, such as, practice, quality, professional development, research, and management. The congress defines the accountabilities and assigns authority to the committees of the congress which conduct the professional work of the nursing organization. The nurse executive and chairpersons from each committee serve on the nursing care council to monitor and coordinate all activities related to professional nursing practice carried out in the committees. Unique to this model is a council dealing specifically with human resources composed of a representative from human resources and staff from each committee.

The councilor model is similar, but consists of councils rather than committees which are predominant composed of staff nurses with the exception of the management council which is composed of managers. In a councilor model the nurse executive serves on the coordinating or executive council with council chairpersons. Accountability shifts in this model from management to staff as the councils had authority over the locus of control defined for the council. For example, the practice council will give staff nurses the authority to make decisions regarding the control of clinical nursing practice. In addition to the functional councils this model might also have unit-based councils to provide representation on the over-arching councils and for further integration and communication for staff nurses.

The administrative model follows more of the traditional line of management and practice, each having different groups to address functions and accountability. The management track will be responsible for financial, human resource, and systems decisions while the clinical track will guide practice, quality, and professional

development decisions. Information and recommendations are communicated upward to the executive committee for final authority. The executive council is composed of the nurse executive and chairpersons from each group and depending on the degree of organizational commitment to shared decision making the executive committee could be composed of at least 50% staff nurses.

The unit-based model is not the same as the unit-based councils in the councilor model. This model does not have a coordinating or integrating council or committee, but rather utilizes a more organic approach of letting each individual unit culture determine the basic accountabilities and functions. This model provides maximum empowerment for staff nurse decision making, but may be difficult to structure as an entire division, service or organization (Swihart, 2006). Prince (1997) describes the implementation of a unit-based shared governance model over a one year span of time utilizing a pre and post implementation evaluation of staff perceptions regarding work empowerment, opportunity, teamwork, and satisfaction. Unit-based shared governance was initiated on a mother/baby genecology unit at a 900-bed tertiary care facility that is part of a health care system. Development of the complex model was by a workgroup of nurse managers and staff building consensus around mission, goals, and objectives. The major goal was to increase staff satisfaction, however post-survey results indicated that there was no statistically significant improvements in staff perceptions and that job satisfaction actually decreased (Prince, 1997). However, during implementation turnover of the nurse manager and restructuring of the budget increased demands on the staff nurse which might have led to the dissatisfaction. Discussion of the results highlights the importance of stable

“innovative, creative, visionary nursing leadership” during the implementation process and advocates for identifying costs and benefits to be monitored during implementation (Prince, 1997, p. 35). Additionally, expecting significant improvement in just one year was not realistic considering the discussion in the literature of implementation being a journey that might take “three to five years” to implement (Porter-O'Grady & Finnigan, 1984).

Edwards, Farrough, Gardner, Harrison et al. (1994) described a process of implementing and unit-based shared governance model in a 10-bed Medical Intensive Care Unit at a 540-bed community teaching hospital over a three year period. Antecedents to support implementation were identified as participatory leadership style, active Nursing Practice Committee, strong preceptor program, primary nursing care delivery model, high percentage of baccalaureate prepared nurses, stable staff with five year average tenure, professionally ambitious, and the presence of mentors prepared at the master's level. This study reported improved morale, increased self-esteem, and lower turnover of nurses; however no statistical data is discussed. Implementation difficulties identified included: maintaining motivation, paid time for council work, the cost of sustainability (Edwards et al., 1994).

McDonagh (1990) in the book, *Nursing Shared Governance: Restructuring for the Future* provided a detailed manual of nursing shared governance implementation at St. Joseph's Hospital in Atlanta with comparison descriptions of three other nursing shared governance models. Based on more than a decade of experience with shared governance the major observed difficulties in implementation were identified as: resistance to change, communication, accountability, and decision making. An

approach of inclusion and information sharing is suggested to address the major difficulties with particular attention on restructuring as needed to ensure continued success. A chapter is dedicated to strategically integrating shared governance to the whole hospital for continued growth and success. This strategic integration requires evaluation of the impact of the shared governance structure on both the organizational culture and the outcomes and development of the business case is presented.

McDonagh suggests identifying some basic financial indicators, such as, RN turnover, RN vacancy rate, RN retention rate, reduction in agency staff, ration of management to staff and the time cost associated with participation in shared governance that will track progress at the start. The most significant cost savings reported was reduction in RN turnover. MacNeal Hospital in Chicago reported a decrease in RN turnover from 50% to 14% during three years of implementation and Henry Ford Hospital reported a decrease from 30% to 14% in that same time period (McDonagh, 1990). St. Joseph Hospital in Atlanta reported a decrease in RN turnover from 45% to 15% over ten years of implementation. Vacancy rates decreased from 25% to 4% at MacNeal Hospital with a similar decrease at St. Joseph's Hospital where the vacancy rate was maintained at the 5% level for a six year period. There is a detailed compelling case that shared governance is a profitable investment and gaining strength as an organizational structure.

Shared governance continued to evolve in the face of an ever changing healthcare system, and in the 1990s shared governance structures were now referred to as "second-generation shared governance" (Minnen et al., 1993, p. 37). Organizations that started shared governance in the 1980s are finding that the structures need to be

adjusted to meet the changing needs of the hospital and patients. Where traditional first generation shared governance provided structure for professional nurse representation, second-generation shared governance extended that representation to the entire organization to provide for multi-disciplinary involvement. Professional nursing practice was not the central focus for the 1990s as patient-centered care, quality improvement, and satisfaction of patients and staff emerged as important outcomes. Additionally, decision making was being moved from the top of the shared governance structure to the unit level using a consensus model.

Minnen et al. (1993) describes the evolution of the shared governance model at a large university medical center and the outcome of staff involvement in decision making and engagement in quality improvements at the unit level. This shared governance redesign is described in a management case study identifying the need for more strategic alignment of the shared governance structure within the entire organization (Porter-O'Grady, George, McDonagh, Crow, & Wilson, 1996). While the first generation of shared governance was focused on professional nursing practice issues and staff representation on a centralized committee structure that might have had a multilevel decision making process, the second-generation added a multidisciplinary collaborative approach, that also focused on patient-centered care and quality improvement issues with decisions being made at the point of care and by consensus (Minnen et al., 1993). This second generation of shared governance included more critical evaluation of the outcomes related to shared governance implementation, more consistency in utilization of a theoretical approach and more debating the cost/benefits of shared governance implementation.

Two studies looked specifically at shared governance with a cost-benefit analysis. DeBaca, Jones, and Tornabeni (1993) conducted a cost-benefit analysis to evaluate the financial impact of shared governance implementation. Significant savings were realized by the decreased use of registry nurses and the elimination of ten management positions. In addition to the financial benefits of this implementation identification of unmeasured savings included decreased sick time use, increased productivity, and increased nurse empowerment (DeBaca et al., 1993). Finkler, Kovner, Knickman, and Hendrickson (1994) conducted a state-wide cost-benefit study on multiple nurse management innovations in an attempt to provide a cost basis framework for the further financial evaluation of innovations. Three hospitals evaluated shared governance implementations over a two year period. Implementation costs of shared governance were significantly less than most other innovations which required significant investments in technology and training (Finkler et al., 1994). Only governance projects had significant improvement in productivity in both registered nurse hours per patient day and total personnel hours per patient day ($p < 0.01$). Additionally, the authors identified the need for assigning value to the numerous intangible benefits associated with shared governance. In another study describing implementation of a councilor model of shared governance Richards et al. (1999) found that the implementation had a positive impact on staff participation in decision making, productivity, and cost. Costs associated with committee meeting attendance and time away from clinical responsibility decreased \$39,000 following implementation. Other financial implications included increased participation in scholarly work, including two research utilization conferences, 40 research utilization

projects, 25 peer-reviewed research presentations, 6 publications, and \$759,995 in research funding demonstrating the considerable benefits that off-set the minor costs (Richards et al., 1999). The majority of the literature was in support of shared governance implementation as a minor cost for substantial benefits. There were no reports of the costs associated with failed attempts at implementation.

The literature questioning the benefits and sustainability of shared governance significantly increased in the 1990s. In response to the ongoing restructuring of the healthcare system with hospitals closures and mergers there were numerous nursing management innovations happening at the same time including case management, computer technology, and shared governance. Hess (1995, p. 14) described shared governance as “Nursing’s 20th-century tower of Babel” and calls for systematic evaluation of implementation to validate the benefits of the implementation. Hess (1998) developed the 88-item Index of Professional Nursing Governance (IPNG) for measuring the distribution of professional nursing governance of hospital-based nurses. McCloskey et al. (1994) also concerned that nursing management innovations like shared governance lack systematic evaluation provide a framework to guide evaluation including outlining the types of variables appropriate to evaluating organizational change. A “suitcase methodology” is presented as a means for nurse executives to have readily available standardized tools for measurement of innovation projects (McCloskey et al., 1994, p. 41). McCloskey et al. (1994) suggest that with the rising cost of the U.S. health care system an investment in evaluation of administrative interventions is essential.

Porter-O'Grady et al. (1996) presented a case study of a mature shared governance system that is described as “more structure than substance” because the implementation had fallen short on being an inclusive structure making it incomplete in the organization. This case study provides a description of a new nurse executive’s arrival to an organization that reported having a “seasoned shared governance model”, but during her orientation what quickly became clear is that the shared governance structure in place did not provide for organization-wide participation (Porter-O'Grady & George, 1996, p. 14). This case study outlined the strategic approach used to re-design the current nursing shared governance model into an organization wide model. Development of outcomes at the outset and recognizing the principles of system adaptation are discussed as critical for implementation of shared governance.

The literature indicates that the changing healthcare system was expanding the nurse executive span of control and required new frameworks to sustain point-of-care innovation and interdisciplinary partnerships (Evan, Aubry, Hawkins, Curley, & Porter-O'Grady, 1995). Evan et al. (1995) described the implementation at Sierra Community Hospital in Central California of a councilor model of whole system shared governance. There is no quantitative evaluation of the implementation, however facilitator, barriers, and lessons learned are shared, as well as anecdotal support to the shared governance structure creating a more empowered work environment (Evan et al., 1995).

The 1990s literature indicates that shared governance implementation fosters a culture of quality improvement. Thrasher et al. (1992) found that the shared governance structure assisted the clinical staff in engaging in the hospital quality

assurance program which increased autonomy, accountability, and authority. Previous to the shared governance implementation only the nurse executive sat on the Hospital Quality Assurance Committee. With increased staff nurse representation on the Committee there was increased communication and exchange of quality measures. Staff nurses demonstrated ownership of the quality assurance program and individualized plans to meet unit specific indicators (Thrasher et al., 1992). Similarly, the nurses at the National Institute of Health Clinical Center found that shared governance implementation was synergistic with the Total Quality Management (TQM) methods and processes being embraced by the organization (Gardner & Cummings, 1994). Both of these implementations reported the benefits of empowerment of nurses as change agents in ensuring continuous quality improvement, but not specific outcomes are reported.

During the 1990s there was a concerted effort in the application of a theoretical approach to guide shared governance implementations. Prince (1997) describes how Kanter's framework for work effectiveness transformed the unit governance structure. Kanter (1977) theorized that work effectiveness was achieved by providing employees in the organization with power and opportunity. Results of the post-implementation survey showed that 84.6% of the staff believed that they had opportunity to make the unit better (Prince, 1997).

Brodbeck (1992) similarly describes a systems theory approach to shared governance implementation outlining how the principles of shared governance being closely aligned with Deming's concepts of continuous quality improvement guided the transformation of St. Peter's Hospital in Albany, NY. After consideration of current

literature, nursing leaders and staff selected the Marker Model as a framework to guide the transformation. The Marker Model is a hierarchical systematic approach to defining nursing practice (Marker & Marker, 1992). The Marker Model differentiates three categories of standards into structure, process, and outcome which are consistent with Donabedian's Theory of quality (Donabedian, 1990). Brodbeck concluded that the theoretical model provided a systematic approach for effectively meeting organizational goals, enhancing professional practice, and improving patient outcomes, however no specific data was presented to substantiate this conclusion.

Theoretical approaches were also employed to study the effects of shared governance implementations. Westrope, Vaughn, Bott, and Taunton (1995) utilized Allen's model constructs to represent the continuous, interactive dynamics of shared governance and to provide a framework for evaluation of shared governance, challenges, meaningfulness, and outcomes. Study results were consistent with this framework demonstrating a significant positive change in nurse satisfaction and commitment over the four years of the study (Westrope et al., 1995).

George, Burke, and Rodgers (1997) utilized attribution theory as a conceptual framework to study the organizational changes related to hospital acquisition and shared governance implementation. Attribution theory is interested in how individuals interpret events and how this relates to their thinking and behavior. It tries to explain how individuals account for their everyday experiences and those of others because the way one interprets these events can help or hinder them when confronted with new events (Weiner, 2008). This study looked for causal attributions related to acceptance of a new shared governance organizational structure during a hospital acquisition.

There were significant correlations between autonomy and specific subscales on the governance scale (George et al., 1997). Attitudes of desiring governance were significantly associated with nurse's work status, experience, and perceptions of autonomy in professional practice (George et al., 1997).

Kennerly (1996) examined the effects of shared governance implementation on nurse and non-nurse perceptions of the job and work environment through the lens of Path-Goal Theory of leadership. Path-Goal Theory of Leadership posits causal relationships between dimensions of leadership behaviors and employee outcomes (House, 1971). The theory specifies some situational moderators that are contingent on leadership behaviors (House, 1971). Relationships were examined between organizational characteristics, work characteristics, task focus, and shared governance or non-shared governance approaches and the outcome variables of job satisfaction, perceived effectiveness, anticipated turnover, and autonomy (Kennerly, 1996). Study results showed little change in nurse and non-nurse overall perceptions after eight months leading to the conclusion that the high expectations for marked improvement in work-related outcomes resulting from shared governance implementation were not realistic. Relationships were not examined in relation to the use of Path-Goal Theory, nor was there discussion of the theories usefulness in examining these phenomena for the advancement of knowledge development. Unfortunately, none of these theoretical approaches were tested empirically or built upon a program of future research.

Shared governance literature during the 2000s.

The early 2000s saw an increasing nursing shortage complicated by nurses leaving the profession and insufficient number of nursing school graduates to meet the

demand (Aiken et al., 2001; Buerhaus, Needleman, Mattke, & Stewart, 2002). Shared governance was seen as a crucial element to recruiting, retaining, and satisfying nurses (Aiken et al.; Kramer & Schmalenberg, 2003b). The literature from this decade provided case study evidence of continued shared governance implementations (Caramanica, 2004; Frith & Montgomery, 2006). Frith and Montgomery (2006) explored perceptions, knowledge, and commitment of clinical staff in a non-experimental, survey research design, longitudinal study. The convenience sample from this large medical center in the Southeastern United States included RNs, Licensed practical nurses (LPNs), care technicians, and medical receptionists. Pre and one year post-implementation surveys were sent to more than 2000 employees with a 33% response rate for pre-implementation and a 46% response rate for one year post-implementation (Frith & Montgomery, 2006). Findings from the pre and post implementation surveys indicated that perception and knowledge of shared governance decreased over the study period while commitment increased (Frith & Montgomery, 2006). Analysis of the survey using Focus groups validated that the implementation process was slow and required dedication and commitment from management, council chairs, council members, and staff (Frith & Montgomery, 2006). Additionally, nurses who participated in shared governance had significantly higher scores on perception and knowledge of shared governance while commitment to shared governance was about the same. Shared governance is described as a journey, a process, and a cultural transformation and as such would not likely show significant results in a year. This study does demonstrate an implementation approach utilizing an evaluative strategy.

Similarly, Caramanica (2004, p. 4) describes Hartford Hospital's experience with shared governance implementation "never easy and requiring the continual freezing and unfreezing of structures and mental modes of all stakeholders." In moving to whole system to shared governance it was necessary to recognize that the journey was not going to be overnight and did not particularly have an end. Caramanica describes a ten years journey with shared governance that began in nursing, but was being deployed throughout this large tertiary care hospital along with a new Patient-Centered Redesign (PCR) care delivery model utilizing Collaborative Management Team (CMTs) made of physician-nurse dyads. This description does not provide a structured evaluative approach to implementation, but does elaborate on some of the barriers, such as, role clarification, decision making, time away from clinical duties, and engaged management that must be addressed going forward with the organizational transformation.

The literature contained increased accounts of shared governance implementations as part of the cultural transformation of the organizations Magnet designation journey which brings more attention to quality outcomes. Watters (2009) describes how the data from the National Data Nursing Quality Indicators (NDNQI) survey was utilized to transform the work environment in shared governance implementation and support a culture of nursing excellence. The outcomes of this shared governance implementation are reported to be decreased nurse turnover, increased patient satisfaction and improvement of nurse sensitive quality outcomes, however no specific data is provided (Watters, 2009).

Malleo and Fusilero (2009) present a retrospective case study of implementing a new congressional structure of shared governance following a “failed” implementation. With the arrival of new Chief Nursing Officer (CNO) there was an opportunity to re-examine the shared governance structure at the Metro-Health Medical center a regional level 1 trauma center. Staff nurses voiced skepticism regarding the sharing of decisions during this redesign because previous participation was limited to involvement, but did not fully transfer decision making authority to the staff nurses. The new attempt at implementation began with formation of a nursing senate compose completely of staff nurses (Malleo & Fusilero, 2009). The first few years of implementation focused specifically on nurse outcomes related to improving the work environment from scheduling, stress reduction, expanded benefits, and recognition. During year four with a vacancy rate of 4% and significant evidence of nurse job satisfaction Metro-Health Medical Center began the Magnet journey which included increased focus on patient care outcomes and clinical nursing practice. This eight year journey provided evidence that a nursing organization commitment to change and professional development were essential to the transformation that included Magnet designation. While no specific patient outcomes data is provided the development of the nursing senate over time from nursing centered to patient centered with a performance improvement focus demonstrates the evolving nature and maturation of shared governance implementation.

The literature indicates that there was increased use of theory in the evaluation of shared governance structures. Erickson, Hamilton, Jones, and Ditomassi (2003) examined staff empowerment through the lens of Kanter’s structural empowerment.

Kanter (1977) views power as structurally determined impacting organizational behaviors and attitudes that support the work of the organization. Access to empowering structures is thought to influence the degree of power an individual has in the organization (Kanter, 1977). The purpose of this shared governance implementation was to compare two types of governance while introducing a structure that would facilitate communication and decision making across disciplines at the front line provider level over three years (Erickson et al., 2003). This descriptive comparative study of a large urban teaching hospital on the East Coast use the Conditions of Work Effectiveness Scale (CWE) to measure empowerment at year 1 and year 2 of staff involved in the governance structure with those not participating. Results of this study indicated that empowerment scores were significantly higher in year two of the study for collaborative governance members versus non-collaborative governance members (Erickson et al., 2003). This study provided further evidence to support continued spread and development of this collaborative governance structure over 3 ½ years.

With the continued pressure on healthcare executives to provide increasingly more technical care and high quality patient outcomes with decreasing resources Stumpf (2001) explored the relationships among variables of governance type, culture, work satisfaction, retention, and patient satisfaction to find evidence to support a particular governance type. Through the lens of Donabedian (1966) which proposes evaluating quality by hypothesizing relationships between structure, process, and outcome this study compared traditional bureaucratic units with shared governance unit at five hospitals in Southwestern Pennsylvania. Results of this study showed a

higher composite constructive culture ($p \leq 0.05$), higher overall work satisfaction ($p \leq 0.05$), and higher patient reported satisfaction ($p \leq 0.05$) (Stumpf, 2001). Measuring retention rate had methodological difficulties with incomplete data capture resulting in findings of a 6.2% lower retention rate in the shared governance group (Stumpf, 2001). Analysis of this finding was complicated by organizational downsizing and restructuring that resulted in a decreased need for registered nurses. Additionally, the finding of a higher passive-defensive culture on the traditional, bureaucratic units indicated that staff might stay in their positions regardless of their work satisfaction rather than “taking chances” or “making waves” (Stumpf, 2001, p. 201). This study provides a framework for evaluation of patient outcomes related to shared governance implementations.

This decade provided studies that reported unit specific outcomes related to staff and patients. George et al. (2002) reported on a research program of three studies over four years that demonstrated increased staff use of leadership behaviors and improved patient outcomes following shared governance implementation. Results on outcomes were nurse self-reports and no specific data or analysis is provided. Similarly, Pinkerton (2008) reports decreased patient wait times, decreased registered nurse call outs, and increased registered nurse satisfaction following shared governance implementation at Jackson Health System in Miami, Florida. Again demonstrating how monitoring and trending of nurse and patient outcomes during implementation can support ongoing transformation and development of the shared governance infrastructure. As unit practice councils developed there was increased authority, accountability, and responsibility related to the outcomes being measured

(Pinkerton, 2008). Schryer (2004) describes the implementation of the Tulane Model which was created to support a culture to enhance both clinical and operational outcomes. Baseline measurements of clinical outcomes, staff satisfaction, productivity, turnover rate, vacancy rate, use of contract/agency staff and vacancy rates were taken prior to implementation and at one year intervals following implementation (Schryer, 2004). Data was presented with trending of percentages and discussion of results. Clinical outcomes demonstrated a 2% increase from baseline, Staff satisfaction increased 18%, productivity improved, however there were mixed results related to the outcomes of turnover rate, outside agency use, and vacancy rate (Schryer, 2004). While there is not statistical analysis of the data the study provides a framework for similar system redesign efforts demonstrating how the use of quality outcomes data can support the cultural change.

Notable in the 2000 literature was the first reports of shared governance implementation in a government agency. Howell et al. (2001) examined the question of whether nurses can have shared governance in a Government agency at the Durham Veterans Affairs (VA) Medical Center implementation. Wanting to examine the mismatch between a shared governance organic structure and a highly bureaucratic structure the Index of Professional Nursing Governance (IPNG) survey was used to examine nurse outcomes two years after implementation (Hess, 1998). Survey results indicate that Durham VA Medical Center's total score was in the range for traditional governance, but was only one point short of falling into the range for early stage of implementation (Howell et al., 2001). Additionally, three of the six subscales of nursing personnel, access to information, and goals and conflict also fell in the

traditional governance range, while the three subscales of resources supporting practice, participation, and control over practice fell within the newly implemented range (Howell et al., 2001). This study demonstrates that at least partial levels of shared governance were possible in a government agency.

There are other articles describing shared governance implementation in the Veterans Affairs Medical Centers (Dunbar et al., 2007; McDonald, Tullai-McGuinness, Madigan, & Shively, 2010; Miller, 2002). Miller (2002) described how the shared governance structure with a performance improvement approach supported team building and organizational trust during a period of healthcare system restructuring and patient-centered care implementation. At the VA New York Harbor Healthcare System (NYHHS) during a critical time of change, nurse leaders came together under shared governance to build trust, ensure quality and transform and organization (Miller, 2002). Details of specific performance improvement initiative and outcomes were not provided, however this description represents further that shared governance implementation was not only possible in a government agency, but provided a structure to re-establish trust within the nursing organization during a period of change.

The importance of leadership and a willingness to trust was echoed by Dunbar et al. (2007) in the description of shared governance implementation at the James A. Haley Veterans' Hospital and Medical Center. This implementation was designed with cultural transformation as an ultimate goal and outlined a three phase strategy that included implementation, transition, and maintenance planning. Staff satisfaction survey data were utilized to guide implementation and monitor sustainability (Dunbar

et al., 2007). The shared governance structure had both council and unit-based participation that was supported by a facilitator, the manager and a transition team, and significant staff and manager development.

This description highlights the many challenges faced by the managers in learning how to navigate the role stress and new leadership paradigm. “Nursing management’s flexibility, efforts to listen critically, and willingness to trust and support the transition teams have been a major key in making the transition from traditional to shared governance” (Dunbar et al., 2007, p. 183)

McDonald et al. (2010) reported on staff nurse perception of structural empowerment in relation to participation in shared governance at VA San Diego Healthcare System. Utilizing the Work Empowerment Theory developed by Laschinger, Sabiston, and Kutzcher (1997) based on Kanter’s theory, 423 RNs were surveyed at this VA Medical Center. Structural empowerment was measured by utilizing the Conditions of Work Effectiveness Questionnaire-II (CWEQ-II). While results indicated that nurses perceived a moderate amount of structural empowerment, the most notable result was that there was no significant difference between staff nurses who participated on a shared governance council and those who did not participate in the total empowerment or sub-scale scores (opportunity, information, support, resources, formal power, informal power, and global empowerment) (McDonald et al., 2010). This was a similar finding to what Erickson et al. (2003) when comparing nurses who participated in collaborative governance and those who did not participate possibly. This evidence supports the conclusion that the empowerment structure provided more sharing of information and power across the

nursing organization and did not limit the empowerment to those who actively participated (McDonald et al., 2010).

In a description of taking shared governance to a level beyond the nursing organization Golanowski, Beaudry, Kurz, Laffey, and Hook (2007) outlined an example of transforming a multi-hospital nursing shared governance structure into an interdisciplinary system-wide structure. By utilizing a systems approach the design team at Aurora Health Care in Milwaukee, WI transformed a successful nursing shared governance structure into an interdisciplinary shared decision making model. Details are provided on developing the plan, rolling out the implementation, and evaluating the outcomes. An organizational commitment and significant resources ensured the successful transition which reported improvement in length of stay (LOS) by 0.3 days, increased employee engagement by 2%, vacancy rates below 3% and voluntary turnover rate below 10.2% (Golanowski et al., 2007). These outcomes support the notion that engaging staff in decision making at the point-of-care through a shared governance structure improves both nurse and patient outcomes.

Shared governance literature during the 2010s.

In the fourth decade of shared governance implementation in nursing Porter-O'Grady (2012) describes shared governance as a structural model that is supported by 25 years of research and development. The literature supports the notion that there are many reported case studies of shared governance structures that have endured and transformed into system wide implementations even in the face of a continued healthcare crisis. Burkman, Sellers, Rowder, and Batcheller (2012) reported that implementing a system-wide, integrated shared governance structure facilitated

horizontal integration of best practices (Burkman et al., 2012). The structure was flexible with the organizational changes and appeared to strengthen over time and across disciplines. Success in this case study was measured by four hospitals in the Ascension Health System achieving Magnet designation and six hospitals achieving Pathway to Excellence (Burkman et al., 2012). Magnet hospital designation and research will be presented in a subsequent section and thus will not be elaborated here. McDowell et al. (2010) outlined the transformational journey and restructuring of Wake Forest University Baptist Medical Center's shared governance structure from 1996-2007. Development over the years resulted in more formalized processes to support decision making at the bedside and empowerment of nurse staff. The reported benefits of shared governance include improved patient care, increased patient satisfaction, improved work life, increased nurse retention, however no data was provided to support these findings (McDowell et al., 2010). In a quasi-experimental prospective designed study of shared governance restructuring, Moore and Wells (2010) found no significant difference in nurses' perception of empowerment or organizational commitment. Sample size and lack of repeated measures are attributed to the lack of statistical significance, but anecdotal descriptions of council members experience and observed work outcomes indicate that the work of increasing structural empowerment is essential to improving the work environment (Moore & Wells, 2010).

Most of the current literature related to shared governance implementations now report on a quality data driven approach to implementation and evaluation of effectiveness of the governance structure. Nurse satisfaction survey results at the Hospital of the University of Pennsylvania (HUP) indicated that the nurses wanted a

“stronger voice” in practice activities related to patient care (Bretschneider et al., 2010). Implementation of the shared governance structure was systematic and outcomes oriented. Specific measures from the National Database of Nursing Quality Indicators (NDNQI) adapted Index of Work Satisfaction were selected to monitor progress and success of implementation. Specifically, the measures of decision making, autonomy and professional status were examined over a four year period and showed progressive improvement (Bretschneider et al., 2010). Based on the success of this implementation the chief executive officer identified the strategic spread of shared governance to other departments as a goal for the next year. Again as in earlier cited studies anecdotal evidence of staff nurse engagement in projects and on committees was viewed as demonstration of the enthusiasm and empowerment of nurses that comes from implementing a shared governance structure (Bretschneider et al., 2010). Additionally, this case study identifies the implementation of shared governance as part of the strategy for creating a Magnet environment for delivery of the highest quality of care.

Increasingly, the literature identified implementation of shared governance as part of the hospital’s Magnet journey. Jacobs and Ward (2012) described a re-designing of a seven year old shared governance structure to improve communication and simplify nurse participation while moving forward on the Magnet journey. This case study is only the second description in the literature of a congressional model of shared governance (Porter-O’Grady, 1994). In this shared governance transformation staff nurse survey results provided guidance and direction on how best to re-design the shared governance structure to support a greater level of nurse involvement and

empowerment (Jacobs & Ward, 2012). A strengths, weaknesses, opportunities, and threats (SWOT) analysis facilitated the re-design process which included a flattening of the shared governance structure eliminating divisional and departmental councils and increasing the authority of the unit councils. The new design improved communication flow for better communication and sharing of outcomes and best practices across all clinical areas.

This decade of literature reveals an increased use of data driving the implementation and evaluation of shared governance. In particular there is greater use of the IPNG scale being utilized to measure the presence of shared governance in implementations. Rheingans (2012) utilized a survey methodology and quality outcomes data to validate the presence of shared governance structure and processes at a 450 bed Magnet accredited community healthcare system. The IPNG, the Caring Nurse-Patient Interaction scale (CNPI-Short Scale), the Measure of Job Satisfaction, the Safety Climate Survey and quality outcomes data were used to determine the level of shared governance and to evaluate the impact of shared governance on the specific nursing and patient outcomes (Rheingans, 2012). Results of this study validate the presence of a shared governance structure and of relationships between nursing outcomes and patient outcomes; however, the patient outcomes were inadequately powered to allow for statistical significance. Rheingans (2012) suggests that there is a potential influence of shared governance and caring with falls, pressure ulcer incidence, medication management and patient identification based on large R^2 values. This methodology provides an approach that demonstrates the importance of the linkages between shared governance as a structure related to quality patient outcomes.

Overcash, Petty, and Brown (2012) conducted a single site study to examine the relationship of nursing contextual demographic factors that might be associated with development and implementation of a shared governance structure at a cancer and research hospital in the Midwest. The results validated the presence of shared governance at the hospital, but no significant relationship was found among demographic indicators and IPNG scores (Overcash et al., 2012). However, having a role in shared governance when combined with a work setting of inpatient/ambulatory was predictive of IPNG score. These findings support earlier findings from Frith and Montgomery (2006) that having a role in shared governance increases perception and knowledge of shared governance. This seems to indicate that increasing involvement of staff nurses result in a higher IPNG score with more sharing of the governance. Another finding that was significant was the main effect of national professional certification on the total IPNG score which was significant at the .05 level (Overcash et al., 2012). Nurses who pursued and achieved national professional certification in a specialty were more engaged in shared governance.

The literature shows an increased focus on staff nurse empowerment related to unit level activities in shared governance implementations. Describing and measuring the effectiveness related to the nurses empowerment of implementation of unit-level shared governance councils (Barden, Griffin, Donahue, & Fitzpatrick, 2011; Bogue, Joseph, & Sieloff, 2009; Brandt, Edwards, Cox-Sullivan, & Zehler, 2012; Fray, 2011). Two studies developed instruments for examining nurse practice council effectiveness as a framework for measuring and understanding shared governance (Bogue et al., 2009; Fray, 2011). Bogue et al. (2009) hypothesized that shared governance is the

vertical alignment of nursing group power which is actualized at the unit level and outlines the development and testing of the Nursing Practice Council Effectiveness scale (NPCes). The intent of the NPCes was to index Nursing Practice Council effectiveness as a means of evaluating the exercising of staff nurse power over nursing unit practice. Measuring unit level effectiveness would provide a tool for monitoring and fostering the development of stronger shared governance and nurse empowerment (Bogue et al., 2009). There is no evidence in the literature that the NPCes has been utilized in other studies.

Fray (2011) interested in measuring unit practice council functionality rather than power and effectiveness of shared governance outlines the development of the Jackson Health System Unit Practice Council Functionality Measurement Tool. This tool was specifically aimed at measuring if the unit practice councils are functioning the way envisioned in the shared governance model. This survey instrument provided an easily understood method for evaluating functionality of unit practice councils and provided managers and leaders with specific details of where the unit practice council might require assistance, resources or further support (Fray, 2011). More research is needed to establish reliability of the instrument and again there is no evidence of future use of the instrument.

Barden et al. (2011) interested in examining nurse empowerment in relation to nurse perceptions of shared governance conducted a descriptive correlational study of 158 nurses working in a large tertiary care hospital in Queens, New York. The two surveys instruments used in this study the IPNG and the CWEQ-II had been used in previous studies. The timing of the surveys was 6 months to 1 year following

implementation and the IPNG total score was indicative of traditional governance seen in early implementations (Barden et al., 2011). The total score on the CWEQ-II indicated a moderate level of empowerment and correlational analysis showed a moderate positive linear relationship between shared governance and empowerment (Barden et al., 2011). This supports the notion that shared governance provides a communication and decisional infrastructure to empower nurses in clinical practice. This study did not examine nurse or patient outcomes related to the nurse empowerment.

At Central Arkansas Veterans Healthcare System (CAVHS), implementation of unit-level shared governance increased nurse satisfaction and retention by empowering nurses to participate in decision making (Brandt et al., 2012). This case study presents specific examples of unit projects and the outcomes achieved, such as a 50% decrease in the administration of antipsychotic medications on a gero-psychiatry unit and a 29% increase in patient satisfaction related to the implementation of mental health case management (Brandt et al, 2012.). Additionally, Brandt et al. (2012) reported that nurse satisfaction improved and remained above the national VA benchmark while the turnover rate decreased and stayed below the national VA benchmark supporting the conclusion that unit-level shared governance implementation had empowered the staff nurses to more fully engage in making improvements to nursing practice and patient care.

Quantifying the benefits of staff nurse participation continued to be a focus in this decade with Rundquist and Givens (2013) report on staff participation and cultural transformation of shared governance from unit-based to hospital-wide committees to

system-wide at Children's Hospital Colorado part of Aurora Healthcare System a 500-bed pediatric hospital. By tracking performance and activities of the Clinical Nurse Practice Council an analysis is presented demonstrating how to calculate return on investment and cost avoidance in presenting a cost-benefit analysis to justify the expenses associated with shared governance implementation (Rundquist & Givens, 2013). Unfortunately, the example only provides enough data analysis to demonstrate a method of evaluation and does not present quantified conclusions regarding their specific implementation. The recommendation is made to financially quantify the impact on patient outcomes, such as nurse-sensitive indicators, but no specific example is provided. There is clearly progressive development of instruments and methods to evaluate the benefits of shared governance.

Theoretical perspectives.

Shared governance has been developed and examined through the lens of numerous theoretical perspectives beginning with a systems theory and change management approach initiated by Porter-O'Grady and Finnigan (1984). During the 1990s there was an increase in attention to the application of a theoretical approach to guide shared governance implementations. In particular, Kanter's (1977) introduction of structural empowerment emphasizing that the structure of work should be viewed from the point of service outward rather than from the organization down, as typical of traditional hierarchical bureaucracy. Additionally, Kanter theorized that work effectiveness was achieved by providing employees in the organization with power and opportunity. The view of power as structurally determined impacting organizational behaviors and attitudes that support the work of the organization is evident in many

shared governance implementation. Access to empowering structures is thought to influence the degree of power an individual has in the organization (Kanter, 1977). This theoretical perspective was evident in all four decades of shared governance literature (Barden et al., 2011; Bogue et al., 2009; Brandt et al., 2012; DeBaca et al., 1993; Erickson et al., 2003; Jacobs & Ward, 2012; Laschinger et al., 1997; McDonald et al., 2010; Moore & Wells, 2010; Prince, 1997; Thrasher et al., 1992).

Brodbeck (1992), in describing the design of a second generation shared governance implementation, presented a systems theory approach and outlined how the principles of shared governance are closely aligned with Deming's concepts of continuous quality improvement. After consideration of current literature, nursing leaders and staff selected the Marker Model as a framework to guide the transformation. The Marker Model is a hierarchical systematic approach to defining nursing practice (Marker & Marker, 1992). The Marker Model differentiates three categories of standards into structure, process, and outcome which are consistent with Donabedian's Theory of quality (Donabedian, 1990). Donabedian (1966) introduced an approach to evaluating quality by hypothesizing relationships between structure, process, and outcome. Brodbeck concluded that this theoretical model provided a systematic approach for effectively meeting organizational goals, enhancing professional practice, and improving patient outcomes.

Theoretical approaches were also employed to study the effects of shared governance implementations. Westrope et al. (1995) utilized Allen's model constructs to represent the continuous, interactive dynamics of shared governance, and to provide a framework for evaluation of shared governance, challenges, meaningfulness, and

outcomes. George et al. (1997) introduced attribution theory as a conceptual framework to study the organizational changes related to hospital acquisition and shared governance implementation. Attribution theory is interested in how individuals interpret events and how this relates to their thinking and behavior. It tries to explain how individuals account for their everyday experiences and those of others because the way one interprets these events can help or hinder them when confronted with new events (Weiner, 2008). Kennerly (1996) examined the effects of shared governance implementation on nurse and non-nurse perceptions of the job and work environment through the lens of Path-Goal Theory of leadership. Path-Goal Theory of Leadership posits causal relationships between dimensions of leadership behaviors and employee outcomes (House, 1971). The theory specifies some situational moderators that are contingent on leadership behaviors (House, 1971).

Summary

The literature shows four decades of knowledge development related to shared governance implementation, theoretical models, measurement, cost, and staff nurse perception. Beginning with a focus on nurse satisfaction and retention and evolving over the decades to more broadly focus on improving the work environment, culture, and patient quality care. As the healthcare system transformed over this time, so too did shared governance structures, to meet the changing demands brought on by healthcare reform and crisis. During the early 2000s the literature presented more detailed evaluation of shared governance implementations with frank discussion of some of the challenges. Reports of skepticism and failed implementations called for development of instruments and methods for systematic evaluation to validate the

value of shared governance as an organizational structure that empowered nurses, improved nurse satisfaction and retention, and improved patient outcomes. There were numerous reports of shared governance implementations in the VA Healthcare system further supporting the necessity of empowering nursing staff to promote a professional practice that ensures quality patient outcomes.

The current literature on shared governance implementation is predominantly single site descriptions with no comparison of outcomes across implementations. The predominant outcomes reported are staff nurse empowerment and satisfaction. However, this literature shows more sophistication in research methods, the use of nurse quality indicators, and the NDNQI dataset. Much of the current literature describes shared governance implementations in the framework of a Magnet journey. Literature related to Magnet hospital designation adds significantly to this body of knowledge. The following section will present the origin of Magnet hospitals, the development of the Magnet hospital designation program and a selection of relevant research on Magnet hospitals.

The Origin of Magnet Hospitals

This seminal research study was conducted in the 1980s during a national nursing shortage. Many hospitals struggled to attract and retain nurses. However, there were some hospitals that were able to attract and retain qualified nurses and who provided “quality patient care.” A task force was formed “to examine characteristic of systems impeding and/or facilitating professional nursing practice in hospitals” (McClure et al., 1983, p. 2). This study examined variables in the hospital organization and its nursing service that create a magnetism that attracts and retains professional

nurses on its staff and examined what combination of variables produced models of professional nursing practice in which nurses were satisfied to the degree that recruitment and retention of nursing staff was achieved (McClure et al., 1983). The sampling process for this study began with 165 nominations by Fellows of the American Academy of Nursing followed by a recruiting process based on the responsibilities inherent in the protocol of the study. After further examination and ranking by region of the country four task force members identified 46 hospitals as the study sample. Five of these hospitals withdrew before the start of the study bringing the sample size to 41 predominantly private, non-profit institutions, all with academic nursing affiliations. These hospitals were identified as “magnet” hospitals. One of the study hospitals was a Veteran Affairs hospital. Group interviews of both directors of nursing and select staff nurses were conducted in eight regions of the country. Data collection included post-interview comments. Of particular interest in the findings was the degree of congruence between data gathered from the directors of nursing and the staff nurses regarding the elements deemed significant for creating magnetism in their hospital (McClure et al., 1983). Results of this study indicated that there were common elements of administration, professional practice, and professional development inherent in a magnet hospital. Administrative characteristics included participatory management style; strong, high quality leaders from nurse manager to the board of directors; decentralized department structures; and personnel policies that included competitive salaries, flexible scheduling for staff, and promotion opportunities. Professional practice characteristics identified included perceived delivery of high quality care through a professional practice model that allowed for autonomy and peer

support and consultation. This environment placed high value on education and teaching and resulted in a very positive perception of the image of nursing.

Professional development characteristic began with a solid orientation with preceptors and mentors and continued with in-service education, formal education, and career development opportunities. While this study identified characteristics of organizational structures, such as shared governance, specific structures were not identified in this study. This study provided a foundation for numerous programs of research and for the development of the Magnet recognition program.

Magnet Recognition Program

In 1991 the American Nurses Credentialing Center (ANCC) initiated the Magnet Hospital Recognition Program where healthcare organizations could formally apply for systematic evaluation and credentialing as a Magnet hospital (Urden, 2002). The primary goal of the program was to identify hospitals that exemplified excellence in providing nursing care as evidenced by demonstrating a “magnet” like appeal for nurses that wanted to work in an environment that recognized and rewarded characteristic of professional nursing (McClure & Hinshaw, 2002, p. 104). The program began as a pilot project with five facilities participating. Only one healthcare organization was awarded Magnet status in this pilot. The University of Washington Medical Center in Seattle was the first and continues to have this designation today. Following the initial pilot the program was refined for a full scale roll out in 1994 as the Magnet Nursing Services Recognition Program.

The program has evolved over the years based on evidence from the documents submitted to ensure that the program continued to identify organizations that

exemplified excellence. In 1998 the program was expanded to include long-term care facilities. In 2002, recognizing that that the program involved far more than nursing service, the program was re-named to the Magnet Recognition Program recognizing excellence in four areas:

management, philosophy, and practice of nursing services; adherence to national standards for improving the quality of patient care services; support for professional practice and continued competence of nurses; and understanding and respecting the cultural and ethnic diversity of patients, their significant others, and healthcare providers. (McClure & Hinshaw, 2002, p. 104)

Throughout the development of the program the ANCC Commission has retained oversight. Magnet Recognition (COM) program members are appointed by the ANCC Board of Directors. The nine members of the Commission are composed from American Nurses Association (ANA) constituent associations, such as, the American Academy of Nursing, the American Organization of Nurse Executives, healthcare consumers, chief nurse executives from Magnet organizations, nurse managers, the ANA Congress on Nursing Practice, long-term care nurses, advanced practice nurses, and staff nurses, with the exception of one non-nurse public member (McClure & Hinshaw, 2002). The Commission is responsible for setting the standards, guidelines, policies, and procedures for carrying out the Magnet Recognition Program, establishing a process for appraiser selection and training, making final decisions regarding magnet status, and providing a mechanism for systematic review and evaluation of the Magnet Recognition Program. Appraisers for the program are

volunteer nurses with demonstrated expertise and experience in a wide range of practice environments who are willing to commit to mandatory training and a specified number of organizational visits per year. Appraisers complete a mandatory training program and are paired with experienced appraisers for at least one organizational visit to ensure competency related to the standards and criteria interpretation.

The standards and criteria were established based on the 14 forces of magnetism (FOM) derived from the original Magnet hospital study in combination with the *Scope and Standards for Nurse Administrators* (McClure et al., 1983). The 14 FOM include: quality of nursing leadership, organizational structure, management style, personnel policies and programs, professional models of care, quality of care, quality improvement, consultation and resources, autonomy, community and the hospital, nurses as teachers, image of nursing, interdisciplinary relationships, and professional development (Kramer, 2002). These 14 FOM provide a framework by which an organization can assess the organizational environment, structures, processes, and outcomes in deciding to pursue designation. The process usually begins with the organization assessing readiness by conducting a thorough organizational gap analysis prior to beginning the application process. At this time an external consultant may be brought into the organization to provide an unbiased assessment and to guide the application process.

The Magnet Recognition Program application and designation process consists of four phases: assessment and application, document submission and review, facility site visit and review, and decision. There are fees to the organization associated with both the application and site visit that need to be considered by the organization before

beginning, as there is a time limit associated with each step of the process. Once the application and initial fees are submitted there is a rigorous timeline for submission of the completed document which also must comply with formatting and length requirements. The document must address each of the 14 FOM with narratives that demonstrate exemplary achievement in each standard. The initial limit on size of the document was 14 inches. Once the document is submitted the COM reviews the document and may request additional documentation for consideration prior to acceptance. Upon notification of document acceptance by the COM a site visit to the organization is scheduled within a rigorous time frame. The site visit is typically two days long and is conducted by two trained appraisers who will provide a report to the COM verifying the evidence contained in the document. Under blind review the COM will prepare a final report regarding the organizations demonstration of meeting the standards as outlined in the manual criteria, and the COM will vote on the applicant meeting the criteria for designation. A two-thirds affirmative vote is necessary for achievement of Magnet designation (McClure & Hinshaw, 2002). Over the past 25 years more than 300 healthcare organizations have participated in this rigorous process and have successfully achieved Magnet Hospital designation.

In 2004, the Commission on Magnet conducted the first comprehensive evaluation of the program since 1990 resulting in 26 recommendations for changes to the program ushering in a next generation Magnet program (Wolf, Triolo, & Ponte, 2008). Using these recommendations the COM began to examine the evidence found in successful documents to develop a new model that might provide for less redundancy and better clarifications of the standards. A multivariate structural analysis

methodology was utilized to examine 164 sources of evidence from 147 Magnet facilities. Factor analysis, cluster analysis and multidimensional scaling resulted in identifying the redundancy in the 14 FOM and in clarifying 7 domains of evidence: leadership, resource utilization and development, nursing model, safe and ethical practice, autonomous practice, research and quality processes (Wolf et al., 2008). Because the original Magnet Recognition Program only had one FOM related to quality specified which was not reflective of the industry focus on outcomes, the COM added a domain related to results or outcomes. The COM held an invitational Summit in 2007 with experts from across the country to review the new domains of Magnet, examine sources of evidence that support the domains and to explore various models that could depict the program. The model in Figure 3 was adopted by the COM and consists of five components: transformational leadership, structural empowerment, exemplary professional nursing practice, new knowledge, innovations and improvements all of which are demonstrated by empirical outcomes (Wolf et al., 2008). Surrounding the model are global issues in nursing and healthcare which encompass factors impacting the environment and context of nursing and healthcare. This new model resulted in restructuring of the 2008 Manual for Application. The 2008 Manual was updated in 2014, but there have been no further publications indicating that the Model has not been modified or tested.

While a shared governance structure has typically been implemented to meet the requirements related to organizational structure and management style in the old model and transformational leadership and structural empowerment in the new model it was not required or promoted in the program. However, ANCC does offer a Shared

Governance Toolkit which can facilitate design and implementation of shared governance.

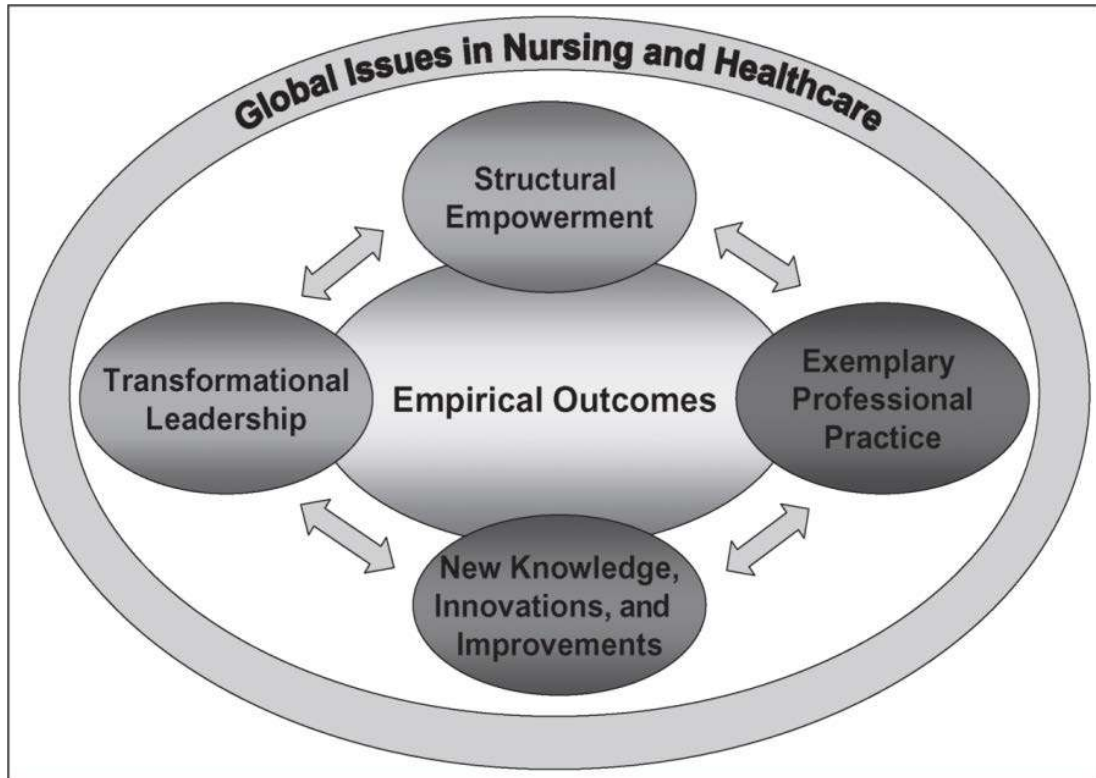


Figure 3. The Magnet model (Wolf et al., 2008)

Magnet Research

Over three decades of knowledge development and research have informed the development of the program for Magnet recognition and the creation of the Magnet model. Examinations of structures and characteristics of Magnet hospitals have been of interest to nurse scientists since the landmark study. The following section will present some of the significant research that has been generated since the identification of the original Magnet hospitals.

Kramer and Schmalenberg's research.

In 1984, Kramer and Schmalenberg began a multidimensional research program focused on examining the characteristics found in those hospitals identified as “providing high quality patient care” (McClure et al., 1983, p. 92). The first sample of more than 1000 staff nurses interviews from 16 magnet hospitals provided qualitative data for Kramer and Schmalenberg (1987a, 1987b) to examine the impact of defined Diagnostic Related Groups (DRGs) on nursing care. This study revealed that DRGs were impacting nurse perception of the delivery of quality care due to the increased focus on cost containment and lower length of stays for patients (Kramer & Schmalenberg, 1987a). The Magnet hospitals were responding to this change in context by changing the nursing structure to an increasingly all RN staffing and implementing new roles for case management and continuity of care. This study provided evidence that the nurses at Magnet hospitals were taking control of their practice and responding to the economic challenges by creating new delivery of care systems that would help maintain high quality patient care.

Kramer and Schmalenberg (1988a) continued to examine the characteristics associated with successful recruitment and retention and reported on a comparative analysis of the 16 magnet hospitals with the eight characteristics identified in the best run companies in corporate America. This was a qualitative study consisting of interviews and participant observation of more than 800 staff nurses, 2273 head nurses, 225 clinical nurse specialists, 102 assistance and associate clinical directors and 16 chief nurse executives. This analysis revealed that many of the eight characteristics identified in the best run companies were identified in the Magnet Hospitals which

allowed these hospitals to better respond to the national nursing shortage by eliminating an internal nursing shortage (Kramer & Schmalenberg, 1988b). Kramer and Schmalenberg (2002, p. 41) reported a “strong movement toward shared governance”, but do not include specific details in describing nursing structural characteristics of the 16 Magnet hospitals. In the nursing literature there are three descriptions of implementations during this time period two of which are hospitals from the Magnet hospital sample (Jones & Ortiz, 1989; McDonagh et al., 1989; Pinkerton et al., 1989).

In a follow-up study to examine the relationships of shared core values in hospitals of excellence Kramer and Hafner (1989) developed the Nursing Work Index (NWI). This “65-item Likert tool was designed to measure four variables: work values related to staff nurse job satisfaction, perceived productivity, staff nurse job satisfaction, and staff nurse perception of an environment conducive to quality nursing care” (Kramer & Hafner, 1989, p. 173). The sample included the 16 Magnet hospitals from the previous study and an additional eight hospitals that were geographically distributed representing other types of external systems and meeting the same criteria used to identify the original magnet hospitals. Staff nurses, head nurses, clinical experts and top managers all participated in the NWI survey. In the analysis, Kramer and Hafner (1989) found an inverse relationship between congruence in values and the staff nurse’s scores on staff nurse job satisfaction and quality nursing care. The Magnet hospitals showed less congruence in values yet higher staff nurse job satisfaction and quality nursing care than did the comparison hospital. Discussion of these finding centered around the challenges brought on by deliberate flattening of the

organizational structure with fewer managers and supervisors resulting in many changes in delivery care models and responsibilities leading to work role ambiguity and role conflict (Kramer & Hafner, 1989).

In the continued study of these 16 magnet hospital Kramer (1990) conducted interviews with 14 of the nursing executives to examine how the hospitals of excellence were weathering the most severe nursing shortage in the history of American nursing. This study revealed that these nursing organizations continued to have high retention rates which were reported to be related to the following factors: higher RN staff mix, flatter organizational structure, conversion of RNs to salaried status, self and shared governance, more flexible nursing care delivery systems, limited use of agency staffing, highly selective hiring and development of significant innovations (Kramer, 1990). Twelve of the Chief Nurse Executives (CNE) are noted to distinguish between self-governance and shared governance, although both seem to be used synonymously relating to self-governance at the unit level and systematic participative involvement at the department-wide level (Kramer, 1990).

This research program was extended to examine the strategies used to retain and satisfy nurses. Kramer and Schmalenberg (1991b) surveyed an additional 1800 nurses across America as a comparison group. Nurses were asked to rank the relative importance and level of satisfaction related to specific aspects of job satisfaction. Both groups identified organizational structure as very important with 95% of magnet and 92% of non-magnet and ranked satisfaction in this area as 73% and 59% respectively (Kramer & Schmalenberg, 1991b). Professional practice was also rated as a very important satisfier in both groups. Overall more magnet hospital nurses reported that

their hospitals had the attributes associated with excellence than the nurses in non-magnet hospitals. This study continued to demonstrate that there is a pattern associated with highly effective organizations. In particular, six major principles were reported as contributing to this pattern of excellence: RN salary status and salary decompression; self-managed, cohesive work teams; flattened organizational structures that promote autonomy; leaders with vision, enthusiasm, visibility and risk taking; clinical specialization for high self-esteem and all of these working together as a whole (Kramer & Schmalenberg, 1991a). These findings supports the notion that an organizational structure that promotes autonomy and nurse participation in the work team contributes to nurse satisfaction and quality care, however, shared governance structures are not specifically explicated in this study.

In 2001, Kramer and Schmalenberg initiated a study of 14 magnet hospitals to further examine the characteristic staff nurses identified as associated with magnetism (Kramer & Schmalenberg, 2003b; Kramer & Schmalenberg, 2003c). For this study the 65 item Nursing Work Index (NWI) instrument which had been used for almost 20 years in measuring magnetism was modified and reduced to the 37 items most frequently chosen by more than 4,000 staff nurses over a 17-year period (Kramer, 2002). These 37 items referred to as “Essentials of Magnetism” were presented to 279 staff nurses with the request to rank the ten items “most important to you in giving quality care” (Kramer, 2002, p. 28). Two-thirds of these staff nurses identified eight items as essentials: clinically competent nurses; good RN-MD relationships and communication; nurse autonomy and accountability; supportive nurse manager; control over nursing practice and practice environment; support for education;

adequate staffing; and concern for patients (Kramer, 2002). The authors reported summary descriptions and analysis of the eight essentials of magnetism synthesized with the literature and prior research findings while providing detailed analysis and development of scales related to RN-MD relationships (Kramer & Schmalenberg, 2003a), clinical autonomy (Kramer & Schmalenberg, 2003c) and control over nursing practice (Kramer & Schmalenberg, 2003b). Development of each of these scales will follow.

Kramer and Schmalenberg (2003c) reported on a detailed analysis of the concept autonomy from the perspective of staff nurses at magnet hospitals. These staff nurses provided clarification related to the concept of autonomy and validated the perception of autonomy as being “clinical” not professional; and “as an action beyond the standard of practice” (Kramer & Schmalenberg, 2003c, p. 18). They found a strong relationship between the rankings of the degree of autonomy and the rankings of job satisfaction and quality of care, however 26% of these staff nurses reported unsupported or no autonomy (Kramer & Schmalenberg, 2003c). From this study, staff nurses describe control over nursing practice as a function “operationalized through a visible, empowered, organizational structure for nurse participation and decision making at the hospital, departmental and unit level” (Kramer & Schmalenberg, 2003b, p. 441). Over 60% of staff nurses from these magnet hospitals indicated that they had little or no control over practice, yet they ranked control of nursing practice as the 5th item most important to giving quality patient care (Kramer & Schmalenberg, 2003b). In this study only five of the fourteen hospitals had or were in the process of implementing shared governance structures, and two had participatory management

structures (Kramer, 2002). Fifty percent (50%) of nurses reported that organizational frameworks, such as shared governance had been disrupted or eliminated due to hospital mergers, acquisitions or extensive restructuring (Kramer & Schmalenberg, 2003b). This finding was consistent with the shared governance literature questioning the feasibility and sustainability of shared governance in hospitals (Havens, 1994; Hess, 1994, 1995; McCloskey et al., 1994; Porter-O'Grady & George, 1996). At the same time there was interest in systematic evaluation of shared governance implementation.

Recognizing that after 15 years many of the 65 items on the NWI were never selected by magnet hospital staff nurses, Kramer and Schmalenberg (2004, p. 365) develop and evaluate the “Essentials of Magnetism Tool (EOM)” using mixed methods approach of grounded-theory for development and a quantitative approach for tool evaluation. This new tool is based more than 20 years of accumulated research. Grounded theory was utilized to generate the eight category scales of autonomy, control over nursing practice and RN-MD relationships, while support for education, clinical competence, cultural values, nurse manager support and adequacy of staffing where derived from participant observation (Kramer, 2004). Content validity of this 58-item EOM tool by 23 nurses from 6 magnet hospitals ranged from 0.88 to 1.00 with a median of 0.92 establishing content validity beyond a 0.05 level of significance (Kramer, 2004). The stability aspect of reliability of the tool was assessed in a test-retest of 42 staff nurses working in a variety of hospitals yielded good stability on all scales and reliability of internal consistency was demonstrated with alpha of .80 to .90 on all scales (Kramer, 2004) The tool is described as a valid and reliable measure of

aspects of a magnetic work environment considered essential to providing quality care. The theoretical framework for the instrument is Donabedian's (1988) Structure-Process-Outcome (SPO) paradigm which provides a lens for viewing the assessment of a magnetic work environment. Kramer et al. (2004) propose the 14 forces of magnetism as structural elements, with most of the essential elements identified by staff nurses as processes, and outcomes as attraction, retention, job satisfaction and quality patient care. The EOM tool was designed to allow for the study of linkages between structures, processes and outcomes and is suggested as a guide for hospitals aspiring to magnet accreditation (Kramer et al., 2004). While this tool evaluates the concept control of nursing practice there is no specific assessment or evaluation of shared governance structure. Nursing structure was frequently being examined in relation to perception of nurse staffing in this literature.

The tool underwent further revision due to the finding that nurse perceptions of adequate staffing was the least discriminating item in the eight essential elements with only 61% of staff nurse in magnet hospitals reporting adequate staffing (Kramer et al., 2004). The revision included a Perception of Adequate Staffing (PAS) scale to expand on the structural element of excellent staffing structures. Retesting with the revised EOM resulted in the seven magnet hospitals discriminating from the non-magnet hospitals ensuring that the tool would now more accurately evaluate staffing structures (Kramer, 2005). Unfortunately, there is no data or discussion related to how staffing and shared governance structure as structural elements relate to satisfaction or quality of care.

Kramer and Schmalenberg (2004) continued to evaluate each of the essentials of magnetism and the significance of these elements in the work environment by reporting on detailed descriptions of staff nurse interviews. In this report on autonomy and control over nursing practice shed some light on the shared governance structures. In particular, staff nurses indicated that, “you don’t have to have one of those complicated shared governance structures, but you have to have some kind of committee structure that is knows, recognized and works” (Kramer & Schmalenberg, 2004, p. 46). Staff nurses agreed that shared governance councils and committees that lacked authority or control over professional nursing practice leads to cynicism, but there is no further exploration to identify or quantify how many of these shared governance structures lack authority or control (Kramer & Schmalenberg, 2004). Eighty-five percent of Magnet staff nurses affirmed that an effective shared governance structure with achieved outcomes is essential for control over nursing practice, compared to only 63% of Magnet aspiring and 48% of other (Kramer & Schmalenberg, 2004). In a historical report on two decades of Magnet research Kramer and Schmalenberg (2005, p. 284) report that the structural features associated with magnetism have changed over time and raise the concern that “the linkage of a flat, decentralized departmental structure may be irrelevant.” A recommendation follows for more research linking structures, process and outcomes.

Kramer, Maguire, and Schmalenberg (2006) conducted a multisite, evidence-based management study to provide an in-depth analysis of clinical autonomy and to identify structures supporting autonomy. With a sample of 8 Magnet hospitals and interview data from 267 staff nurses, nurse managers and physicians this study

provides definitional clarification between professional autonomy, control over nursing practice and clinical autonomy and discusses the context of nursing's professional autonomy as being in the constraints of bureaucratic organizations, unlike medicine and law which are in the context of private practice (Kramer et al., 2006). In a follow-up study to further identify structures enabling clinical autonomy Kramer et al. (2007) collected evidence of operational and evaluative data from each of the 8 magnet hospitals for further qualitative analysis. Descriptions of nursing shared governance were part of the data collection and while not specifically mentioned in the article the indication is that all 8 hospitals had written nursing shared governance structures. Nine "best management practices" were identified as structures enable clinical autonomy and operationally defined (Kramer et al., 2007). The best practice related to shared governance was administrative sanction or autonomous practice as evidenced by written nursing documents articulating the components and scope of clinical autonomy. A recommendation is made that shared governance practice councils need to review these documents to ensure completeness as it was observed that even in these excellent hospitals there was little mention of clinical autonomy in performance appraisals or clinical ladders leading to the conclusion that autonomous practice was "the exception rather than the standard" (Kramer et al., 2007, p. 51). This evidence seems to validate earlier findings that the presence of a shared governance structure does not necessary lead to the outcome of autonomy.

Kramer et al. (2008) take a detailed look at shared governance structures in a study with a strategic sample of magnet hospitals that had previously demonstrated high scores related to control over nursing practice. Utilizing a mixed methodology

that included interviews, participant observation and the Conditions of Work Effectiveness Questionnaire-II (CWEUII) eighty-seven percent of this sample of 2990 staff nurses had previously agreed that their hospital had a viable shared governance structure (Kramer et al., 2008). In keeping with Donabedian's (1988) structure-process-outcome paradigm structures were defined "as the policies, programs, standards and practices that create an environment in which functional care processes, such as clinical autonomy, control over nursing practice and collegial nurse-physician relationships flourish" (Kramer et al., 2007, p. 541).

Two structures were identified by interviewees as supporting control over nursing practice; shared governance and career ladders. Descriptions of the shared governance structures were provided in the analysis. All shared governance structures followed a councilor model with combination unit and hospital-wide councils organized by functions or by professional role. Five of the hospitals had Silo models where the structure operated out of individual departments, and three had integrated models where the structure was throughout the hospital (Kramer et al., 2008). Notable is that the three hospitals with integrated shared governance structures scored higher ($M = 22.8$) on the CWEQII on the construct of informal power than the silo shared governance structures ($M = 20.59$) (Kramer et al., 2008). Interview data validated that staff perceived the shared governance structure as a source of formal power.

In conducting additional comparison a subsample of 600 staff nurses from Canadian hospitals with unknown shared governance structures was presented as a comparison group. The Canadian sample scored lower on all constructs of the CWEQII, while hospitals with integrated shared governance means scores were

significantly higher ($p \leq .001$) on the constructs of opportunity, information, support, formal power, informal power and total empowerment (Kramer et al., 2008).

Interviewees were asked to rate the extent of control over nursing practice on the unit using a scale of 1 to 10. Nurses who were very involved in shared governance or were council chairs often rated this as 10 ($M = 7.8$) (Kramer et al., 2008). Generally, there was not significant differences in ratings by clinical unit, professional role, education, or type of hospital, but managers and master's prepared nurses tended to rate CNP higher than the others. There were significant differences in CNP by experience ($p \leq .01$) and by tenure ($p \leq .04$) with both rating CNP higher with experience and tenure (Kramer et al., 2008). Nearly 90% of nurse interviewees could describe the shared governance structure and their participation while nearly 72% of the physicians could describe various aspects of the shared governance structure (Kramer et al., 2008).

Hospital leaders and other professionals were also able to describe the shared governance structure with this being more pronounced in hospitals with integrated shared governance structures. Interviewees took pride in the accomplishments, outcomes and actions with 54% of staff nurses citing specific outcomes demonstrating the viability of the shared governance structure. All eight of the hospitals had evidence-based practice (EBP) councils that provided educational programs in the conduct of EBP and utilized a champion model to coach and mentor EBP projects (Kramer et al., 2008). Kramer et al. (2008) noted changes in this sample over the five years of study. In the first study there was limited participation and CNP was only at the unit level, while the second study revealed much greater participation and higher

CNP at the organizational level which suggests that these phenomena may be start-up characteristics as implementing a shared governance structure is a journey that requires culture change, time and commitment. CNP appeared to develop over time given a supportive structure and work environment.

To examine the relationship between staff nurse work environment and quality care, Schmalenberg and Kramer (2008) conducted a study comparing 18 magnet hospitals with 16 comparison hospitals striving for excellence to validate the hypothesis that staff nurses at magnet hospitals would score higher than the comparison group and to examine contextual variables. Nurses at the magnet hospitals scored significantly higher ($p < .001$) on all subscales of the EOMII than those at comparison hospitals and on the outcome variables of job satisfactions and quality care (Schmalenberg & Kramer, 2008). Similar to previous findings the education level of nurses at magnet hospitals was higher and master's prepared nurses reported the highest score on favorable work environments (Schmalenberg & Kramer, 2008). Additionally "the high percentage of nurses in both magnet (84%) and comparison (82%) hospitals rating quality of care given as equal or higher than to job satisfaction is higher than expected, which confirms a finding from research conducted 20 years ago that providing quality care is the most important aspect and satisfying aspect of the job.

Interested in exploring the question of "what are the right structures and best leadership practices linked to quality outcomes" Kramer, Schmalenberg, and Maguire (2010, p. 4) conducted a meta-analysis of two sets of publications. The first set of 12 publications came from professional journal articles published by 7 agencies that

describe professional practice models, standards and work environments that embody the characteristics of “healthy, magnetic professional practice” (Kramer et al., 2010, p. 7). The second meta-analysis was conducted on 18 publications that had examined EOM structures as identified by staff nurses on high EOM-scoring units or hospitals. The sample from these publications included 50,000 clinical staff nurses from 157 hospitals. Results of each sample identified nine organizational structures and leadership practices that are essential for a magnetic work environment. Results from each sample demonstrated considerable agreement that having an empowered shared decision making structure for control of nursing practice, such as shared leadership or shared governance was one of the nine structures essential to developing a healthy work environment (Kramer et al., 2010). The recommendation is made that implementation of these nine structures and leadership practices with concurrent evaluation of the impact on identified nurse and patient outcomes will provide for evidence related to specific structural or process interventions that lead to healthy work environment.

While the evidence related to nursing organization structure, clinical practice processes and nurse and patient outcomes remains limited. This program of research has been foundational to better understanding the factors in the hospital work environment that might influence nurse and patient outcomes. Report on development of shared governance structures from the silo model to the integrated model support the notion that shared governance continues to be deployed as an organizational structure that promotes a culture of improvements. The next section will highlight

other research programs that look more specifically at nurse and patient outcomes at Magnet Hospitals.

Aiken's Magnet Research of hospital organizations.

The University of Pennsylvania's Center for Health Outcomes and Policy Research saw an opportunity to utilize the magnet hospitals which had been singled out for providing good nursing care in a "natural experiment" to examine the effects of the hospital organization on nurse and patient outcomes (Aiken, Smith, & Lake, 1994, p. 771). This program of research deliberately uses the hospital as the unit of analysis rather than surveying of the individual nurse. The first study sample utilized 39 of the original magnet hospitals with 195 control group hospitals and provided evidence that the nursing organization characteristics of professional nurse autonomy, control over nursing practice and better nurse physician relationships were associated with a lower Medicare mortality rate. When controlling for patient characteristics there was a 4.6% lower mortality rate in the magnet hospitals (Aiken et al., 1994). Nurse staffing was also examined and validated that higher ratios of RNs and higher nurse to patient ratios were associated with lower mortality. Administrative data extracted from the Health Care Financing Administration (HCFA) and the American Hospital Association (AHA) made examining mortality and hospital organizational structure feasible. This was particularly of interest as there was widespread concern that nursing organizational changes and staffing were eroding the quality of patient care. This was the first study to examine hospital mortality in relation to the organization of nursing care.

With national concern related to human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS) and a nursing Aiken, Sloane, Lake, Sochalski, and Weber (1999) conducted a study to examine the hospital organization, nursing care delivery and patient outcomes related to care delivered to patients with AIDS. At the time there was controversy on how to deliver safe care to these high-risk patients. Some organizations mixed them with general medical-surgical admissions while other organizations created specialty units. A sample of 1,250 admitted patients from 40 units in 20 hospitals and 820 nurses provided data for this investigation in four distinct models of in-patient care: dedicated AIDS units, scattered-bed medical units in hospitals with dedicated AIDS units, scattered-bed medical units in magnet hospitals, and scattered-bed medical units in hospitals with no dedicated AIDS units (Aiken et al., 1999). Initial data collection included data abstracted from the medical record, billing summaries and nursing assessments which were followed with patient interviews from a sub-set of 25 patients from each unit. Results found that mortality was lower and patient satisfaction higher for AIDS patients on dedicated AIDS units and in magnet hospitals. In examining nursing organizational characteristics that might account for differences in mortality across the settings of hospitals with dedicated AIDS units (dedicated units versus scattered -bed units) and hospitals without dedicated units (magnet versus non-magnet), this study found that nurse-to-patient ratio had a significant effect on mortality (Aiken et al., 1999). Similarly, patient satisfaction was also shown to be effected by the patient care setting and characteristics of nursing organization. Patients in the magnet hospital and on the dedicated AIDS units were more satisfied and while nurse staffing did not significantly affect patient

satisfaction nursing control over practice had a significant affect and appeared to explain much of the higher patient satisfaction (Aiken et al., 1999). These findings demonstrate the impact of the nursing organization characteristics of staffing and control over practice on the patient outcomes of mortality and satisfaction.

The development of the ANCC Magnet Nursing Service Recognition Program provided another sample of hospitals associated with excellence as a comparison group for the original magnet hospital sample. Aiken, Havens, and Sloane (2000) conducted a study to determine if the program resulted in selection of hospitals with the same excellence nursing care as the original AAN selected magnet hospitals. The sample of 7 ANCC magnet and 12 magnet hospitals from Kramer's earlier study provided 1064 and 981 survey responses for data analysis. Demographic results of the survey indicated that both magnet hospitals had a significantly higher educationally prepared workforce at over 50% baccalaureate as compared to 34% nationally and the ANCC magnet hospitals had significantly more baccalaureate prepared nurses, but with less experience and less tenure (Aiken et al., 2000). The ANCC magnet hospitals also had significantly higher reports of nurse autonomy, control over nursing practice, satisfaction and less nurse job burnout. The only item studied that did not show a significant difference was in nurse-physician relations. In this study 43% of ANCC magnet hospital nurses indicated that the quality of care delivered to patients was excellent as compared to 21% in the original magnet hospitals (Aiken et al., 2000). A description of nurse staffing abstracted from the 1997 annual hospital survey of the American Hospital Association (AHA) indicates that the ANCC magnet hospitals employ more RNs per 100 patients and have lower nurse to patient ratios, but there

was no analysis of how these characteristics interacted with other organizational features or affected patient or nurse outcomes (Aiken et al., 2000). This study validated that the ANCC Magnet Nursing Service Recognition Program was successful at identifying hospitals that provide high quality nursing care. While shared governance was not a variable in this study Kramer (2002) reported that all the magnet hospitals being followed in their program of research had viable shared governance structures. The high reports of autonomy and control over nursing practice are likely attributed to a formal structure to empower nurses and involve them in decision making.

With a worsening nursing shortage and California legislation mandating minimum hospital nurse-to-patient ratios Aiken, Clarke, Sloane, Sochalski, and Silber (2002) examined the association between nurse-to-patient ratio and patient outcomes of mortality, failure-to-rescue among surgical patients and factors related to nurse retention. While this particular study was not a study of Magnet hospitals, the study provided a foundation for comparison with Magnet hospital outcomes. This cross-sectional study of 10,841 staff nurses and 232,342 patient discharges in Pennsylvania linked survey data with administrative data. The results showed that after adjusting for patient and hospital characteristics (size, teaching status, and technology) each additional patient per nurse was associated with a 7% increased 30-day mortality and failure to rescue; and a 23% increased odds of burnout and 15% increase in job dissatisfaction (Aiken et al., 2000). This study demonstrated a sizable effect of nurse staffing on preventable deaths, failure-to-rescue and nurse retention and satisfaction.

In a secondary analysis of this data (Aiken, Clarke, Sloane, Lake, & Cheney, 2008) examine whether the nurse work environment is associated with better patient

and nurse outcomes independently of nurse staffing and education level of the RN. This study tested the association between the practice environment scale of the Nursing Work Index (PES-NWI) and outcomes. The results of this analysis validated previous findings that poorly staffed and poor patient care environments were associated with higher mortality, higher failure-to-rescue, higher job dissatisfaction and higher intent to leave. The findings suggest that there are three major options for improving patient outcomes and staff satisfaction and retention: improving RN staffing, increasing the education level of the nursing staff and improving the care environment (Aiken et al., 2008). In this study, results indicated that hospitals with only some of the features of ANCC Magnet hospital environments were associated with better patient and nurse outcomes. Specific organizational characteristics were examined in this analysis rather than grouping the sample by Magnet designation.

Kelly, McHugh, and Aiken (2011) examined the nursing work environment, staffing, and nurse outcomes between Magnet and non-Magnet hospitals with a random sample of RN's who worked in California, Florida, Pennsylvania and New Jersey. This sample of 567 hospitals included 46 hospitals that were ANCC Magnet recognized. A sample of 4,562 nurses from Magnet hospital and 21,714 from non-Magnet hospitals responded to a survey of related to nurse characteristics, staffing, work environment, education, hospital characteristics, and job-related burnout. Results indicated that Magnet hospitals had a higher portion of nurses with Baccalaureate or higher education ($t = -2.27, p < .05$), higher portion of specialty certified nurses ($t = -2.8, p < .05$) and better work environments ($t = -5.29, p < .05$) (Kelly et al., 2011). Initially, differences in staffing were not significant, because of the issue in California

about mandatory staffing ratios. When California was removed from the data, significantly lower nurse patient ratios were found in Magnet hospital ($t = -5.29$, $p < .001$) (Kelly et al., 2011). Nurses at Magnet hospitals were 18% less likely to be dissatisfied with their jobs and 13% less likely to have high levels of burnout (Kelly et al., 2011). This study provided continued evidence of the association between Magnet hospital work environments and positive nurse outcomes, however there is no discussion of shared governance structures contributing to this association.

Using the same sample outlined in the previous study Aiken et al. (2011) investigated the effects of nurse staffing and nurse education on patient deaths in hospitals with different nurse work environments to determine if there was evidence to justify the investment in higher staffing ratios and more educated RNs. The unit of analysis was 665 hospitals which represents 86% of general acute care hospitals and 90% of adult general surgical discharges in the 4 states of California, Florida, Pennsylvania and New Jersey (Aiken et al., 2011). Magnet status was not a variable identified in this study, but we know from the previous study that 46 of the hospitals were ANCC Magnet designated. Results indicated that there was almost no effect of decreasing the patient to nurse staffing ratio on deaths and failure to rescue in hospitals with poor work environments, but the odds decreased by 4% in hospitals with average environments and by 9% for deaths and 10% for failure to rescue in hospitals with the best work environments (Aiken et al., 2011). This study also confirmed the earlier finding that a 10% increase in baccalaureate prepared nursing staff decreases the odds of patient death by 4%. Most remarkable about the findings from this study is the influence of nurse staffing on patient outcomes being contingent on the quality of the

nurse work environment. This led to the conclusion that striving for Magnet designation and having a higher percentage of baccalaureate prepared RN staff are important factors in improving patient outcomes (Aiken et al., 2011).

In a retrospective, two stage panel design study, changes in nurse work environments and nurse job outcomes were examined over time (Kutney-Lee et al., 2013). The data set combined results from the 1999 Pennsylvania Registered Nurse Survey and the 2006 Multi-State Nursing Care and Patient Safety survey and administrative data (Aiken et al., 2011; Aiken et al., 2002). General trends in this sample of 137 hospitals showed the percentage of nurses reporting high burnout decreased from 42.2% to 37.6%, nurses intending to leave decreased from 22.4% to 14.2%, and nurses reported job dissatisfaction decreased from 40.7% to 31.5% from 1999 to 2006. However hospitals that improved their work environments showed improvement in these outcomes while hospitals that had declining work environments also had declining nurse outcomes (Kutney-Lee et al., 2013). These results continue to support the evidence that improving work environments improves nurse job outcomes; however, specific subsets of the PES-NWI were not examined individually. This is important to determine if there was a particular aspect of the work environment that more significantly contributed to the improved outcome to provide more explanation for the trend.

Most recently, McHugh et al. (2013) examined mortality in Magnet and non-Magnet hospitals to determine likely explanations for the better patient outcomes previously seen in Magnet hospitals. This study of 56 Magnet and 508 non-Magnet hospitals was a secondary analysis of the data from the four state surveys previously

described. Variables were created statistically to estimate the probability of a hospital Magnet status based on nursing characteristics of nurse-to-patient ratio, better work environments, higher BSN-educated nurses, and higher specialty certified nurses (McHugh et al., 2013). The moderating variables were nurses educated outside the United States, use of supplemental or agency nurses, proportion of male nurses, and average age and experience of nurses. Similar to findings in the 1994 study, Magnet hospitals were characterized as large, nonprofit, high technology, teaching hospitals. Magnet hospitals had significantly better work environments ($P < .001$), higher proportion of BSN-educated nurses ($P < .001$), higher proportion of specialty-certified nurses ($P < .03$), lower proportion of supplemental or agency nurses ($P < .03$), better staffing ($P < .056$) and higher composite score for likelihood of hospital Magnet status ($P < .001$) (McHugh et al., 2013). Results related to patient outcomes showed significantly lower 30 day surgical mortality ($P < .001$) and failure to rescue ($P < .001$) in Magnet hospitals (McHugh et al., 2013). Through statistical modeling, Magnet status and the composite measure of nursing were examined separately and combined. The analysis validated that the nursing work environment produces an effect beyond Magnet status and nursing characteristics that is associated with better mortality and failure to rescue (McHugh et al., 2013). This study did not examine the effect of shared governance related to patient outcome or Magnet composite score, and while it can be assumed that the Magnet hospitals most likely had shared governance structures the question remains as to whether the shared governance structure can be attributed to the Magnet effect not captured in this study.

In another study utilizing the same data set, Stimpfel, Rosen, and McHugh (2014) examined the role of the professional practice environment (PPE) on quality of care in Magnet and non-Magnet hospitals. The finding indicated that significantly more nurses at Magnet hospitals reports that the quality of care was excellent compared to nurses at matched non-magnet hospitals (Stimpfel et al., 2014). Additionally, finding indicate that the PPE mediated the relationship between Magnet status and quality of care suggesting that Magnet hospitals provide better quality of care because of superior PPE. This finding further raises the suspicion that having an effective shared governance structure might also mediate the relationship between Magnet status and quality of care.

This program of research on Magnet designation provided the first evidence from administrative data collection of improved patient mortality and identified specific organizational characteristics that might contribute to these improved outcomes. The section that follows, details research that has contributed to knowledge development related to nurse practice environment and nurse and patient outcomes.

Research on Nurse and Patient Outcomes

Other researchers also have used a comparative sample of Magnet and non-Magnet hospitals to examine organizational characteristics and outcomes. Havens (2001) examined the nursing organization, leadership and infrastructure and found three differences in the organizational structure that were significant: having a distinct department of nursing, having a doctorally-prepared nurse researcher, and the CNE's perception of having control over nursing practice and the practice environment. The findings showed that the CNEs and staff nurses from ANCC Magnet hospitals rated

their hospitals more highly than the comparison CNEs and staff nurses. This rating difference was supported by evidence of 33% of ANCC magnet hospitals achieving “commendation” on their most recent Joint Commission Accreditation Hospital Organization (JCAHO) survey (Havens, 2001, p. 6). An unexpected finding from the analysis of these two hospital groups was that while the general structural characteristics were very similar in terms of managed care market size, hospital size and teaching status both RN and CNE reports of quality and practice environments were not similar. RNs and CNEs at Magnet hospitals reported more favorable perceptions of quality and work environment which might indicate that there are differences in infrastructure “features that are mutable and may be key to the development of professional nursing practice” (Havens, 2001, p. 6). There was no discussion or evaluation related to shared governance as an infrastructure difference between the two groups of institutions.

Upenieks (2003) interested in the interrelationship of organizational characteristics, and nursing leadership associated with higher levels of empowerment and job satisfaction at Magnet hospitals conducted a mixed methods study of staff nurses and nurse leaders from Magnet and non-Magnet hospitals. As expected the Magnet hospitals scored significantly higher on NWI-R subscales at $p < .001$ except in physician relations which was still higher but not significant, and on the CWEQ-II at $p < .001$ with the exception of opportunity which was also rated higher, but not significant (Upenieks, 2003). The leadership elements found in Magnet hospitals to be associated with higher nurse empowerment and job satisfaction included: greater accessibility of nurse leaders, better support of autonomous decision making and

greater access to empowerment structures (Upenieks, 2003). These findings might be related to the shared governance structures implemented in Magnet hospitals, although this variable was not specifically evaluated. Limitations to this study include sampling methods, sample size and participation rate, but the results support the finding of larger studies and begin to establish evidence of relationships.

Interested in differences in organizational characteristics of nursing support, workload and intent to stay at Magnet, Magnet aspiring and non-Magnet hospitals Lacey et al. (2007) conducted a study using the Individual Workload Perception Scale (IWPS) dataset. This large dataset that collects demographic information on participating hospitals and nurses completing the IWPS provided a sample of nurses from 11 states, 15 institutions and 292 diverse units (Lacey et al., 2007). Results indicated that nurses had significantly higher score ($p < .000$) on all the subscales of the IWPS: manager support, peer support, unit support, workload, intent to stay and nurse satisfaction and this result remained after post hoc testing (Lacey et al., 2007). Mean scores on all subscales were higher for Magnet-aspiring hospitals than non-magnet hospitals and post hoc testing resulted in mostly significant relationships ($p < .000$) except on the subscales of manager support and intent to stay (Lacey et al., 2007). This study demonstrates the impact of pursuing Magnet recognition as a means to improve the work environment and enhance professional nursing practice. Shared governance was not specifically evaluated.

There are a few studies that utilize large datasets to examine patient outcomes related to Magnet work environments that have reported mixed finding. Stone et al. (2007) utilized a systems approach to examine the effect of nurse working conditions

on the patient outcomes of central line associated blood stream infections (CLABSI), ventilator-associated pneumonia (VAP), catheter-associated urinary tract infections, decubiti and 30-day mortality. Data came from a sample of 15,846 patients, 51 adult intensive care units (ICU) in 31 hospitals, and 1095 nurse surveys. Results indicated that higher levels of staffing were associated with lower incidence of CLABSI, VAP, decubiti, and 30-day mortality ($p < .05$) and increased overtime was associated with higher rates of CAUTI and decubiti, but lower rates of CLBSI ($p < .05$) (Stone et al., 2007). Magnet status was not independently related to any of the patient safety outcomes and the relationships between the nurses' perceived organization climate and patient safety outcomes were not consistent which is suggested to be related to the roles of ICU nurses (Stone et al., 2007).

In a study of 19 Magnet and 35 non-Magnet hospitals Goode, Blegen, Park, Vaughn, and Spetz (2011) found staffing on general units and intensive care units significantly better at non-Magnet hospital ($p < .05$) along with significantly fewer hospital acquired infections (HAI), less post-operative sepsis, and less post-operative derangement (Goode et al., 2011). There were no statistical differences related to mortality, failure to rescue or length of stay (LOS) and only hospital acquired pressure ulcers (HAPU) were significantly lower in Magnet hospitals and only at $p < .1$ (Goode et al., 2001).

Mills and Gillespie (2013) matched 80 Magnet with 80 non-Magnet hospitals in 22 states to examine the patient outcomes of pressure ulcers and failure to rescue and found no significant differences. Lake, Shang, Klaus, and Dunton (2010) using the 2004 National Database of Nursing Quality Indicators (NDNQI) from 108 Magnet and

528 non-Magnet hospitals examined the relationship between magnet status and patient falls. Multivariate models showed a 5% lower fall rate in Magnet hospitals (Lake et al., 2010). Another study analyzing NDNQI data from 2005 and 2006 showed a 10.3% lower fall rate and lower hospital-acquired pressure ulcers (HAPU) in Magnet hospitals (Dunton, Gajewski, Klaus, & Pierson, 2007). In summary, the research related to patient outcomes in Magnet hospitals is scarce and results are mixed. However, this research provides evidence of the use of large databases linking nursing organizational structural characteristics to nurse sensitive patient outcomes.

Administrative Outcomes Data

This section will provide an overview of the development of administrative outcomes databases. Specifically, the VA administrative databases of Veterans Affairs Nurse Outcomes Database (VANOD), In-patient Evaluation Center (IPEC) and the VA Survey of Healthcare Experiences of Patients (SHEP) are outlined describing the research that has been done in VA using these specific databases.

Patient safety became of significant concern in healthcare following the IOM report on patient safety among large samples of hospitalized patients in the United States estimating that close to 100,000 patient deaths were a result of adverse events (Kohn et al., 2000). At the direction of congress the Agency for Healthcare Research and quality developed a process for increasing knowledge, strategies and tools to address the patient safety challenges. In 2002, to help organize and standardize patient safety knowledge the Patient Safety Indicators (PSIs) measuring and monitoring tools were developed (Agency for Healthcare Research and Quality [AHRQ], 2014). The PSIs are measures that screen for potential adverse events during hospital experiences

and have been deployed as dashboards for hospital quality programs. Patient safety indicators considered sensitive to nursing care intervention include: hospital acquired infections, pressure ulcers, and post-operative complications of deep vein thrombosis, sepsis, respiratory failure or death.

The past decade has seen significant regulatory and policy change related to PSI events. In 2008, CMS announced that payments on eight hospital-acquired conditions would be disallowed resulting in increasing the accountability on the hospitals to prevent to an even higher level (Rosenthal, 2007). To examine the progress of the quality improvement initiative related to the PSIs, Downey, Hernandez-Boussard, Banka, and Morton (2012) examined National trends between 1998-2007. Findings included a decrease in PSI events per 1000 patient admissions with 14 of the 15 PSIs analyzed showing statistically significant trends. Infections due to medical care and pressure ulcers are two of the seven PSIs showing statistically significant increases over this time frame (Downey et al., 2012). While differing in etiology and incidence these PSIs were found to be generally influenced by three conditions: severity of illness, surveillance and surgery. Nursing plays a significant role in surveillance of both Hospital Acquired Infections (HAI) and Hospital Acquired Pressure Ulcers (HAPU).

Similarly in 1995, with growing societal and regulatory pressure related to quality of care the ANA initiated the Safety and Quality Initiative to examine the impact of nursing care on patient outcomes. This initiative brought together state level nursing organizations to develop the National Database of Nursing Quality Indicators (NDNQI). California develop the California Nursing Outcomes Coalition (CalNOC)

database to examine nurse sensitive indicators and the nursing workforce across the states' acute care hospitals. In consultation with CalNOC, the Army developed a similar database for military acute care facilities that has now expanded to include Army, Navy and Air Force known as Military Nursing Outcomes Database (MilNOC). These are just a few of the early databased developed to examine the patient outcomes thought to be most sensitive to nursing care interventions, such as, patient fall rates, pressure ulcer prevalence, nosocomial infection rates and patient satisfaction. Additionally, nursing outcomes of nurse satisfaction, nursing workload and skill mix are also often included measures in these databases to allow for examination of staffing effectiveness.

In 2002, the Veterans Affairs (VA) Office of Nursing Services initiated the VA Nursing Outcomes Database (VANOD) of clinically relevant nursing sensitive indicators in VA acute care hospitals to provide an evidence base for evaluating nursing work environment and nurse staffing related to patient outcomes (Haberfelde, Bedecarre, & Buffum, 2005). VANOD provides a common database for the comparison of quality indicators across the nation's largest healthcare network of acute care hospitals. Nurse sensitive indicators initially included in this database were nurse job satisfaction, patient fall rates, and pressure ulcer prevalence. This literature review will be limited to nurse job satisfaction and hospital acquired pressure ulcer (HAPU) prevalence studies of VA acute care hospitals.

Nurse satisfaction.

There is only one published study reporting on RN satisfaction in VHA. Sales (2005) reported on nurse job satisfaction in the VHA in a study designed to assess

characteristics and perceptions of all types of nursing staff working across the healthcare system. Of particular interest in was comparing RN perceptions of the work environment with non-RN staff perceptions. A cross-sectional study using the NWI-R survey was conducted on a sample of 44,000 nursing staff from 125 VHA facilities. Results of 11,378 responses (26.4% rate) were compared with the VHA All Employees Survey. This showed consistent results providing support of reliability of the responses (Sales, 2005). Comparison was also made of the RN overall satisfaction results with those from the Kramer and Schmalenberg (2003b) national sample survey of RNs and no significant differences were found between the VHA sample and the Magnet comparison sample. However, demographic characteristic were notably different for the VHA who reported a higher proportion of male, foreign graduate and baccalaureate prepared nursing staff. The RN responses indicated a lower level of perceived practice environment, quality of care, and job satisfaction than their non-RN counterparts across VHA, but these RNs were generally more satisfied than RN respondents in other countries (Sales, 2005). Additionally, the VHA RN responses to their perception of the practice environment were relatively positive and the results similar to those of RNs practicing in Magnet hospitals (Sales, 2005).

While RN satisfaction results are not published, the VHA conducts annual surveys of employee satisfaction. Beginning in 2006, specific RN satisfaction surveys through VANOD were conducted. The PES/NWI was the instrument selected for this survey because of its strong validity and reliability. In addition to the 31 survey items, 5 VA technology questions and one VA general satisfaction questions are included in this annual survey. Annually, results of the survey are analyzed by the Office of

Nursing Service (ONS) and discussed with the national network of nurse executives. Facility level analysis and reports are provided through VANOD for further drill down of the data and action planning at the facility and unit level to continually improve areas of concern related to RN job satisfaction.

Hospital Acquired Pressure Ulcers (HAPU).

Hospital acquired pressure ulcers are of national concern due to issues of patient morbidity, and healthcare cost. CMS considers Stage II and Stage IV pressure ulcers that occur during acute care hospitalizations to be preventable. VHA prescribed a national program for pressure ulcer prevention for all VA facilities in 2007, and created Nationalized Standardized Templates to capture data directly from the Computerized Patient Medical Record (CPRS) related to RN assessment, processes of care and patient outcomes. Data are captured from the VANOD Skin Risk Assessment Templates on 15 indicators and are reported nationally allowing for drill down to the patient level. In 2011, the VHA implemented a comprehensive evidence-based practice nurse driven protocol outlined in VHA Handbook 1180.02 “Prevention of Pressure Ulcers” (U.S. Department of Veteran Affairs, 2011). A national Hospital Acquired Pressure Ulcers (HAPU) campaign “Getting to Zero” was launched to “create a culture of change, communication, and commitment to support eliminating HAPUs throughout VHA” (VHA, 2012, p. 1). Unfortunately, there are no published VHA studies of HAPUs in acute care hospitals found in the literature. However, in an effort to be more transparent related to reporting of outcomes data for comparison with U.S. hospitals the VA created the ASPIRE dashboard which is available on the internet.

VA Inpatient Evaluation Center (IPEC).

In 2004 the VA launched IPEC a national program to measure and report risk adjusted mortality and length of stay in intensive care units (ICU). This program was expanded in 2008 to include all patients admitted with acute medical and surgical conditions. The VA IPEC system uses electronic data to monitor and trend patient data for use to drive performance improvement. By extracting data from the CPRS medical record feedback on patient outcomes is readily available to all VA acute care facilities. The program began by monitoring data on mortality and length of stay (LOS) and was expanded to include data on hospital acquired infections including: MRSA, central line associated blood stream infections (CLABSI) and ventilator associate pneumonia (VAP). The following section will provide a review of literature associated with LOS and hospital acquired MRSA infections at VA hospitals.

Length of Stay (LOS).

Hospital length of stay is a widely used indicator of hospital performance and in particular as an indicator of hospital efficiency. Hospitals with a longer average LOS would be considered less efficient than those with a shorter LOS. While LOS is usually a measure of resource use, it also has been used as an indicator of quality of care (Donabedian, Wheeler, & Wyszewianski, 1982). In examining the relationship between LOS and quality of care in a sample of more than 12,000 Medicare claims for 13 clinical conditions, Powell (1992) found that poor quality was associated with longer than expected LOSs. Kaboli et al. (2012) in a study of VHA admissions over a 14 year period from 1997-2010 examined the association between reduced LOS and 30-day readmission rate and mortality. With a sample of 4,124,907 medical patient

admissions LOS decreased by 2% ($P < 0.001$) annually, risk-adjusted 30-day readmission rate decreased by 2.7% ($P < 0.001$) annually, and all-cause mortality decreased by 3% annually (Kaboli et al., 2012). These results are important in not only demonstrating the improvements over time, but in demonstrating that these improvements in efficiency are not at the cost of quality of care.

In 2007, the VHA reported on participation in the Flow Improvement Inpatient Initiative (FIX) undertaken to improve and optimize inpatient flow through the continuum of care. The FIX was a national collaborative program that mobilized interprofessional teams at each hospital to analyze and standardize discharge processes to improve patient through-put and quality. Decreasing LOS was identified as an outcome measure of quality. With a sample of 130 VHA acute care hospitals measurements were taken pre-FIX intervention, during FIX and two-year post-FIX intervention (Glasgow, Davies, & Kaboli, 2012). Results showed 35% of the hospitals had improvements in LOS with 60% of them sustaining the improvements two years after the initiative (Glasgow et al., 2012). Findings of viable results across hospitals led to the conclusion that future study should include more thorough evaluation of organizational characteristics to identify factors associated with sustainment of change.

Looking more specifically at organizational characteristics, de Cordova, Phibbs, Schmitt, and Stone (2014) conducted a longitudinal study of VA hospital night and day shift nurse staffing and workforce characteristic associated with LOS. With a sample of 138 VA hospitals, a data set was constructed using administrative and electronic data from October 2002 to October 2006. The results showed that day staffing ($p < .01$) was negatively associated with LOS and the difference between day

and night staffing ($p < 01$) was marginally negatively associated with LOS (de Cordova et al., 2014). Additionally the number of hours of care provided by Unlicensed Assistive Personnel (UAPs) during the day and night in relation to RNs, was associated with longer LOS and the percentage of nursing hours provided by LPNs showed no significantly relationship to LOS (de Cordova et al., 2014). Education levels and tenure of the night and day workforce independently effected LOS. A greater percentage of associate degreed nurses with longer tenure at night compared to those in the day were associated with an increase in LOS. These findings support previous studies on Magnet hospitals that show that RN education level is associated with better quality outcomes.

Hospital Acquired Methicillin-resistant Staphylococcus aureus (MRSA).

In 2003, the IOM reported that antimicrobial resistance posed a significant threat to healthcare for the 21st century (Smolinski, Hamburg, & Lederberg, 2003). Infections from antimicrobial resistant organisms increase the cost of healthcare, cause higher mortality and longer length of hospital stays. Dantes et al. (2013) examined the national burden of invasive MRSA infections in the United States for 2011 and estimated that 80,461 invasive MRSA infections occurred which was 30,800 fewer than in 2005. Of these invasive MRSA infections 48,353 were hospital acquired which was also a significant decrease from 2005 (Dantes et al., 2013). This decrease is thought to be associated with significant improvements in hospital-based improvement initiatives (Dantes et al., 2013). Many hospitals have implemented active surveillance programs to reduce the incidence of these healthcare associated infections.

In 2007, the VA instituted an active surveillance program that included the culturing of all patient admitted to VA hospitals (Kussman, 2007). The “MRSA Bundle” was a national campaign to change the organizational culture to one where everyone had a role in prevention and included universal nasal surveillance for MRSA, contact precautions for patients colonized or infected with MRSA, and hand hygiene (Kussman, 2007, p. 1491). The results of this campaign were a decrease of 62% ($P < 0.001$) in the rate of health care-associated MRSA infections in ICU patients and a decrease of 45% ($P < 0.001$) for non-ICU patients (Kussman, 2007). Of particular interest in this study is that data was not aggregated and analyzed at the hospital-level which would have allowed for examination of attributable affects. In a follow-up study examining MRSA prevalence in VA hospitals from July 2010 to June 2012, Evans et al. (2013) demonstrated that these effects were sustained over 57 months. This might indicate that the campaign had an influence on a cultural change to the national organization. Sinkowitz-Cochran et al. (2012) interested in the associations between organizational culture and knowledge, attitudes, and practices related to the bundle implementation conducted a cross-sectional study. The sample from the 16 pilot VA hospitals contained 2,314 survey responses which indicated that the three main factors of organizational culture significantly associated with staff knowledge, attitude and self-reported practice were staff engagement, overwhelmed/stress-chaos, and leadership (Sinkowitz-Cochran et al., 2012). Staff engagement was associated with greater knowledge across all job types, while higher hospital leadership was associated with better hand hygiene practices and fewer reported barriers and more positive attitudes about the bundle (Sinkowitz-Cochran et al., 2012). No studies have examined

the MRSA bundle improvements at the hospital level in order to consider specific organizational characteristics of structure and process that might influence the improvement of this patient outcome.

Patient Satisfaction.

Patient satisfaction has been a fundamental component of quality care and took on more prominence during healthcare restructuring and competition in the 1980s and 1990s. Patient satisfaction is frequently defined in the literature as the extent to which a patients' expectation with care are met. Eriksen (1995, p. 74) further clarified this definition as "the patients' subjective evaluation of the cognitive-emotional response that results from the interaction of the patients' expectations of nursing care and their perception of actual nurse behaviors/characteristics." The literature on patient satisfaction is extensive with significant attention to instrument development. Some studies have examines the effect of nursing organization on patient satisfaction. More specifically, researchers have identified nursing structural factors including care delivery systems (Skillings & MacLeod, 2009), case management (Goode, 1995), shared governance and professional practice (Mark, Salyer, & Wan, 2003; Stumpf, 2001) that have demonstrated an effect on patient satisfaction. This literature review of patient satisfaction will be limited to a selection of studies that have examined the effect of the nursing organization on patient satisfaction.

Stumpf (2001) found that patient satisfaction with nursing care was higher on a unit with shared governance. However, Mark et al. (2003) did not find a significant relationship between patient satisfaction and professional practice at the unit level. Specific details of the instruments used for measuring patient satisfaction in these

studies were not provided for further evaluation of the mixed results in these two studies. There are a variety of commercially available patient satisfaction tools marketed to the healthcare industry across the United States that have been based on patient focus groups and are considered valid and reliable measures of patient care quality, however the lack of standardization may account for the variable results.

In 2009, the VA's Survey of Healthcare Experiences of Patients (SHEP) instrument for patient satisfaction transitioned to a Consumer Assessment of Healthcare Providers and Systems (CAHPS) standardized survey developed by the Centers for Medicare and Medicaid Services (CMS) and the Agency for Healthcare Research and Quality (AHRQ) to allow for benchmarking and comparison with the private-sector of healthcare services. Cleary, Meterko, Wright, and Zaslavsky (2014) examined CAHPS scores across VA hospitals and found that there was little difference between survey results adjusted by survey demographic data as compared to survey results adjusted by clinical and hospital information ensuring that the survey provides for comparison across hospital types. Unfortunately, no nursing studies evaluating VA in-patient satisfaction using the CAHPS survey were found in this literature review.

Generally, there is not significant use of data from these administrative databases in the literature. However, this data is utilized by hospitals to track and trend the quality of specific elements of care delivery as part of the quality improvement programs. Additionally, this data is published nationally on the internet and is utilized by third party payers and the public to compare quality outcomes among hospitals. The next section provides a historical overview of the development of Structural Contingency Theory.

Overview of Structural Contingency Theory

Structural contingency research developed during the mid-1950s and was born out of challenges to classical management long held assumption that there was only one “right” way to design organizational structure that was highly effective and ideal for all organizations. This structure was marked by decision making and planning originating from the top of the organizational hierarchy in the form of detailed, specified job descriptions and policy which directed operations at the bottom of the hierarchy (Brecht, 1965). This bureaucratic theoretical approach argues that maximum organizational performance is a result of maximal formalization and specialization (Brecht, 1965). This universalistic approach to structuring an organization was being challenged by developing human relations perspectives.

The human relations approach valued employees and acknowledged their psychological and social needs prescribing a more thoughtful management approach to engender employee collaboration (Likert, 1961). This significantly changed the focus of the organizational structure from top down to cooperative group approaches that involved employee participation in the decision making and planning for operations of the organization. These opposing schools of thought provided the foundational ideas undergirding the theoretical development of structural contingency theory.

Burns and Stalker (1966) pioneered the contingency approach to organizational structure by proposing a compromise accepting that both the classical approach and human relations approach were valid in certain circumstances. From qualitative study of organizations in the electronic industry their work outlined a distinction between a mechanistic structure and organic structure. Mechanistic structures emphasize

hierarchy and are defined by centralized decision making, high specialization in roles and formalization that are effective in conditions of a stable organizational environment (Burns & Stalker, 1996). The stable environment is characterized by a low rate of uncertainty related to market forces and technology allowing top managers to have a monopoly on organizational knowledge to specify work functions. This mechanistic organization has a structure high on specialization and formalization and promotes a culture in which subordinates are psychologically dependent on supervisors (Burns & Stalker, 1996). In contrast, organic structures characterized by decentralized decision making and collaboration are more flexible and fluid with loosely defined roles that are effective in conditions with the high levels of technological and market changes resulting in task uncertainty. This high rate of uncertainty necessitates employee empowerment, self-directed teams, and participatory decision making (Argyris, 1966). Organic theory regards the fundamental dimensions of organizational structures, mechanistic and organic, as two poles of a continuum with organizations distributed throughout (Burns & Stalker, 1996, pp. 119-122). Burns and Stalker (1996) argue that both structures are valid given by the set of contingency factors of technology and environment.

During this same time Woodward (1965) reported on a quantitative study of one hundred manufacturing organizations and found that many of the variations in organizational structure appeared to be closely linked to differences in manufacturing techniques or technology. Woodward concluded that organizations that had organizational structures that fit with the organizational technology had superior

performance over those where there was a misfit between organizational structure and technology.

Lawrence and Lorsch (1967b) are credited with coining the term contingency theory to differentiate from the traditional management approach to examining organizational structure within the organization. They theorized that the rate of environmental change had an impact on the differentiation and integration of the organization and that structure is contingent upon the environment. In the study of three organizations in three different industries the results indicated that those organizations whose structures fitted their environments had high performance (Lawrence & Lorsch, 1967b). Much of the task uncertainty comes from the organizational environment and results from either environmentally induced innovation (Burns & Stalker, 1966; Lawrence & Lorsch, 1967a), or the internal organizational management practices (Woodward, 1965).

In contrast, bureaucracy theory (Blau, 1970; Child, 1973) which in its modern form emerged from the Weberian model of bureaucratic organizational structure omitted the idea of participation that is so central to organic theory. Weber (1968) found that there was a general historical tendency for administration to move toward a bureaucratic structure. The development of this structure was promoted by a number of factors, including size and communication technologies (Weber, Henderson, & Parsons, 1964). Empirical evidence did not support the superior effectiveness of a single bureaucratic structure leading Weber (1968) to advance his theory in terms of ideal-types. The Aston Group empirically tested each aspect of bureaucracy and found that bureaucratic structure is composed of specialization, formalization,

decentralization and vertical span (Pugh, 1969a). Extension of the Aston program of research supported the generalizability of the relationship between size contingency and a bureaucratic organizational structure (Blau, 1970; Child, 1973). The evidence showed that organizations that were growing in size increasingly became more bureaucratic to maintain effectiveness.

Further development of the theory by Chandler (1966) demonstrated historically the strategy leads to structure hypothesis. Organizations need to maintain a fit between the strategy and the structure to maintain performance. Specifically, a functional structure fits an undiversified strategy because all the organizational operations are focused on a single product or service that is specialized, whereas a divisional structure fits with a diversified strategy because of the diversity of operations spanning various products or markets (Galbraith, 1973). Organizations that attempted to maintain the functional structure while pursuing a diversification strategy quickly found top management overwhelmed by the number of decisions which resulted in lower performance which led to changing the organizational structure to a multidivisional structure to move into fit: diversification led to divisionalization (Donaldson, 1987).

In his attempt to advance structural contingency theory, Donaldson (2001) explicated the conceptual differences. While organic theory views centralization as positively correlated with specialization-formalization, bureaucracy theory views centralization as negatively correlated with specialization-formalization. Additionally, with bureaucracy theory the level of bureaucratization of the organizational structure fits the contingency of size which in turn correlates to the level of centralization and

specialization. The concept of decentralization creates a tension due to the real extent of decentralization being greater under organic theory than under bureaucracy theory (Donaldson, 2001). There are also differences in the views regarding the direction of organizational structure over time with bureaucracy theory seeing increasing use of bureaucratic structure and organic theory seeing increasing use of organic structure. These controversies have not been empirically resolved and continue to be addressed in the literature. The concept of bureaucracy differs from organic theory in the inclusion of the concepts: structural differentiation and divisionalization. Task interdependence is a minor contingency for both concepts due to task uncertainty being the primary focus and as such constitutes a commonality between the two theoretical concepts.

Lack of conceptual clarity in SCT has resulted in inconsistent empirical support of SCT and have contributed to difficulties for researchers wanting to investigate organizational structure. In an effort to provide conceptual clarity Donaldson (2001) synthesized decades of research in an integrated model of organizational structure. This theoretical synthesis will be utilized to provide conceptual clarity for this study. “The essences of the contingency theory paradigm is that organizational effectiveness results from fitting characteristics of the organization, such as its structure, to contingencies that reflect the situation of the organization” (Donaldson, 2001, p. 1). Contingencies of organizational structure are demands that arise both internal to and external to the organization encompassing both the demands of the organization’s environment and the technology that is used to transform inputs to outputs. Technology, size, and environment are some of the manifestations of the larger

organizational context which shape the type of organizational structure that is necessary to maintain organizational effectiveness (Duncan, 1972; Pugh, 1969b). Conceptualization of structure for contingency theorists is described in terms of formalization, specialization, standardization, centralization and complexity which are administrative strategies used to organize and coordinate the work of the organization. Structure is a key determinant of how information is communicated within and outside of the organization, of how and by whom decisions are made, and of how the production of goods or services is divided and arranged among the workforce (Hinings, Pugh, Hickson, & Turner, 1967; Hollenbeck et al., 2002; Pugh). Organizational effectiveness can have broad meaning in contingency literature including: efficiency and profitability (Child, 1973), customer satisfaction (Pennings, 1987), innovation (Hage & Dewar, 1973) and quality of care (Alexander & Randolph, 1985). The literature is replete with numerous definitions of effectiveness and performance which are often used interchangeable, as such; effectiveness is defined in this study as the ability of the organization to successfully achieve its goals or quality outcomes.

Chapter Summary

This literature review included a historical overview of shared governance and its development in the nursing literature and covered the healthcare context of the United States beginning in the 1970s to the present day. Next, a historic review of the body of knowledge from Magnet designated hospital research in relation to shared governance structures and staff and patient outcomes was presented beginning with an overview of the ANCC Magnet designation program. The literature related to

administrative databases for selected outcome variables as they relate to the body of knowledge on organizational and nurse sensitive outcomes with particular focus on VA hospital studies was presented. The outcomes reviewed included: nurse satisfaction, patient satisfaction, hospital acquired Methicillin Resistant Staph Aureus (MRSA), hospital acquired pressure ulcers (HAPU), and average patient length of stay (LOS). Lastly, a review of the historical development of structural contingency theory with particular focus on this theoretical framework to guide investigation of nursing phenomena was presented. The next chapter will outline the theoretical framework used to guide this study.

Chapter III

Theoretical Framework

In this chapter, an overview of Structural Contingency Theory (SCT) as the guiding framework for this study is presented followed by an in-depth discussion of context, structure and effectiveness as key SCT constructs. Concepts and relational statements in structural contingency theory will be described and discussed in relation to the variables being examined in this study. This chapter concludes with a summary of studies that have used this theoretical approach.

Structural Contingency Theory (SCT) provides the underlying theoretical framework for this study (Donaldson, 2001). “The essence of the contingency theory paradigm is that organizational effectiveness results from fitting characteristics of the organization, such as its structure, to contingencies that reflect the situation of the organization” (Donaldson, 2001, p. 1). Contingencies are circumstances that are possible, but not always predictable and in SCT include the environment (Burns & Stalker, 1966) and the size of the organization (Child, 1973). SCT is based on three core principles. First, there is an association between contingency and the organizational structure. Second, contingency determines the organizational structure, and third there is fit of some level of contingency with some level of structure that results in higher performance (Donaldson, 2001a). The three major theoretical constructs of context, organizational structure and organizational effectiveness will be used as a framework for conceptually organizing the study variables.

In SCT the context are demands that arise both internal to and external to the organization encompassing both the demands of the organization’s environment and

the technology that is used to transform inputs to outputs. Technology, size, and environment are some of the manifestations of the larger organizational context which shape the type of organizational structure that is necessary to maintain organizational effectiveness (Duncan, 1972; Pugh, 1969a).

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Organizational Context

Organizational theory conceptualizes organizations as open systems engaging in transactions with the environment. Burns and Stalker (1966) defined environment in terms of technological production and the market situation. This conceptualization was

very broad leading to further categorization of the environment as objects, attributes or perceptions (Pugh, 1969a). In a theoretical synthesis of strategy and environment, Pugh (1969a, p. 91) identified seven primary environmental concepts related to the context of organizational structure including: “origin and history, ownership and control, size, charter, technology, location and dependence on other organizations.” This conceptualization will be presented in terms of defining three of these concepts of organizational context for this study. Given the broad organizational context of VHA the assumption is made that some of the contextual variables are similar across the healthcare organization and are therefore controlled for in this population. For example, the origin and history of VHA, the ownership and control, and location and dependence are largely the same for the entire system and are not developed as measured variables for this study. The context factors that will be examined in this study are environment, technology and size.

Environment.

The concept of environment is inclusive of those contingencies that are both external and internal to the organization. Burns and Stalker (1966) were the first researchers to identify the external environment as a structural contingency. Burns and Stalker investigated the implications of market and technological changes for 20 electronic companies in the United Kingdom, and found that effective organizations had an organizational structure that differed from the structure in ineffective organizations. This difference was attributed to the external environment and more specifically the rate of change in that environment. Organizations facing low rates of environmental and technological change were more likely to be efficient with

mechanistic structures, while organizations facing high rates of change were more likely to be efficient with organic structures. Stable environments with low rates of change allowed for management control of knowledge and coordination of operations through centralized, formalized, hierarchical authority. In contrast, unstable highly dynamic environments require significant expertise that would not be controlled by management and requires decentralized decision making where subordinates are adaptive and self-organizing.

Much of the early SCT research examined contextual contingencies that arose from the external environment. In examining the contingency of complexity, Child (1973) concluded that environmental complexity was a critical factor in understanding bureaucratic structures in large organizations. Increased complexity in large organizations was associated with more formalization. Osborn and Hunt (1974) examined environmental complexity as the interaction between environmental risk, dependency and inter-organizational relationships in 26 small, social service agencies with rigid structures. In this study neither complexity nor risk was associated with organization effectiveness. The results indicated that environmental dependency and interorganizational relationships were positively correlated with effectiveness.

Lawrence and Lorsch (1967) were the first to differentiate the internal environment from the external environment of the organization. In a comparative study of six complex organizations in the same industry they found that each organization had different formal subsystem structures which were related to the different sub-environments of each subsystem. While the subsystems interact with the larger external environment it was the interactions at the subsystem level that were seen to be

more associated with effectiveness (Lawrence & Lorsch, 1967). Duncan (1972) also differentiated the internal and external environments with the internal environment consisting of physical and social factors within the boundaries of the specific decision-making unit. Thus, both internal and external environments contingencies are recognized as impacting organizational structure. Some researchers have examined contingencies related only to the internal environment, such as, input uncertainty (Argote, 1982), environmental complexity (Leatt & Schneck, 1982) and environmental pervasiveness (Leatt & Schneck, 1982). Predominate researcher contingencies include internal and/or external environments: environmental complexity (Child, 1973), environmental variability (Child, 1973), decision making uncertainty (Duncan, 1972), environmental uncertainty (Duncan; Lawrence & Lorsch, 1967), environmental change rate (Burns & Stalker, 1966) and environmental dependency (Osborn & Hunt, 1974).

Context for this study is conceptualized as both the external and internal environments of the acute care hospital. It is represented by key hospital characteristics. Environmental complexity is represented by hospital variables that represent clinical complexity, teaching status and turbulence. VA facility complexity level will be a variable of external environmental complexity. VA facilities are categorized according to complexity level which is determined by analysis of the patient population, clinical service offerings, education and research mission and administrative complexity. Facilities are classified into three levels with Level 1 being the most complex facilities, Level 2 being moderately complex facilities and Level 3 being the least complex. Level 1 is further sub-divided into three categories whereby 1a-1c captures levels of decreasing complexity. Internal environmental complexity will

be represented by the teaching status of the VA hospital. These variables were selected because of the hypothesized relationships of context to both organizational structure and outcome in SCT. Additionally these variables have not been previously examined specifically in relation to shared governance structure and, therefore, provide for the evaluation of organizational level variables.

Technology.

The concept of technology grew from organic theory research. Pioneering this work Perrow (1967, p. 195) defined technology as the “actions that an individual performs upon an object, with or without the aid of tools or mechanical devices, in order to make some change in that object.” Interested in the human interactions involved in the changing of an input to an output Perrow identifies two dimensions of technology: the number of exceptions and the analyzability of tasks. This conceptualization of technology as the cognitive changing of people in an organization has been widely applied to service organizations, including hospitals (Alexander & Randolph, 1985). In this conceptualization of technology, Perrow is distinguishing between different approaches to problem solving based on the perceived nature of the situation and the degree of knowledge development.

Thompson (1967) argues that technology and task are major contingencies of organizational structure and presents a topology of types of technology with corresponding organizational structures. The organizational structures are contingent on three types of task interdependence between organizational sub units: pooled, sequential and reciprocal (Thompson, 1967). Mediating technologies refer to technology that links customers, such as bank branches or conglomerate divisions and

involves pooled interdependence where organizational subunits that do not have direct connection but share resources from a central source. Long-linked technology refers to technology that is linked through processes and involves sequential interdependence where raw materials from one division may be packaged and sold by another division. This structure has a medium degree of task interdependence in this structure. Intensive technology uses varying technologies and expertise and depends on reciprocal feedback among those completing the task to determine next steps. There is reciprocal interdependence where the output of one subunit is the input of another. Complex problem solving and two-way communication are essential for intensive technologies. A hospital technology using various diagnostic and treatment modalities is an example of an intensive technology requiring sequential interdependence in successfully treating a patient. This theory between technology task interdependence and coordinating structures has been tested by other researchers (Ven, Delbecq, & Koenig, 1976). The VA has a history of high technology in leading the industry related to advancement of the electronic medical record. This would be an important variable if comparing VA with non-VA hospitals, but given this study is only VA there is an assumption that this technology is relatively standardized across the U.S VA hospitals and would be a constant rather than a driver of structure.

Woodward (1965) was a major contributor to technology as a contingency of structure. In a study of 100 organizations across industries, Woodward utilized both qualitative and quantitative methods and found that structural features like span of control, levels of authority, formalization, and standardization varied according to the technological complexity of the organization. This study identified a historical

sequence where advances in technological complexity from small batch to large production required the adoption from an organic to a mechanistic structure, however further technological advancement resulted in adoption of a more organic structure again (Woodward, 1965). Results indicated that many structural variables varied in relation to technology and organizations that were further from the means on these relations also demonstrated poorer performance.

Technology has been examined at the organizational level and the subsystems level. Early SCT researchers focused on the relationship between technology and structure at the organizational level which raised questions regarding the size contingency in relation to the technology contingency as being the primary determinant of structure. Some SCT researchers moved away from defining technology as the transformational process to a more precise definition focused on the work, decisions and behaviors utilized to complete this work which has led to studying technology at the subsystem level (Alexander & Randolph, 1985; Argote, 1982; Child, 1973). For this study, cognitive technology will be conceptualized as the educational level of the nursing staff at the hospital. The literature on shared governance and Magnet research supports these conceptualizations (Aiken, Havens, & Sloane, 2000; Edwards, Farrough, Gardner, Harrison, & et al., 1994; Kelly, McHugh, & Aiken, 2011; Sales, 2005).

Size.

There is considerable tension in the SCT literature regarding the relative importance of technology versus size. The size contingency has been shown to be a major contingency that affects the bureaucratic structure of an organization (Blau,

1970; Child, 1973; Hinings et al., 1967; Inkson, Pugh, & Hickson, 1970). Size of the organization has predominantly been operationally measured as the number of employees, but has also been measured as number of sites, net assets, or sales turnover (Blau, 1970). However, other measures have not consistently provided the high correlations with structural variables as size as number of employees has (Child, 1973). Early STC researchers examining organizational context found size positively correlated with the structuring of organizational activities in terms of specialization and formalization (Hickson, Pugh, & Pheysey, 1969; Pugh, 1969b). This increasing complexity results in an increase in the number of levels in the organizational hierarchy, or vertical span to manage the decision making necessary to remain effective (Child, 1973). In a meta-analysis of 27 studies of 1,066 organizations Miller, Glick, Wang, and Huber (1991) validated the size-specialization relationship. Empirically, large organizations have been found to be more specialized with more rules and documentation with more extensive hierarchies resulting in decentralized managerial decision making (Child, 1973).

Blau (1970) developed a formal theory of structural differentiation by examining 53 employment security agencies in the United States and posits two generalizations. First, the increasing size of an organization will result in increasing differentiation at a decelerating rate (Blau, 1970). Differentiation referring to increased number of divisions, increased number of job titles and increased number of levels of hierarchy. Initial increases in size produce greater structural differentiation than subsequent increases. Second, structural differentiation increases the size of administration. However, the costs associated with larger administration provides

feedback to avoid further increases in administration explaining the flattening of the growth curve related to size increases. Blau's (1970) theory proposes an economy of scale for administration. The theory provides a theoretical model as to how organizational structure develops as an organization grows in size and includes aspects of both vertical (hierarchy) and horizontal (number of divisions).

For this study, size is conceptualized as number of in-patient beds in the hospital. There is an underlying assumption that the higher number of bed is associated with higher levels of both vertical and horizontal differentiation in the organization.

Organizational Structure

There are numerous conceptualizations and definitions of structure found in the SCT literature. The conceptualization of structure as multidimensional has been well-established. Originating from bureaucracy theory, the Weberian characteristics of a bureaucratic structure were described in terms of clearly defined roles, and a hierarchical structure. Pugh, Hickson, Hinings, and Turner (1968) empirically examined the five primary dimensions of organizational structure: specialization, standardization, formalization, centralization and configuration. Through factor analysis these five dimensions were reduced to "four basic dimensions of structure conceptualized as: structuring of activities, concentration of authority, line control of work flow and size of supportive components" (Pugh et al., 1968, p. 89). In another study, Child (1973, p. 170) similarly operationalized organizational structure as "functional specialization, overall role specialization, overall standardization of rules and procedures, overall documentation, vertical span, and centralization-

decentralization” and concluded that this conceptualization is too “gross and indiscriminate” (Child, 1973, p. 179) for empirical examination.

Arguing that bureaucratic conceptualization of structure does not provide for the multidimensionality of complex organizational structures, Perrow (1967, p. 195) defined structure as “the arrangement among people for getting work done.” The organization is conceptualized as a complex social system with technology as the independent variable and structure as the dependent variable. Structure is further conceptualized as task and social structure with the task structure having the dimensions of control and coordination and the social structure having the dimensions of social identification, instrumental identity, goal identification and work or task identity (Perrow, 1967). This perspective conceptualizes the organization as a whole rather than examining in terms of sub-units. This argument continues to support the premise that the most effective organizations use a more organic structure in turbulent, dynamic environments with more mechanistic structure in stable and predictable circumstances. Child (1974, p. 247) argues that while this bureaucratic conceptualization of structure is useful as conceptualization of the “strategy of control” the complexity of organizational structure cannot be reduced to a bureaucratic, non-bureaucratic continuum. A professional service industry, such as healthcare in particular, may not conform to this type of bureaucratic patterning.

Given the number of structural dimensions and the variety of definitions, Blackburn (1982) proposes defining the structure in terms of the specific context and objectives of the organization. Within the SCT literature the core dimensions of specialization, formalization, differentiation and decentralization have specific

relevance to this study. Specialization is the division of labor in the administrative work of the organization and refers to the number of specialized roles in the organization (Donaldson, 2001a). Formalization refers to both documentation and standardization, meaning the extent to which job descriptions, policy and procedures have been formally defined and described in written form. Donaldson (2001a) proposes that formalization and specialization are usually highly correlated making distinguishing between them unnecessary. Structural differentiation refers to the segmentation of the organization into sub-units and implies differing goal orientation and formality of the structure across sub-units in the organization. Decentralization or centralization refer to the extent that decision-making authority is distributed among the organizational members with decentralized being shared at the lower levels of the organization and centralized being located at the top of the organizational hierarchy. Figure 4 provides a representation of organizational structure through the lens of a combined organic and bureaucratic theory.

	High	Simple	Mechanistic
Centralization	Low	Organic	Bureaucratic
		High	Low
		Specialization-Formalization	

Figure 4. Organizational Structures in Organic and Bureaucracy Theory (Donaldson, 2001b, p. 25)

The conceptualization of structure for this study is differentiated as traditional bureaucracy, shared governance structure, integrated shared governance and whole system shared governance. These configurations provide a matrix structure for

professional practice over the underlying federal bureaucracy. Over time nursing shared governance evolves to be more interdisciplinary inclusive and progresses to an integrated model and then to a whole system model. This has been described in the previous literature (Chapter 2, p. 11) and has been associated with increased organizational effectiveness.

Organizational Effectiveness

Organizational effectiveness has been defined and conceptualized from many perspectives in the literature, but remains an elusive and contested concept. From the perspective of attempting to explain the success or failure of an organization, effectiveness has been broadly conceptualized as efficiency and profitability (Child, 1973), innovation (Hage & Dewar, 1973), quality of care (Alexander & Randolph, 1985; Argote, 1982; Zinn, Brannon, Mor, & Barry, 2003), and customer satisfaction (Pennings, 1987). Early researcher conceptualized effectiveness in relation to goal attainment operationalized as productivity in industrial organizations. In this context effectiveness was a measure of some “ultimate criteria” of success in relation to productivity, net profit, mission accomplishment or organizational growth or stability (Thorndike, 1949, p. 122).

Attempting to address the inconsistencies in theoretical and empirical approaches to measuring organizational effectiveness, Georgopoulos and Tannenbaum (1957) proposed conceptualizing the organization as a social system with certain resources as a means to obtaining organizational objectives without incapacitating the material and human resources in achieving an end. This means-to-ends definition of organizational effectiveness includes productivity, but with regard for organizational

flexibility in successful adaptation to externally induced change and the absence of intra-organizational strain (Georgopoulos & Tannenbaum, 1957). This perspective rejects the assumption that effectiveness can be universally defined and measured in terms of a static set of variables and embraces a more flexible approach focused on goal optimization based on weighted measures (Steers, 1975). Development of a goal optimizing model for comparison across organizations in a more realistic meaningful way is proposed.

Similar theoretical and methodological difficulties are found when examining organizational effectiveness in non-profit organizations. Herman and Renz (2008) summarized decades of debate with nine defining nonprofit organizational efficiencies.

1. Determination of organizational effectiveness is a matter of comparison.
2. Organizational effectiveness is multidimensional.
3. The Board of Directors is related to organizational effectiveness, but how is not clear.
4. Organizational effectiveness is related to the correct use of management practices, but not in a simply “best practices” way.
5. Nonprofit organizational effectiveness is a social construction, and there is not a commonly agreed upon basis for judging nonprofit effectiveness.
6. It is unlikely that there is any universally applicable “best practices” that can be applied across organizations.
7. Organizational responsiveness is a useful overarching criteria to resolve judgment challenges regarding nonprofit organizational effectiveness.

8. It is useful to differentiate between different types of nonprofit organizations in determining the merits of different approaches to nonprofit organizational effectiveness.
9. Lastly, level of analysis makes a difference in understanding effectiveness. (Herman & Renz, 2008, pp. 400-408).

This set of criteria provides a framework to conceptualize organizational effectiveness in this study of healthcare systems. The IOM (2001) outlined six key dimensions guiding 21st-century health care systems as providing safe, effective patient-centered, timely, efficient and equitable care. In this definition “effectiveness refers to care that is based on the use of systematically acquired evidence to determine whether an intervention, such as preventative service, diagnostic test or therapy, produces better outcomes than alternative” (IOM, 2001, p. 46).

Organizational effectiveness in this study is conceptualized as organizational and patient outcomes that are evidenced based and comparable across all VA Medical Centers. Specifically, nurse job satisfaction, length of stay (LOS), patient satisfaction, MRSA and HAPU will measure organizational effectiveness. Figure 5 represents the proposed relationships between context, organizational structure and effectiveness.

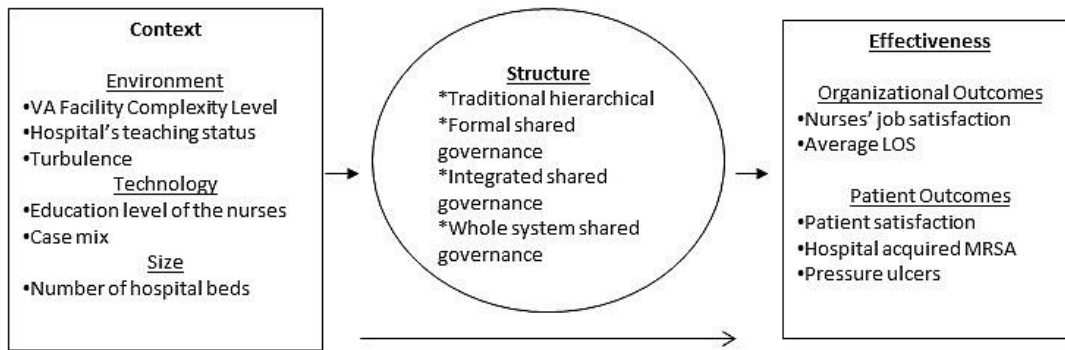


Figure 5. Theoretical Model of SCT and measurement concepts.

Nursing Literature

Several nurse researchers have demonstrated how organizational theory, and more specifically contingency theory, can enhance the understanding of the healthcare organization and of the variations in quality of care. Several studies have examined components of the theory as well as the fit between technology and structure as predictors of performance. Overton, Schneck, and Hazlett (1977) conducted a study to describe and differentiate the technology of 71 nursing sub-units in eight hospitals in Canada. The findings were that technology of the nursing sub-units could be more generally defined by the constructs of uncertainty, instability and variability providing empirical support to the conceptualization of technological characteristics in the nursing organization. Replicating this study with a sample from 24 hospitals and 157 sub-units Leatt and Schneck (1981) found support for the three constructs of uncertainty, instability and variability as dimensions of technology that vary among different types of nursing units. The one finding that differed in this study was that uncertainty and instability were related. Together these findings provide a basis for methods to examine the relationships among technology, organizational structure and human behaviors in the hospital setting.

Moving beyond the construct of technology, Argote (1982) found empirical evidence that uncertainty had an effect on the effectiveness of 30 hospital emergency units. In particular, this study suggests that the use of programmed means of coordination is most effective in the emergency department when input uncertainty is low, while the use of non-programmed means of coordination is most effective when input uncertainty is high. This study demonstrates the importance of the contingency of uncertainty in organizations and the affect uncertainty has on effectiveness in emergency departments (Argote, 1982).

Further examining the relationships between technological uncertainty, structure and organizational effectiveness, Galbraith (1973) presents evidence for the design of a matrix organizational structure to support lateral decision processes. Galbraith asserts that while this work was developed from the manufacturing industry the framework can be applied to hospitals. Schoonhoven (1981) challenged this work in a study examining 17 hospital operating room suites and found more complex forms of interactions between technology and structure that result in effectiveness. Specifically, destandardization, decentralization, and professionalism had differing influences on effectiveness in the context of low uncertainty (Schoonhoven, 1981). Professionalization of the workforce in hospital operating room suites is hypothesized to impact these interactions because professionals have a greater level of discretion and use fewer rules during periods of low uncertainty. This study demonstrated the application of contingency theory in examining hospital organizations, and further demonstrated the difficulty in specifying the fit relationships in effectively designing organizations.

In examining the fit between the contingency of technology and structure as a predictor of nursing subunit performance, Alexander and Randolph (1985) hypothesized that as technology becomes less routine, work units need to become more organic to be effective. Though, inversely as technology becomes more routine, work units need to become more mechanistic to be effective. In the study of 27 nursing sub-units in three hospitals supported the hypothesis that fit between technology and structure was a better predictor of performance than either technology, structure, or technology and structure. In particular, the fit between technology and structure was the strongest predictor of the quality of care. This study enhances understanding of the design of nursing sub-unit structure for optimizing performance.

In an examination of the impact of nursing unit context on professional nursing practice, Mark, Salyer, and Wan (2003) conducted a study of 124 units in 64 hospitals. Utilizing the major constructs of contingency theory, Mark et al. found that professional nursing practice had a significant effect on nurse satisfaction, but limited effect on other outcome variables. Professional practice was operationalized as a latent variable and defined as decentralized nurse decision making, professional autonomy and nurse physician collaboration. Data problems around collaboration resulted in measurement issues of structure at the unit level. This multi-level modeling approach demonstrated some support for predicting nurse satisfaction at both the unit and hospital level and nursing turnover at the hospital level. Patient outcomes were not predicted in either model. Unit size was observed in to have an impact on professional practice with smaller units having on average higher levels of professional practice (Mark et al., 2003). The lack of support for professional practice impacting patient

outcomes raised question regarding methodology, as well as, raised questions as to the organizational benefits of professional practice in relation to patient outcomes.

Collectively nursing research in this field has supported better understanding of the internal context of health care organizations and how technology impacts design of organizational structure to contribute to quality of patient care. Most of this exploratory work on organizational context, technology and structures has been at the unit level and has contributed to advancing knowledge about what characteristic do and do not have an impact on efficiency and performance improvement. Despite these great strides there remains a gap in our understanding of how organizational characteristics relate to nursing organizational design and patient care outcomes. Foundational to closing this gap in our knowledge is development of a strong theoretical framework that can better inform the development, conduct and interpretation of this research.

Chapter IV

Methodology

The overall goal of this study was to examine the relationships between organizational context, governance structure and outcomes in VA hospitals. The first purpose was to determine if there are differences in quality outcomes across VA hospitals with differing shared governance structures. The second purpose was to evaluate the individual and combined effects of organizational context, shared governance structure and outcomes controlling for hospital size and turbulence. The third purpose was to determine if there are relationships between organizational context and governance structure that predict quality outcomes. The study received IRB approval from both the University of Rhode Island and the Providence VA Medical Center (see Appendix A).

Research Design

This study used an ex post facto descriptive correlational design using Veterans Health Administration data and Nurse Executive query.

Population and Sample

The Veterans Health Administration (VHA) is America's largest integrated health care system with more than 1700 sites of care, serving 8.3 million Veterans each year. VHA is the component of the United States Department of Veterans Affairs (VA) that implements the medical assistance program of the VA through the administration and operation of numerous VA outpatient clinics, hospitals, and long-term healthcare facilities. VA includes 152 hospitals some of which are structured as integrated networks resulting in 128 providing in-patient acute medical and surgical

services. Seventy-nine percent provide acute inpatient psychiatric services, 84 percent have intensive care units (ICU), 83 percent have emergency departments, and 85 percent have CLCs, formerly designated as Nursing Home Care Units (NHCU). The population of interest for this study is the 128 VA hospitals that provide in-patient acute medical and surgical services.

There were two components to the study sample, VA nurse executives and VA facility level administrative data.

VA Nurse Executives.

This study analyzed data regarding the type of nursing shared governance structure at the hospital which was obtained from VA Nurse Executives through a national email query. There were no exclusions to collecting this data and acting VA Nurse Executives responses were accepted. Data were requested based on the nursing shared governance structure that was in place on September 2012.

Administrative data.

Data related to the context and effectiveness were obtained from various sources as outlined in Table 1. Outcome data were collected for fiscal year ending September 2013 to ensure congruence with theory and methodology. This approach to data collection was purposeful to allow for a time interval between implementation of nursing governance structure and measurement of the outcomes related to the nursing governance structure.

Measurement.

The measures of organizational context, structure and effectiveness are described in the next section and detailed in Table 1.

Context.

For this study the context is measured by the environment, technology and size variable as outlined below.

Environment. The environment will be measured by three variables.

Facility complexity. VA has a classification system based on Medical Center Group (MCG) that establishes facility complexity level of VA hospitals nationally. This classification system allows for various peer groupings of medical facilities for purposes, such as, operational reporting, performance measurement and research. There is a formal review process of the classification system every three years to ensure reliability. Current designations were validated in 2012. Facilities are categorized according to complexity level which is determined on the basis of seven weighted variables grouped into three major categories: the characteristics of the patient population, clinical services complexity (ICU level and surgical complexity), educational and research missions and administrative complexity. Facilities are classified into three levels with Level 1 representing the most complex facilities, Level 2 moderately complex facilities, and Level 3 the least complex facilities. Level 1 is further subdivided into categories 1a - 1c. A facility complexity index is calculated based on the seven weighted variables to provide an overall complexity index. Data components for each of the seven variables are utilized to compute the index score which is then weighed based on relative importance of the variable. The weighed scores are summed to provide an overall score for the index. In 2011 when the model was last updated three facilities were excluded due to unavailability of data capture. This data provided both a categorical variable and a continuous variable. The

categorical variable was coded 1-5 with one being the least complex VA facilities (Level 3) and 5 being the most complex VA facilities (Level 1a). The continuous variable was the calculated index for the VA facility.

Teaching status. Teaching status was measured using the Association of American Medical Colleges (AAMC) data book. The Association of American Medical Colleges (AAMC) is a non-profit association representing all 141 accredited U.S. and 17 accredited Canadian medical schools; nearly 400 major teaching hospitals and health systems, including 51 Department of Veterans Affairs medical centers; and 90 academic and scientific societies. For this study membership with AAMC was utilized to determine teaching status and was numerically represented by 0 for non-teaching or 1 for teaching.

Turbulence. Turbulence is defined in the literature as “nontrivial, rapid and discontinuous” change in an organization (Cameron, Kim, & Whetten, 1987). In the nursing literature it has been operationalized as patient turnover and the nursing work of admissions, transfers and discharges (Salyer, 1995). In this study turbulence is measured using the Nursing Unit Mapping Application (NUMA) tool which captures data related to admissions, discharges and transfers and calculates the turnover for a given unit each month. The calculation is based on the formula of gains plus losses divided by Ward Days of Care (WDOC) time 100 $((G+L)/WDOC*100)$ (VHA Support Service Center, 2013).

Technology. Technology measures included Medical Case Mix Index (CMI) and RN level of education.

Case Mix Index. The measure of Medical CMI for the hospital was the average diagnostic-related group (DRG) relative weight and was calculated by summing the DGR weights for all Medicare discharges and dividing by the number of discharges. The CMI is a measure of the relative costliness of the patients treated in each hospital. An index of 1.05 means that the facility's patients are 5% more costly than average patients. The closer the CMI is to 1 the more favorable the resource intensity is for the hospital. For this study the calculated Medical CMI was selected as opposed to the overall CMI which would include both medical and surgical because the surgical CMI is represented in the facility complexity level. The Center for Medicare/Medicaid Services (CMS) measure of CMI for VA was calculated based on the annually reported CMS tables. The Medical CMI data was extracted from the Discharge National Data Extract (NDE).

RN Education Level. The education level of RNs was a measure of cognitive technology. VA employees are coded upon hire with the attainment of academic degrees/certificates based on verification during the credentialing process. This code is entered into the Personnel and Accounting Integrated Library (PAID) financial database by Human Resources (HR) with onboarding and is updated whenever transcripts are submitted to HR. The education group codes for nurses include: Nursing Diploma, Associate Degree, Bachelors-Nursing, Bachelors - Non-nursing, Masters – Nursing, Masters – non-Nursing, Doctorate – Nursing, Doctorate Non-Nursing. For this study, education level was the percent of RNs with a bachelor degree or higher.

Size. While the contingency literature frequently measures size with number of employees in the organization, the nursing literature has operationalized this measure

based on the number of licensed acute care beds at the hospital (Mark, Salyer, & Wan, 2003). This measurement will be more reflective of the size of the acute care hospital as most VAs are medical center organizations with a large compliment of out-patient services and research which significantly impact the number of employees at the medical center, but do not necessarily impact the size of acute care services that are expected to impact the effectiveness measures.

Structure.

The nursing governance structure measure was obtained by email query of the Nurse Executive group as required by the VA Office of Nursing Service (ONS). Nurse Executive responded to three questions (Appendix B):

1. What was the nursing governance structure in place at your facility on September 2012? Responses were numerically coded as Traditional hierarchical (1), Formal Shared Governance (2), Integrated Shared Governance (3), or Whole System Shared Governance (4).

2. Does your nursing governance structure have? Responses were numerically coded as Policy (1), Charter (2), By-laws (3), None of the above (0).

3. How long has it been since implementation of nursing shared governance? Responses were numerically coded as <1 year (0), 3-5 years (1), 5-7 years (2), 7-10 years (3), >10 years (4). The error in response category was not identified prior to data collection and the modification is discussed in the results.

Effectiveness.

Effectiveness was measured in terms of the organizational outcomes of RN job satisfaction, and average LOS and the patient outcomes of patient satisfaction, hospital acquired MRSA, and HAPU.

RN job satisfaction. The organizational outcome of VA RN job satisfaction is measured annually through The Office of Nursing Service (ONS) and is administered electronically to all RNs employed by VA facilities. The questionnaire used for this survey was a modified version of the Practice Environment Scale (PES) which includes 36 core PES questions for 6 summary scales of participation (9 items), quality of care (10 items), RN manager (5 items), staffing (4 items), collegial nurse-physician (RN/MD) relations (3 items), and information technology that supports nursing care (5 items) (Moorer, Meterko, Alt-White, & Sullivan, 2010). Nurses were asked to respond to the scales related to the “extent to which you agree that the item is present in your current job” (ONS, 2013). Response options with corresponding numeric value are strongly agree (4), agree (3), disagree (2) and strongly disagree (1). For this study RN job satisfaction measures included the subscales of participation and quality of care and the single item of overall job satisfaction.

The measure of overall job satisfaction is a question added to the PES RN survey to match a question asked in the VA All Employee survey. Compared to what you think it should be, what is your current level of satisfaction with your job? There are five responses with numeric coding as not at all satisfied (1), somewhat satisfied (2), neither satisfied nor dissatisfied (3), somewhat satisfied (4) and very satisfied (5). This question allows for comparison of RN satisfaction to that of other employees in

the medical centers. The national RN response rate for the FY13 survey was 43.5% with a range from 29.2% to 61.9%. ONS (2013) reported that all scales exceeded minimum reliability criterion for making group comparisons. The average score for the subscales and single question will be the value for analysis.

LOS. The organizational outcome of average length of stay is defined as the total number of Ward Days of Care divided by the total number of patient stays. This data is retrieved from the Admissions, Discharges and Transfers (ADT) report derived from the Nursing Unit Mapping Application (NUMA) provided through the VHA Support Service Center (VSSC). The data is extracted monthly from the patient movement file of the Veterans Health Information Systems and Technology Architecture (VistA) File #405 (VSSC, 2013). This data was validated by participation of twenty sites reviewing patient details and comparing the ADT report with similar data reported from other data sources. All updates and modifications are recorded annually and shared on National calls to ensure validity and reliability of data.

The patient outcomes of patient satisfaction, hospital acquired MRSA and hospital acquired pressure ulcer measurement will be discussed in the following section respectively.

Patient satisfaction. The VHA launch the Survey of Healthcare Experiences of Patients (SHEP) in 2002 to centralize and consolidate the patient satisfaction survey program for in-patient and out-patient experience. In 2010 the in-patient SHEP Survey was redesigned to meet all methodological specifications of the Hospital Consumer Assessment of Healthcare Providers and Systems (H-CAHPS) survey developed by CMS and AHRQ for comparability across private and public healthcare settings. This

survey process is mail based. Eligible Veterans are selected randomly between 48 hours and six weeks post discharge from in-patient care. A second survey with reminder letter is mailed 21 days after the first and data collection closes six weeks after the first mailing. The sample size is based on obtaining at least 300 completed surveys in a 12-month reporting period. The following H-CAHPS composites are calculated for the in-patient setting: communication with nurses, communication with doctors, communication about medication, responsiveness of hospital staff, discharge information, and pain management. VHA has added a composite on shared decision making that is not part of the H-CAHPS Survey. There are also single items including: cleanliness of the hospital environment, quietness of the hospital environment, overall rating of the hospital and willingness to recommend the hospital. For this study the single item of overall rating of the hospital will be a measure of patient satisfaction. This question asks, "Using any number from 0 to 10, where 0 is the worst hospital and 10 is the best hospital possible, what number would you use to rate this hospital during your stay? The facility average "Top Box" percentage score will be used for analysis. "Top Box" refers to those who responded with a 10.

Hospital acquired MRSA. The VA has a comprehensive, nurse driven program described previously for surveillance of MRSA which includes data collection for: screening compliance, prevalence, infection and transmission. The VA Inpatient Evaluation Center (IPEC) is the central repository for the collection and reporting of results of this program nationally. Data is entered monthly into the Data Management Website by the infection prevention RN at each facility. Reports are then generated that allow for comparison and trending of improvements. The MRSA infection rate is

calculated based on the total number of MRSA infection episodes per 1,000 bed days of care. VA reports this data through a web-based Aspire Health dashboard to demonstrate transparency in documenting quality and safety. While the aspirational goal is zero the VA National average reported for September 2013 was 0.19 (VA, 2014). Average facility scores will be used for analysis.

Hospital acquired pressure ulcers (HAPU). Surveillance and reporting of Hospital Acquired Pressure Ulcers (HAPU) is also a RN driven protocol with facility wound care RN leading a standardized, evidence-based wound care program that includes, assessment, prevention and early intervention to avoid pressure ulcer development. Data is entered monthly into the Data Management Website by the wound care RN at each facility. The HAPU rate represents the number of patients per 1,000 discharges who develop a Stage III, Stage VI, or unstageable pressure ulcer while in the hospital. HAPUs are staged based on the severity of skin breakdown from Stage 1 being least severe to Stage 4 being severe. Stage I may be almost undetectable with nonblanchable redness to the skin over a bony prominence and Stage II being a partial thickness loss of dermis with shallow open ulcer or blistering over a bony prominence (NPUAP, 2007). Stage III or VI pressure ulcers are among those events that have been classified by NQF as serious reportable events (NQF, 2011). The rate of interest for this study will be the rate of Stage III or VI pressure ulcers. The Numerator is the number of discharged Acute Care patients who develop HAPU stage III or stage IV with a length of stay 48 hours or longer and the denominator (Discharges LOS 48 hrs. or longer) is the number of Discharged Acute Care patients with a length of stay 48 hours or longer. This is calculated as a rate (numerator / denominator *100).

Analysis Plan

Data analysis began with descriptive statistics to summarize the distribution, outliers, missing values and data entry errors on each variable and to compare the structure groups for similarities. Continuous variable distributions were further examined for correlations among variables and to evaluate the assumptions of normality, homoscedasticity and linearity. Correlational analyses were utilized to examine relationships among context, structure and outcome variables. The method of analysis chosen for each research question is provided in the following section.

1. Are there significant differences in quality outcomes among VA hospitals with different shared governance structure and in VA hospitals without shared governance structure?

Research question one was analyzed by Multiple Analysis of Variance (MANOVA) for the three dependent variables of RN satisfaction which were highly correlated. Both shared governance variables were examined. For the two category shared governance “have” or “no” the Independent Samples T-test was utilized, while one-way analysis of variance (ANOVA) was used for the five category shared governance maturity variable for testing the dependent variables of patient satisfaction, LOS, MRSA and HAPU. Each analysis was conducted using the two category independent variable of shared governance and the five category independent variable of shared governance maturity.

2. What are the individual and combined effects of organizational context and shared governance structure on quality outcomes, controlling for hospital size and turbulence?

This analysis was conducted with multiple steps. The first step involved conducting regression analyses with all the independent variables loaded. In a second step only the significant variables. Based on the theoretical model, hospital bed size and turbulence were hypothesized to possibly affect these relationships and would be controlled by ordering them first in the regression model. However, the independent variable, hospital beds was not significantly correlated with any of the dependent variables and the decision was made to not include hospital bed size in the regression analysis. Thus, only the covariate turbulence was loaded in the regression analyses. The quality outcomes tested were RN satisfaction with quality, patient satisfaction, LOS, MRSA and HAPU.

3. Are there relationships between organizational context and structure variable that predict quality outcomes?

This question is aimed at examining the relationships between organizational context and structure that might indicate that shared governance is mediating the relationship with the outcome variable. Correlation and regression analysis was used to explore relationships and test potential hypothesized relationships based on SCT theory. Based on the results of Question 1 and 2 this question explored on the outcome of RN satisfaction with quality. The method developed by Baron and Kenny (1986) to test the mediation model was applied to this analysis. All analyses were conducted using SPSS Version 21.0 (SPSS IBM, New York, U.S.A.). The significance level was set at .05 for all analyses.

Table 1

Measurement

Construct/ Characteristic	Measure	Description	Measurement levels	Reliability & Validity
Context				
Environmental complexity	VA Facility Complexity (VHA, 2012)	Facilities categorized by complexity level determined by patient population, clinical services offered, education & research missions, administrative complexity.	3 levels: Level 1 = most complex; Level 2 = moderately complex; Level 3 = least complex. Level 1 is subdivided into categories 1a - 1c. Categorical variable coded 1-5. Complexity Index is calculated for each facility based on formula.	VHA Office of Productivity, Efficiency and staffing (OPES). Last validated 9/2012. (Brandt, Edwards, Cox-Sullivan, & Zehler, 2012; Lehrman et al., 2010)
	Teaching status	Association of American Medical Colleges (AAMC) data book.	Yes (1) = identified in the directory, or no (0) = not identified in the directory.	Review of literature (Ayanian & Weissman, 2002).
	Turbulence	VANOD –NUMA. Percentage of patient turnover in a 24 hour period on 24 hour units includes all admissions, discharges and transfers.	((G&L)/WDOC*100)	Participant observation(Jennings, Sandelowski, & Higgins, 2013), percentage (Park, Blegen, Spetz, Chapman, & De Groot, 2012)
Technology	Case Mix Index (CMI)	VA Patient Treatment File (PTF), an administrative database that contains records on all patient discharges.	Summing DRG weight for all medical discharges/number of discharges.	CMI often used as a proxy for patient acuity (Kirtane, 2012)
	Education Level of Nurses	(VANOD) database NE Report.	Continuous variable as a percent with BS degree in nursing or higher	(Estabrooks et al., 2005)
Size	Number of Hospital beds	VA Support Service Center Occupancy Rate Report	Number of licensed beds.	(Sjetne, Veenstra, & Stavem, 2007).

Table 1 (cont.)

Construct/ Characteristic	Measure	Description	Measurement levels	Reliability & Validity
Structure				
Nursing governance structure	Structure	Nurse Executive query to 4-level categories. Documented with by-laws, charter or policy. Maturity of SG.	4 – levels: 0 = Traditional hierarchical, 1 = Formal Shared Governance, 2 = Integrated Shared Governance, 3 = Whole System Shared Governance. Transformed to 2 level categories Have (1) and No (0) included with SG variable above: (policy, charter, or By-laws), & none. 5 level categories: <1 yr, 3-5 yrs., 5-7 yrs, 7-10 yrs, > 10 yrs. Transformed to <1 yr, 1-3 yrs., 3-5 yrs, 5-7 yrs, > 7 yrs.	Not previously measured.
Effectiveness				
Organizational outcomes	Nurses' Job Satisfaction	VANOD annual (PES): participation, quality and overall satisfaction.	2 summary scales and single item facility average score.	Valid and reliable (Lake, 2002, 2007; Lake, Lake, & Friese, 2006)
	Length of Stay (ALOS)	Average length of stay (ALOS) VANOD –NUMA.	Total number of WDOC/number patient stays	(Kaboli, et al, 2012)
Patient outcomes	Patient Satisfaction	CAHPS score (patient rating of overall hospital performance). OPM SHEP inpatient survey.	Percent of patients rating overall satisfaction as high (10). "Top Box" scoring.	Patient-level Pearson correlations of rescaled linear means of CAHPS measures significant p<0.001. (CMS, 2013)
	MRSA Infection Rate	Methicillin Resistant Staph Aureus (MRSA) per 1000 bed days. IPEC.	Rate of prevalence/1000 bed days of care.	(Morgan, et al, 2010).
	(HAPU)	HAPU per 1000 bed days. VANOD-ASPIRE	Rate of prevalence/1000 bed days of care.	(Lake & Cheung, 2006)

Chapter V

Results

The study results are presented in sequence following the three aims of the research. The first purpose was to determine if there are differences in quality outcomes across VA hospitals with differing shared governance structures. The second purpose was to evaluate the individual and combined effects of organizational context, shared governance structure and outcomes controlling for hospital size and turbulence. The third purpose was to determine if there are relationships between organizational context and governance structure that predict quality outcomes. First, the preliminary data preparation is described, followed by a description of the sample and descriptive statistics for the study variables. Lastly, the analyses of the three study aims are presented.

Sample & Data Preparation

At the time of the study the population of 128 acute care hospitals was reduced to 126 due to interrupted operations during 2013. The nurse executive email query was inclusive of all VA Nurse Executives from 152 VA facilities and resulted in data from 67 VA hospitals across the U.S. for an overall response rate of 44% (Figure 6). From this sample, 11 VA facilities were excluded because they were level three facilities that did not provide in patient medical/surgical care and therefore only had outcome data related to nurse and patient satisfaction. Two facilities were excluded because they did not have outcomes data in the time interval due to interrupted acute care operations. This resulted in a final sample of 54 facilities geographically distributed across the U.S. Two Veterans Integrated Service Networks (VISN) were not represented resulting

in less representation in the mid-western states. The response rate for the final sample was 43%.



Figure 6. States represented in the Sample

In reviewing the data for accuracy and completeness seven values of data were missing. One was the facility complexity level which was excluded because of inadequate data to calculate the index. Recalculation with the current data might not simulate that used in the 2012 calculations; therefore, the decision was made to estimate the facility complexity level and index based on the hospital bed size and CMI. The facility complexity index for three similar facilities were averaged and that index value was compared to the 2012 ranking to assign a complexity level of 2 and a complexity index of (-.750).

One additional piece of missing data was RN satisfaction. ONS policy is that results for facilities with fewer than 10 responses is not reported in order to protect the anonymity of participants. ONS policy in these cases of insufficient participation is to

utilize a VISN average to inform an action plan with staff. Thus, VISN averages were used to estimate the missing values of RN satisfaction with participation, quality and overall for these two hospitals.

Data irregularities were found in the Nurse Executive query data which required modification of variable measurements before analysis. The first modification was related to the second email query question of does your governance structure as a policy, charter, by-laws or none of the above. Many response had multiple forms of documenting the nursing shared governance structure, so to simplify the category the decision was made to compress the responses into two options of “having documentation” or “no documentation.” This compression resulted in 100% of reported shared governance structures being documented. The second modification related to the response distribution range for the third question on the email query which had a gap between the first category (<1 year) and the second category (3-5 years). This was identified by the respondents who manually entered the years as the response. Since there were no missing responses and no <1 year responses the decision was made to modify the categories as 1-3 years, 5-7 years, 7-10 years and > 10 years. Neither of these modifications was believed to have methodological or theoretical implications for analysis.

The dataset was de-identified when all missing values were corrected to allow for anonymity in data analysis. Descriptive statistics are presented in the next section followed by analyses for each of the three aims as outlined in Table 2.

Descriptive Statistics

Descriptive statistics are presented following the theoretical framework categories (Figure 1, Chapter 1). These categories are organizational context, structure and effectiveness. The organizational context factors are environment, technology and size. Environment is represented by hospital variables of VA Facility complexity, teaching status and turbulence. Technology was conceptualized as the medical case mix index and the RN educational level at the hospital. Size was conceptualized as the number of licensed in-patient beds in the hospital. Structure was conceptualized as traditional bureaucracy (no shared governance), nursing shared governance structure, integrated shared governance and whole system shared governance. An additional variable of shared governance maturity categorized shared governance by maturity as 0 years, 1-3 years, 5-7 years, 7-10 years and > 10 years. Lastly, organizational effectiveness in this study was conceptualized as organizational and patient outcomes that are evidenced based and comparable across all VA Medical Centers: specifically, nurse job satisfaction, length of stay (LOS), patient satisfaction, hospital-acquired MRSA and HAPU.

Context.

The context factors examined in this study are environment, technology and size.

Environment. The independent variables of VA Facility Complexity Level/ Facility Complexity Index, teaching status and turbulence rate represent environment. The majority of the 54 facilities were complexity level 1 (59.3%) with 1a comprising (27.8%), 1b (18.5%), and 1c (13%). There were (29.6%) level 2 facilities and (11.1%)

level 3 facilities. The associated VA Facility Indexes ranged from -1.06 to 1.42 with a mean of 0.18 (SD 0.74). Sixty-three percent (34/54) were teaching hospitals. The turbulence rate ranged from 10 to 109 percent with a mean of 60% (SD 15%) as shown in Table 3.

Technology. The independent variables of Case Mix Index (CMI) and RN Education level represent technology. The CMI ranged from 0.84-1.31 with a mean score of 1.093 (SD 0.130). This suggests that in this sample the average costs per patient or per day are generally more favorable related to the resource intensity is for the hospital. The level of RNs holding Bachelor's Degrees in Nursing or higher ranged from 40-87% with a mean of 65% (SD 9%).

Size. The independent variable of hospital beds representing organizational size had a wide range sample from 61 beds to 760 beds with a mean of 286 beds (SD 186 beds).

Structure. The independent variables measuring the organizational structure include presence of shared governance, documentation of shared governance structure and years of shared governance. Seventy percent (n = 54) of participants reported having a shared governance structure. All respondents (100%) who reported having shared governance also reported that the structure was documented by either policy, charter, or by-laws. Of these, 59% reported that the structures were limited to the nursing service, with 9.3% being an integrated model and 1.9% being a whole system model. Based on the frequency related to integrated and whole system shared governance the decision was made to compress this variable from four categories to two categories of "having shared governance" or "no shared governance." Thirty

percent (n = 54) had the traditional hierarchical VA organizational structure. Of the 38 VA facilities reporting to have shared governance structures 24 (63%) were level 1 facilities, 12 (32%) were level two and 2 (5%) were level 3. The second structure variable representative of maturity of shared governance structures was (29.6%) with no years of shared governance, (9.3%) with 1-3 years, (31.5%) with 3-5 years, (14.8%) with 5-7 years, (7.4%) with 7-10 years and (7.4%) with >10 years. Based on these frequencies the categories of 7-10 years and > 10 years were collapsed to represent 14.8% with shared governance in place for more than 7 years (Table 2).

Effectiveness. The dependent variables described below include: RN satisfaction and sub-scales of participation, quality and overall score, average LOS, patient satisfaction, MRSA and HAPU. The subscale results of VA facility RN satisfaction with participation ranged from 2.10 to 3.10 with a mean of 2.57 (SD .21; range 1-4). RN satisfaction with quality of care ranged from 2.5 to 3.2 with a mean of 2.9 (SD .15; range 1-4). The single question of overall satisfaction ranged from 2.9 to 4.1 with a mean of 3.57 (SD .28; range 1-5).

The dependent variable of average LOS ranged from 1.7 days to 4.97 days with a mean of 3.1 days (SD = .62 days). Patient satisfaction at VA facilities ranged from 52% to 79% with a mean score of 68% (SD 6.72%) being in the “Top Box” in terms of being satisfied with the care. “Top Box” is 10 on a scale of 1 to 10. The range for MRSA infection rates was 0 to .92 with a mean of .18 (SD .17). The range for HAPU was 0 to 4.96 with a mean of 1.8 (SD.92).

Table 2

Descriptive Statistics

Context	Mean	SD	Range	n.	Percent
Facility Complexity Level					
1a - Tertiary care level				15	27.8
1b - moderately complex				10	18.5
1c - complex				7	13
2 - smaller, community				16	29.6
3 - least complex				6	11.1
Facility Complexity Index	0.18	0.74	(-1.06-1.42)	54	
Teaching Status					
Teaching				34	63
Non-teaching				20	37
Turbulence	59.69	15.04	(10.35-108.89)	54	
RN Education Level	0.65	0.09	(0.4-0.87)	54	
Case Mix Index	1.09	0.13	(0.84-1.31)	54	
Hospital Beds	286.59	185.68	(61-760)	54	
Structure					
Shared Governance (SG)					
No SG				16	29.6
SG - Nursing				32	59.3
SG - Integrated				5	9.3
SG - Whole System				1	1.9
Documented					
No				16	29.6
Yes				38	70.4
Years of SG					
< 1				16	29.6
1-3				5	9.3
3-5				17	31.5
5-7				8	14.8
7-10				4	7.4
>10				4	7.4
Effectiveness					
Nurse Job Satisfaction					
Participation	2.57	0.21	(2.10-3.10)	54	
Quality	2.90	0.15	(2.5-3.2)	54	
Overall	3.57	0.28	(2.9-4.1)	54	
Average LOS	3.10	0.62	(1.7-4.97)	54	
Patient Satisfaction	67.18	6.72	(51.7-78.5)	54	
MRSA	0.18	0.17	(0.0-0.92)	54	
HAPU	1.82	0.92	(0.0-4.96)	54	

Note: SD - Standard deviation; n. - number; LOS - length of stay; MRSA - Methicillin-resistant Staphylococcus aureus (MRSA); HAPU - hospital acquired pressure ulcers

Table 3

Years of Shared Governance Compressed

Years of SG	No.	Percent
< 1	16	29.6
1-3	5	9.3
3-5	17	31.5
5-7	8	14.8
>7	8	14.8

Test of assumptions.

The data were examined to meet the assumptions necessary for multivariate statistical analysis of normal distribution, multicollinearity, homoscedasticity, and linearity (Bannon, 2013). The continuous variables were examined for normal distributions visually by histogram, box plot and statistically for skewness and kurtosis. Skewness and kurtosis were examined in relation to the respective ratio of standard error. Skewness and kurtosis of the dependent variables are presented in Table 4. The variables of RN education level and all three RN satisfaction measures were within a reasonable parameter and were considered normally distributed. Skewness was a concern for the variables of hospital bed size, patient satisfaction, LOS, MRSA and HAPU while kurtosis was of concern for the variables of Facility Complexity level, Turbulence, CMI, LOS, MRSA and HAPU.

Table 4

Dependent Variables Skewness and Kurtosis

	n.	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Facility Complexity Index	54	-.019	.325	1.313	.639
Turbulence	54	.333	.325	4.068	.639
RN Education Level	54	-.318	.325	.327	.639
Case Mix Index	54	-.161	.325	-.898	.639
Hospital Beds	54	.674	.325	-.491	.639
RN Satisfaction - Participation	54	.173	.325	-.107	.639
RN Satisfaction - Quality	54	-.158	.325	.067	.639
RN Satisfaction - Overall	54	-.173	.325	-.414	.639
LOS	54	.919	.325	2.181	.639
Patient Satisfaction	54	-.368	.325	-.393	.639
MRSA	54	1.789	.325	5.708	.639
HAPU	54	.749	.325	1.482	.639

The general rule was applied in this analysis to multiply the standard error by two and compare with the observed value of skewness and kurtosis to determine if the observed values were in a tolerable range to meet the assumption of normality (Bannon, 2013). In addition to applying this rule a histogram and boxplot were examined to identify outlier values that might be causing the skewness and kurtosis. Findings from this analysis resulted in accepting CMI, and patient satisfaction as relatively normally distributed. The remaining variables required further examination and modification.

Facility complexity index, hospital beds, turbulence, LOS, MRSA, and HAPU were further examined statistically, with the Kolmogorov-Smirnov (Kolmogorov, 1975) and the Shapiro-Wilks (Bannon, 2013) tests for normality. Both tests compare

the distribution scores of a variable to a simulated set of scores normally distributed with a similar mean and standard deviation. A significant ($p > .05$) result indicates that the distribution of scores for the variable are significantly different from a normal distribution (Bannon, 2013). Both tests can be used; however, generally the Shapiro-Wilks is more appropriate for smaller samples size (< 50). Table 5 shows the results of this statistic.

Table 5

Dependent Variables Normality Tests Results

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Facility complexity index	.164	54	.001	.963	54	.006
Hospital beds	.119	54	.54	.921	54	.002
Turbulence	.129	54	.026	.907	54	.001
LOS	.145	54	.006	.914	54	.001
MRSA	.141	54	.009	.855	54	.000
HAPU	.122	54	.043	.960	54	.071
TurbOUTLIER	.95	51	.200	.979	51	.496
LOSOUTLIER	.114	49	.133	.957	49	.074
MRSAOUTLIER	.108	53	.175	.937	53	.008
HAPUOUTLIER	.110	53	.155	.977	53	.395

Further examination of the de-trended normal Q-Q plot of the Facility Complexity Index demonstrated other problems related to normality and linearity. The boxplot indicated that there were no outliers, but instead had a gap in the distribution near the mean score. Based on the strong correlation with other predictor variable, such as, Hospital Beds and CMI and the availability of the categorical level variable of

Facility complexity level the decision was made to not use this variable in further analysis.

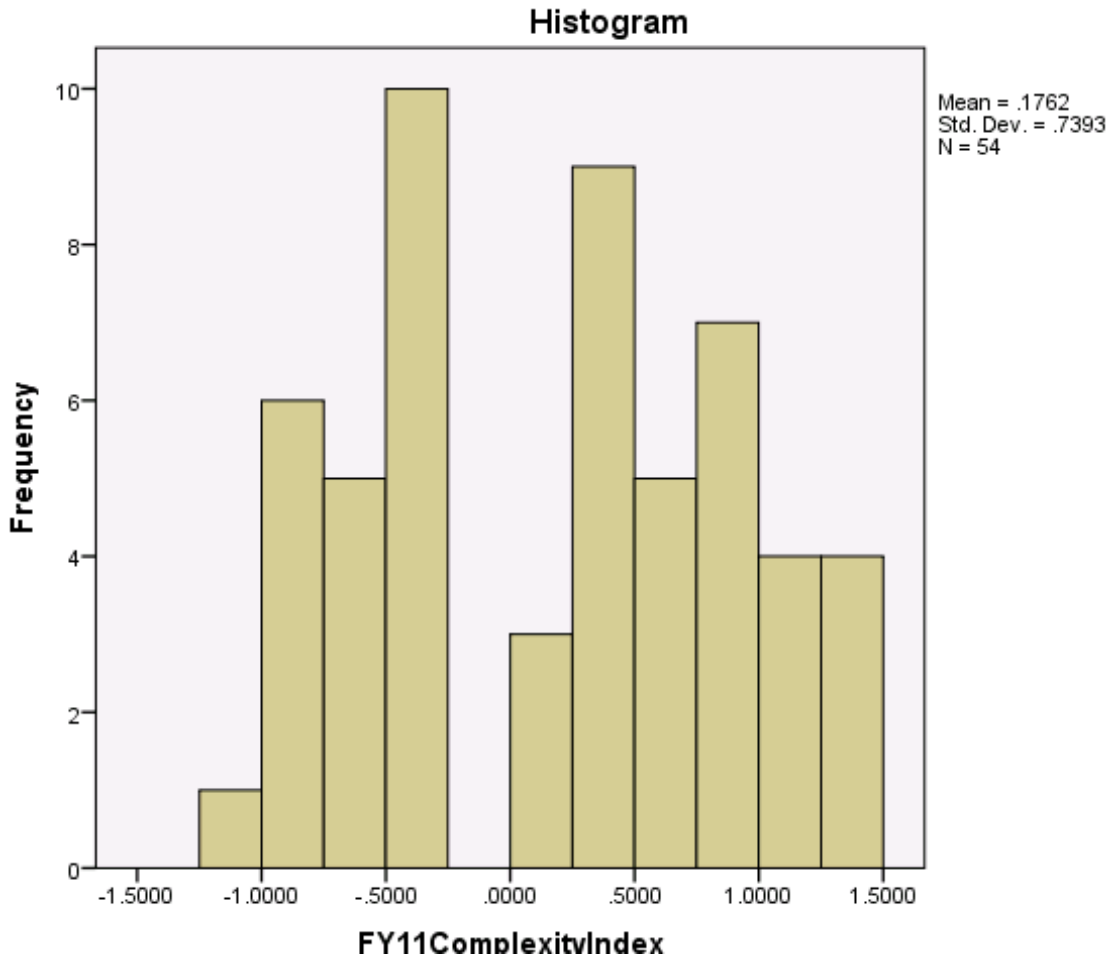


Figure 7. Histogram of FY11 VA Facility Complexity Index.

Further evaluation of the independent variable of hospital beds indicated a Kolmogorov-Smirnov non-significant result, a relatively normal Q-Q plot and no outliers and as such, no modifications were made to the hospital beds variable and the assumption of normality of distribution was met. The remaining variables were significant in the evaluation related to Kolmogorov-Smirnov and Shapiro-Wilks tests and required further assessment and modification.

The Box plot of turbulence revealed three outlier scores that when removed resulted in non-significant results on both Kolmogorov-Smirnov and Shapiro-Wilks tests ($p = .2, .496$). The corrected variable was now statistically normally distributed. The same process was completed for LOS, MRSA and HAPU. Five outliers were removed from LOS, and one each for MRSA and HAPU with results reported on the new OUTLIER variables in Table 5.

Multicollinearity was checked by examining the Pearson Product Moment Correlation between continuous predictor variables and the Spearman's rho for categorical predictor variables (Table 6). The correlational analyses revealed significant relationships among the context variables. VA facility complexity level showed significant positive Spearman's rho correlation with teaching status ($r = .519, p = 0.000$), CMI ($r = .771, p = 0.000$), and hospital beds ($r = .469, p = 0.000$). The significance dropped slightly in relation to RN education level ($r = .437, p = 0.001$) and to ($r = .275, p = .044$) in relation to the structure variable of shared governance maturity. Teaching status also showed significant positive Spearman's rho correlation with CMI ($r = .46, p = 0.000$), and hospital beds ($r = .276, p = 0.000$). CMI showed significant positive Pearson Product Moment correlation with RN Education level ($r = .488, p = 0.000$). The positive relationships between CMI and RN education level indicated that a higher CMI is associated with a higher percentage of baccalaureate prepared RNs. There is a significantly negative relationship between CMI and turbulence ($r = -.401, p = 0.004$) which indicates that as the CMI increasing above 1.0 or lower costs per patient the turbulence level decreases. The structure variable of shared governance maturity correlated with the independent variable of VA

Complexity Level. No other significant relationships exist between the independent variables of context and structure.

Table 6

Correlations Between Independent Variables.

		VA Complexity Level	Teaching Status	Case Mix Index	Hospital Beds	RN Education Level	Turbulence	Shared Governance	Shared Governance Yrs.
VA Complexity Level	Spearman's rho	1	.519**	0.771**	.469**	0.437**	-0.227	0.201	.275*
	Sig. (2-tailed)		0.000	0.000	0.000	0.001	0.11	0.146	0.044
	N	54	54	54	54	54	51	54	54
Teaching Status	Spearman's rho		1	.460**	0.276*	0.091	-0.179	0.174	0.183
	Sig. (2-tailed)			0.000	0.044	0.512	0.209	0.208	0.186
	N		54	54	54	54	51	54	54
Case Mix Index	Pearson Correlation			1	0.201	.488**	-.401**	0.11	0.188
	Sig. (2-tailed)				0.145	0.000	0.004	0.427	0.174
	N			54	54	54	51	54	54
Hospital Beds	Pearson Correlation				1	0.055	-0.012	0.056	0.125
	Sig. (2-tailed)					0.693	0.934	0.689	0.366
	N				54	54	51	54	54
RN Education Level	Pearson Correlation					1	-0.232	0.093	0.032
	Sig. (2-tailed)						0.101	0.505	0.82
	N					54	51	54	54
Turbulence	Pearson Correlation						1	-0.072	0.09
	Sig. (2-tailed)							0.616	0.528
	N						51	51	51
Shared Governance	Spearman's rho							1	0.817
	Sig. (2-tailed)								0
	N							54	54
Shared Governance Yrs.	Spearman's rho								1
	Sig. (2-tailed)								
	N								54

**Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

In evaluating the relationships between the dependent variables a high correlation is seen between the three subscales of RN satisfaction. The dependent variable of the subscale of RN satisfaction with participation had a significant positive correlation with the subscale of RN satisfaction with quality ($r = .883$, $p = 0.000$) and RN satisfaction overall ($r = .871$, $p = 0.000$). RN satisfaction with quality was positively correlated with overall RN satisfaction ($r = .878$, $p = 0.000$) and with patient satisfaction ($r = .279$, $p = 0.041$). The dependent variable of overall RN satisfaction was significantly positively correlated with patient satisfaction ($r = .383$, $p = 0.004$). There were no additional correlations between the dependent variables.

Table 7

Pearson Correlation Between Continuous Dependent Variables

		Satisfaction						
		RN			Patient	LOS	MRSA	HAPU
		Participation	Quality	Overall				
RN Satisfaction								
Participation	Spearman's rho	1	0.883**	0.871**	0.224	-0.204	0.226	-0.103
	Sig. (2-tailed)		2.000	0.000	0.103	0.16	0.103	0.462
	N	54	54	54	54	49	53	53
Quality	Spearman's rho		1	0.878**	0.279	-0.156	0.136	-0.016
	Sig. (2-tailed)			0.000	0.041	0.283	0.33	0.909
	N		54	54	54	49	53	53
Overall	Pearson Correlation			1	0.383**	-0.166	0.2	-0.092
	Sig. (2-tailed)				0.004	0.254	0.151	0.514
	N				54	49	53	53
Patient Satisfaction	Pearson Correlation				1	-0.197	-0.014	-0.013
	Sig. (2-tailed)					0.175	0.92	0.927
	N				54	49	53	53
LOS	Pearson Correlation					1	0.018	0.262
	Sig. (2-tailed)						0.905	0.072
	N					49	48	48
MRSA	Pearson Correlation						1	0.132
	Sig. (2-tailed)							0.35
	N						53	52

**Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Finally, correlations between independent variables and dependent variables were examined (Table 8). The independent variable of VA facility Complexity level was positively correlated with RN satisfaction with quality ($r = .299, p = .028$) and HAPU ($r = .319, p = .02$). The independent variable of teaching status was not significantly correlated with any of the dependent variables. The independent variable of medical CMI was significantly, positively correlated with LOS ($r = .417, p = .003$) and HAPU ($r = .364, p = .007$). The independent variables of hospital bed size and RN education level did not significantly correlate with any of the dependent variables. The independent variable of turbulence had significantly negative correlations with LOS ($r = -.977, p = .000$) and HAPU ($r = -.379, p = .007$). The independent variable of shared governance “have” or “no” was significantly positively correlated with RN satisfaction with participation ($r = .281, p = .039$). The independent variable of shared governance maturity showed significant positive correlations with all three of the RN satisfaction variables. The results respectively were ($r = .43, p = .001$) for RN satisfaction with participation, ($r = .398, p = .003$) for RN satisfaction with quality and ($r = .342, p = .011$) for RN satisfaction overall. There were no other significant correlations between the independent and dependent variables.

Table 8

Correlations Between Independent and Dependent Variables

		Satisfaction			Patient	LOS	MRSA	HAPU
		RN						
		Participation	Quality	Overall				
Facility Complexity	Spearman's rho	0.243	0.299*	0.182	-0.239	0.257	0.256	0.319*
	Sig. (2-tailed)	0.077	0.028	0.188	0.082	0.074	0.064	0.02
	N	54	54	54	54	49	53	53
Teaching Status	Spearman's rho	0.04	0.177	0.073	-0.146	0.216	0.167	0.083
	Sig. (2-tailed)	0.775	0.2	0.6	0.291	0.136	0.233	0.556
	N	54	54	54	54	49	53	53
Case Mix Index	Pearson Correlation	0.074	0.13	0.025	-0.061	0.417**	0.082	0.364**
	Sig. (2-tailed)	0.596	0.35	0.859	0.661	0.003	0.559	0.007
	N	54	54	54	54	49	53	53
Hospital beds	Pearson Correlation	0.096	0.077	-0.012	-0.255	0.008	0.221	0.021
	Sig. (2-tailed)	0.49	0.579	0.932	0.063	0.955	0.111	0.882
	N	54	54	54	54	49	53	53
RN Education Level	Pearson Correlation	-0.15	-0.053	-0.164	-0.067	0.231	0.094	0.259
	Sig. (2-tailed)	0.278	0.701	0.237	0.632	0.11	0.501	0.062
	N	54	54	54	54	49	53	53
Turbulence	Pearson Correlation	0.133	0.119	0.094	-0.007	-0.977**	-0.062	-0.379**
	Sig. (2-tailed)	0.353	0.404	0.513	0.961	0.000	0.669	0.007
	N	51	51	51	51	48	50	50
Shared Governance	Spearman's rho	0.281*	0.249	0.204	0.156	-0.019	0.214	0.07
	Sig. (2-tailed)	0.039	0.07	0.139	0.26	0.898	0.123	0.619
	N	54	54	54	54	49	53	53
Shared Governance Maturity	Spearman's rho	0.43**	0.398**	0.342*	0.15	-0.128	0.22	-0.021
	Sig. (2-tailed)	0.001	0.003	0.011	0.279	0.379	0.113	0.879
	N	54	54	54	54	49	53	53

**Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Analysis

The analysis results pertaining to each research question are presented sequentially in the following section. Table 9 provides a summary of the analyses for each question.

Table 9

Research Questions and Analyses Summary

	Variables		
	Independent	Dependent	Analysis
1. Are there significant differences in quality outcomes among VA hospitals with difference shared governance structure and in VA hospitals without shared governance structure?	Nursing shared governance structure	RN Job satisfaction (participation, quality and overall, length of stay (LOS), patient satisfaction, MRSA, HAPU	MANOVA; Post-Hoc Tukey Test ANOVA
2. What are the individual and combined effects of organizational context and shared governance structure on quality outcomes, controlling for hospital size and turbulence?	Nursing shared governance structure, VA facility complexity, CMI, RN education, teaching status, hospital beds, turbulence <u>Covariate: turbulence</u>	RN Job satisfaction with quality, length of stay (LOS), patient satisfaction, MRSA, HAPU	Regression Analysis
3. Are there relationships between organizational context and structure variables that predict quality outcome?	Nursing shared governance structure, hospital complexity, CMI, RN education, teaching status, hospital beds, turbulence.	RN Job satisfaction sub-scales (participation, quality and overall), length of stay (LOS), patient satisfaction, MRSA, HAPU	Regression

Question 1. Are there significant differences in quality outcomes among VA hospitals with different shared governance structure and in VA hospitals without shared governance structure? Analysis for this question required both multivariate analyses of variance (MANOVA) for the three dependent variables of RN satisfaction which were highly correlated. Both shared governance variables were examined. For the two category shared governance “have” or “no” the Independent Samples T-test was utilized, while one-way analysis of variance (ANOVA) was used for the five

category shared governance maturity variable for testing the remaining dependent variables. Each analysis was conducted using the two category independent variable of shared governance and the five category independent variable of shared governance maturity.

Question 1a. Are there significant differences in RN satisfaction with participation, quality and overall satisfaction in VA hospitals with shared governance structures? A MANOVA was conducted with shared governance as the independent variable and RN satisfaction with participation, quality and overall satisfaction as the dependent variables. This approach minimized the risk of a type one error (Kellar, 2013). Previous examination of correlations indicated that the three dependent variables were significantly positively correlated (see Table 7). The independent variable of shared governance is a nominal measurement scale. The assumptions of normality, homoscedasticity, multicollinierity, and linearity have been met and previously described. No outliers were found in the dependent variables. There is not between group equality with 38 VA facilities having shared governance and 16 VA facilities without shared governance. Results of this MANOVA were not significant and no further analysis were conducted (Roy's Largest Root = 0.34, $F(3, 50) = 1.144$, $p < .05$).

A MANOVA was conducted with shared governance by years or maturity as the independent variable and RN satisfaction with participation, quality and overall as the dependent variables. This approach minimizes the risk of a type one error (Kellar, 2013). Previous examination of correlations indicated that the three dependent variables were significantly positively correlated. The independent variable of shared

governance years is a nominal measurement scale. The assumptions of normality, homoscedasticity, multicollinierity, and linearity have been met and previously described. No outliers were found in the dependent variables. The results of Levene's test of equality indicates that there is homogeneity of between-group variance for RN satisfaction with participation ($p = .394$), quality ($p = .453$) and overall ($p = .712$). Box's M test for equality indicates that the correlations between the dependent variables is equal across all groups ($F = 1.367$, $p = .110$). The descriptive statistics indicate that there is a trend in the mean scores of RN satisfaction as shared governance matures the means ranged from (2.50-2.71) with a slight dip in the 1-3 year category to 2.50. This was similar for RN satisfaction with quality. Overall RN satisfaction was similar except the mean dipped again in the >7 years category as well.

The MANOVA resulted in a significant model with the 3 RN satisfaction outcomes of participation, quality and overall (Roy's Largest Root = 0.263, $F(4, 49) = 3.224$, $p = .02$). Shared governance accounted for 21% (partial $\eta^2 = .208$) of the group differences. Follow-up univariate tests of between-subjects effects suggest that both RN satisfaction with participation and RN satisfaction with quality differ significantly with respect to shared governance maturity: participation: [$F(4, 49) = 2.701$, $p = .041$]; quality: [$F(4, 49) = 2.573$, $p = .049$]. Overall satisfaction was not significant [$F(4, 49) = 1.664$, $p = .173$]. Follow-up ANOVAs were conducted with the same results reported in the MANOVA. Tukey's *post hoc* analysis were not significant, however the means do indicate a trend related to years of shared governance maturity as seen in Tables 10-11.

Table 10

RN Participant Satisfaction Tukey HSD Post Hoc Test Results

	Shared Governance Years				
	1.0	.0	2.0	3.0	4.0
RN participant satisfaction Mean (SD)	2.42 (.22)*	2.50 (.14)	2.59 (.23)	2.64 (.18)	2.71 (.20)*

Note. * indicates significant difference [F (4, 49) = 2.701, p = .041]

Table 11

RN Quality Satisfaction Tukey HSD Post Hoc Test Results

	Shared Governance Years				
	1.0	.0	2.0	3.0	4.0
RN quality satisfaction Mean (SD)	2.78 (.19)*	2.85 (.10)	2.91 (.15)	2.95 (.15)	2.99 (.12)*

Note. * indicates significant difference [F (4, 49) = 2.573, p = .049]

Power analysis for Question 1a. The effect size was examined for research question 1 for the univariate dependent variable models and for the overall MANOVA model using G*Power 3.1.9.2 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). First, the model with the dependent variable, RN satisfaction with participation, with a partial eta squared of 0.181 the effect size (ES) of 0.47 was considered to have a large effect size (Cohen, 1992). The ES for the model with the dependent variable, RN satisfaction with quality, given a partial eta squared of 0.174 was 0.46 which again is a large effect size. Based on the ES, α of 0.05 and a sample size of 54 the power analysis resulted in 0.755 for the dependent variable of RN satisfaction with participation and 0.732 for the dependent variable of RN satisfaction with quality indicating that the sample size was not adequate to achieve the preferred power of .80, however it is not exceptionally low. The overall power for the

MANOVA using Roy's Largest Root was 0.791 which was just below the preferred power of 0.80. Roy's Largest Root was the most significant of the four multivariate test statistics calculated by SPSS and is likely to be more sensitive to small sample size. However, caution must be exercised in interpreting the results as Roy's Greatest Root is considered the least robust and may substantially increase the likelihood of a type I error (Olson, 1976).

Question 1b. Are there significant differences in patient satisfaction in VA hospitals with shared governance structures? An Independent Samples T-Test was conducted with the independent variable of shared governance and the dependent variable patient satisfaction. The results of the Independent Samples T-test (2 sided) of 0.127 was not significant. Levene's test for equality of variance was significant ($p = 0.027$) indicating inequality between groups.

One-way ANOVA was conducted with the independent variable of maturity of shared governance at the VA hospitals and dependent variable of patient satisfaction. The analysis was not significant. $F(4, 49) = .882, p = .481$.

Question 1c. Are there significant differences in LOS in VA hospitals with shared governance structures? An Independent Samples T-Test was conducted with the independent variable of shared governance and the dependent variable LOS. The results of the Independent Samples T-test (2 sided) of 0.765 was not significant. Levene's test for equality of variance was also not significant.

One-way ANOVA was conducted with the independent variable of maturity of shared governance and dependent variable of LOS. The analysis was not significant $F(4, 44) = .613, p = .655$.

Question 1d. Are there significant differences in hospital acquired MRSA infections in VA hospitals with shared governance structures? An Independent Samples T-Test was conducted with the independent variable of shared governance and the dependent variable MRSA. The results of the Independent Samples T-test (2 sided) of 0.140 was not significant. Levene's test for equality of variance was not significant.

One-way ANOVA was conducted with the independent variable of maturity of shared governance at the VA hospitals and dependent variable of MRSA. The analysis was not significant [$F(4, 48) = 2.134, p = .091$].

Question 1e. Are there significant differences in HAPU in VA hospitals with shared governance structures? An Independent Samples T-Test was conducted with the independent variable of shared governance and the dependent variable HAPU. The results of the Independent Samples T-test (2 sided) of 0.334 was not significant. Levene's test for equality of variance was also not significant.

One-way ANOVA was conducted with the independent variable of maturity of shared governance and dependent variable of HAPU. The analysis was significant $F(4, 48) = 2.815, p = .035$. Results of Tukey's HSD were not significant (Table 12). In the Tukey's post hoc test group sizes were unequal and harmonic mean of group sizes were used. Type I error levels are not guaranteed.

Table 12

HAPU Tukey HSD Post Hoc Test Results

	Shared Governance Years				
	0	1-3	3-5	5-7	>7
HAPU Mean (SD)	1.59 (.92)	1.42 (.55)	2.26 (.83)*	1.37 (.45)*	1.63 (.64)

Note. * indicates significant difference [F (4, 48) = 2.815, p = .035]

The effect size was examine for the HAPU dependent variable ANOVA effect using G*Power 3.1.9.2 (Faul et al., 2009; Faul et al., 2007). The ES 0.322 indicated a medium effect, however the power of .40 indicated that the analysis was underpowered.

Question 2. What are the individual and combined effects of organizational context and shared governance structure on quality outcomes, controlling for hospital size and turbulence? This analysis was conducted with multiple steps. The first step involved conducting exploratory regression analyses to test the full model with all independent variables as outlined in Table 9. The effectiveness outcomes tested were RN satisfaction with quality, patient satisfaction, LOS, MRSA and HAPU.

The proposed analysis was based on the theoretical model which hypothesized that hospital bed size and turbulence might affect these relationships. However, because the independent variable, hospital bed size, was not significantly correlated with any dependent variable, the decision was made to not include it in the regression analysis. Thus, only the co-variate turbulence was loaded in the regression analyses. Previous analyses indicated that turbulence significantly correlated with LOS ($r = -.977, p = .000$) and HAPU ($r = -.382, p = .007$) as seen in Table 8. In step 2, the

regression model was modified by removing non-significant independent variables, keeping covariate turbulence in the model.

Question 2a. The first regression analysis included the dependent variable of RN satisfaction with quality and the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. The results did not produce a significant model. The second regression including the only significant variable or shared governance maturity controlling for turbulence resulted in a significant model [$F(2,48) = 4.66, p = .014$]. Only shared governance maturity was a significant predictor ($\beta = .386, t = 2.916, p = .05$ as shown in Table 13. Turbulence was not a significant predictor ($\beta = .09, t = .676, p = .50$).

Table 13

Multiple Regression: Shared Governance Predicts RN Satisfaction with Quality

Model	Variable	B	SE B	β	Sig	p	R ²
Step 1							
1	Turbulence	.002	.002	.119	.404	.404	.014
2	Turbulence	.001	.002	.097	.520	.099	.207
	SG Years	.033	.014	.331	.023		
	Facility Complexity	.031	.024	.301	.195		
	CMI	-.064	.261	-.057	.809		
	RN Education	-.183	.254	-.115	.476		
	Teaching Status	-.014	.049	-.048	.773		
Step 2							
1	Turbulence	.002	.002	.119	.404	.404	.014
2	Turbulence	.001	.002	.090	.50	.014	.136
	SG Years	.039	.013	.386	.005		

The R^2 (0.163) indicated that shared governance maturity explained 16% of the model. The unstandardized β (.039) ($p = .005$) in the model indicates that the more years of shared governance predicts higher satisfaction with quality, additionally standardized β (.386) supports supports the result that years of shared governance was the strongest predictor in the model. There were no other significant predictors in this analysis.

Question 2b. The second regression analysis included the dependent variable of patient satisfaction with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. The results did not produce a significant model [$F(6,44) = 1.41, p = .23$]. Only shared governance maturity was a significant predictor ($\beta = .32, t = 2.22, p = .03$). The second regression to test the significant variable of shared governance maturity only, with turbulence as a covariate, did not produce a significant model [$F(2,48) = 1.46, p = .24$].

Question 2c. The third regression analysis included the dependent variable of LOS with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. This regression resulted in two significant models [$F(1,46) = 976.99, p = .000$] and [$F(6,41) = 149.83, p = .000$]. Turbulence was the only significant variable in each model. The second regression to test the significant variables of turbulence was significant as shown in Table 14. Turbulence was a significant predictor ($\beta = -.977, t = -31.26, p = .000$).

Table 14

Multiple Regression: Turbulence Predicts LOS

Model	Variable	<i>B</i>	<i>SE B</i>	β	<i>Sig</i>	<i>p</i>	R ²
Step 1							
1	Turbulence	-.047	.001	-.977	.000	.000	.955
Step 2							
1	Turbulence	.002	.002	.119	.404	.404	.014
2	Turbulence	-.047	.002	-.978	.000	.000	.956
	SG Years	-.004	.009	-.016	.642		
	Facility Complexity	-.011	.016	-.038	.488		
	CMI	.002	.186	.001	.769		
	RN Education	.070	.191	.014	.989		
	Teaching Status	.010	.034	.012	.713		

The R² (0.977) and the adjusted R² (0.94) indicated that turbulence has a large effect. The negative direction of the relationship indicated that increased turbulence is associated with a shorter LOS.

Question 2d. The fourth regression analysis included the dependent variable of MRSA with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. The results did not produce a significant model [$F(6,43) = .98, p = .451$]. There were no significant predictors in this model and no further analysis was conducted.

Question 2e. The fifth regression analysis included the dependent variable of HAPU with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. This regression resulted in one significant models [$F(1,48) = 8.04, p = .007$] and

[F(6,43) = 1.997, p = .087]. Turbulence was the only significant variable in each model ($\beta = -.379$, $t = -2.835$, $p = .007$) and ($\beta = -.313$, $t = -2.11$, $p = .004$) respectively. The results indicated that turbulence was a significant predictor of HAPU. The second regression to test the significant variable of turbulence was significant [F(1,48) = 8.04, $p = .007$] as shown in Table 15. Turbulence was a significant predictor ($\beta = -.379$, $t = -2.835$, $p = .007$)

Table 15

Multiple Regression: Turbulence Predicts HAPU

Model	Variable	B	SE B	β	Sig	p	R ²
Step 1							
1	Turbulence	-.029	.010	-.379	.007	.007	.143
2	Turbulence	-.024	.011	-.313	.040	.087	.218
	SG Years	-.052	.076	-.096	.499		
	Facility Complexity	.152	.127	.276	.236		
	CMI	.403	1.391	.068	.773		
	RN Education	-.326	1.348	-.038	.810		
	Teaching Status	-.081	.258	-.052	.755		
Step 2							
1	Turbulence	-.029	.01	-.379	.007	.007	.379

The model R² (0.379) and adjusted R² (0.126) indicated that turbulence has a large effect size. The model had a significant negative unstandardized β (-.029) indicating that the more turbulent the environment or the more admissions discharges and transfers the less HAPUs. The standardized β (-0.379) indicated that turbulence was the strongest predictor in the models.

Question 3. Are there relationships between organizational context and structure variables that predict quality outcome? This question is aimed at examining the relationships between organizational context and structure that might indicate that shared governance is mediating the relationship with the outcome variable. Based on the results of the previous two questions this question can be explored on the outcome of RN satisfaction with quality. The method developed by Baron and Kenny (1986) to test the mediation model was applied to this analysis. This model assumes that in this three-variable system there are two causal paths predicting the outcome variable: the direct impact of the independent variable to outcome (Path c), the indirect impact of the independent variable to outcome (Path \acute{c}). Additionally, there is the impact of the independent variable to mediator variable (Path a), and the impact of the mediator variable on the dependent variable (Path b).

Perfect mediation holds if the independent variable has no effect when the mediator is controlled (Baron & Kenny, 1986). The path diagram outlines in Figure X demonstrates the causal chain for mediation (Baron & Kenny, 1986).

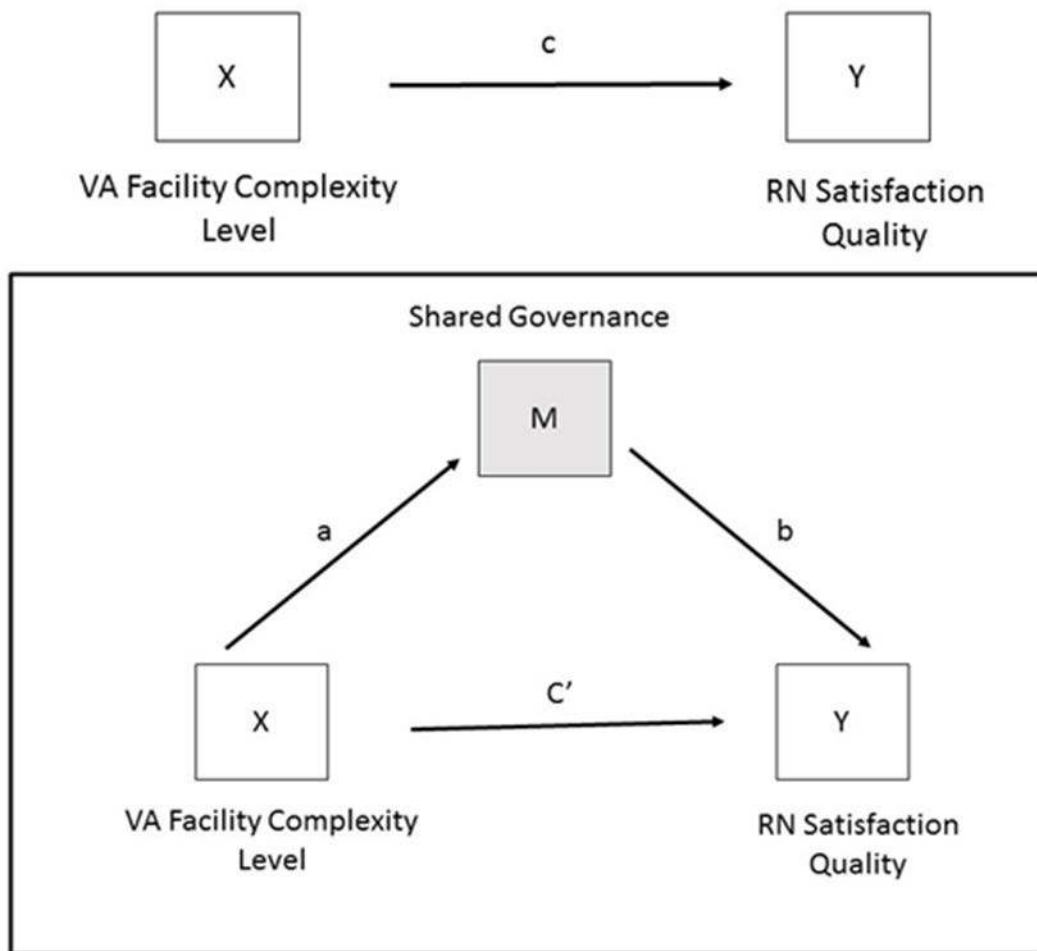


Figure 8. Mediation Model (Baron & Kenny, 1986)

In order to test this model, the relationships must meet the following assumptions. First the causal variable VA facility complexity level must be significantly correlated to the outcome variable of RN satisfaction with quality ($r = .299, p = .028$). This correlation indicates a “Path c” relationship which was regressed to determine if there was a significant causal relationship. The results were not significant ($F(1, 52) = 3.66, p = 0.061$) the unstandardized β was .027, standardized β of .257 and standard error of estimation of .14170. The R^2 explained 7% of the variance and unstandardized β was .027 was not significant. Because the results were

nearly significant the decision was made to continue the analysis. Secondly, the causal variable VA facility complexity level must be significantly correlated with the mediator variable shared governance maturity ($r = .275$, $p = 0.044$). This correlation indicates a “Path a” relationship which was regressed to determine a significant causal relationship. The regression analysis was significant [$F(1, 52) = 4.106$, $p = 0.048$] with an unstandardized β of .273, standardized β of .271 and standard error of estimation of 1.3737. Then the mediator variable of shared governance maturity must correlate with the dependent variable of RN satisfaction with quality ($r = .398$, $p = 0.011$). This correlation indicates a “Path b” relationship which was regressed to determine a significant causal relationship. The regression analysis was significant [$F(1, 52) = 7.988$, $p = 0.007$] with an unstandardized β of .037, standardized β of .365 and standard error of estimation of .13650. Finally, “Path c’” was examined by regressing VA facility complexity and shared governance maturity on RN satisfaction with quality. The regression analysis was significant [$F(2, 51) = 4.857$, $p = 0.012$] with an unstandardized β of .018, standardized β of .170 and standard error of estimation of .13657. The results are summaries in Table 16.

Table 16

Mediation Model Results

Step	Path	F	Unst. Co.	β	P	R ²	Error est.
1	c	3.666	.027	.257	.061	.066	.14170
2	a	4.106	.273	.271	.048	.073	1.3737
3	b	7.988	.037	.365	.077	.133	.13650
4	c’	4.857	.018	.170	.012	.160	.13657

The Sobel test to determine whether the mediator variable of shared governance maturity significantly carries the influence of VA facility complexity level to RN satisfaction with quality was not significant (Sobel $Z = 0.160$, $p = .8726$). However the β did show a decreasing trend. There were no other significant relationships to explore.

Summary

The analysis approach in this study included full exploration of descriptive statistics, including assumptions of normality, linearity, and homoscedasticity. Once the basic assumptions were met, the research questions guided examination of the relationships that were found.

Support was found for research Question 1. Are there significant differences in quality outcomes among VA hospitals with difference shared governance structure and in VA hospitals without shared governance structure? Significant differences were found in the quality outcomes of RN satisfaction with participation, RN satisfaction with quality, overall RN satisfaction and the prevalence of HAPU at VA hospitals with shared governance. Support was found for research Question 2: What are the individual and combined effects of organizational context and shared governance structure on quality outcomes, controlling for hospital size and turbulence? There were five significant multivariate relationships that were examined. The first relationship demonstrated a significant relationship between the maturity of shared governance significantly predicting RN satisfaction with quality. The second relationship did not show a significant combined or individual effect of organizational context and structure variables with the outcome of patient satisfaction. The third relationship

showed a significant relationship between a context of greater turbulence predicting a shorter LOS. The fourth relationship did not show a significant combined or individual effect of organizational context and structure variables with the outcome of MRSA. The fifth relationship showed a significant relationship between a context of greater turbulence predicting fewer HAPUs. Turbulence was the only context variable that was significant, and there were no combined effects of context and structure on outcomes. Examination of Question 3: Are there relationships between organizational context and structure variables that predict quality outcome? This question resulted in examining the relationship between VA Facility complexity level, and shared governance in relation to HAPU. Specifically a mediator relationship between VA facility complexity level and shared governance in predicting HAPU was not significant. These results will be discussed in the next chapter.

Chapter VI

Discussion

There is evidence that the quality of patient care is directly impacted by the degree to which staff nurses are actively involved in decision making at two levels, the point of care level and at the organizational level (IOM, 2004). This study was guided by structural contingency theory (Donaldson, 2001) and designed to examine the relationships between organizational context, shared governance structure and quality patient outcomes using correlational and multivariate analyses. While some of these relationships have been the subject of previous empirical study, this is the first to explore these relationships within the VA healthcare system. This is an important and timely area for research because of the current monumental changes occurring in the US health care system. Restructuring of the health care system and transformation of the work environment are essential to meeting the higher expectations of the “Triple Aim of improving care, health and cost” (Berwick, Nolan, & Whittington, 2008, p. 759). In developing a plan of achieving the “Triple Aim” Berwick et al. (2008) identified “the integrator” as possibly a hospital-based organization that can link organizations across the continuum and can induce coordinative behavior among health service suppliers to work as a system that demonstrates reliability, adherence to evidence, cost, and progress in improvement. The traditional top down, hierarchical, rigid command structure has proven to be a major flaw in healthcare management (Toussaint & Gerard, 2010). Changing from an autocratic leadership to collaborative leadership was identified as essential to sustainability of organizational improvements (Toussaint & Gerard, 2010). In this current healthcare environment of increasing

demands and financial constraints, nurse executives, now more than ever, need evidence that shared governance as an organizational structure for nursing will produce improvements in nurse and patient outcomes and result in organizational quality and efficiency.

Shared governance has been widely implemented as a nursing management innovation to transform the nursing organization from a bureaucratic, hierarchy to a more organic, relational partnership. A shared governance model is seen as an initial step toward professional nursing excellence that provides a means of achieving high quality and performance (Watters, 2009). However, there is little generalizable evaluation of the effects of shared governance beyond specific implementation sites. The scientific evidence supporting shared governance implementation as a structure resulting in high performance and quality is not strong (Hess, 1994). Structural Contingency Theory (SCT) provides the underlying theoretical framework for this study (Donaldson, 2001). “The essence of the contingency theory paradigm is that organizational effectiveness results from fitting characteristics of the organization, such as its structure, to contingencies that reflect the situation of the organization” (Donaldson, 2001, p. 1). SCT is based on three core principles. First, there is an association between contingency and the organizational structure. Second, contingency determines the organizational structure, and third there is fit of some level of contingency with some level of structure that results in higher performance (Donaldson, 2001). The three major theoretical constructs of context, organizational structure and organizational effectiveness were the framework for conceptually organizing the study variables.

The overall goal of this study was to examine the relationships between organizational context, governance structure and outcomes in VA hospitals. The first purpose was to determine if there are differences in quality outcomes across VA hospitals with differing shared governance structures. The second purpose was to evaluate the individual and combined effects of organizational context, shared governance structure and outcomes controlling for hospital size and turbulence. The third purpose was to determine if there are relationships between organizational context and governance structure that predict quality outcomes.

In this chapter, the research findings are discussed in light of the empirical and theoretical literature for each research question. Conclusions are made regarding implementation of shared governance as a VA nursing organizational structure that results in quality outcomes and regarding the impact of organizational context. Finally, study limitations and implications for theory, practice, research and education are addressed.

Summary of Findings

This study used an ex post facto descriptive correlational design using Veterans Health Administration data and a Nurse Executive query across the U.S. The following research questions were analyzed.

Research question 1. Are there significant differences in quality outcomes among VA hospitals with different shared governance structure and in VA hospitals without shared governance structure? The first finding of interest was the prevalence of shared governance in VA hospitals and healthcare facilities across the U.S. Seventy percent (n = 54) of participants reported having a shared governance structure which

was somewhat surprising high considering the disparity of case studies reported in the shared governance literature. Clearly, implementing shared governance in the VA healthcare system is happening nationally and formally as evidenced by all of the respondents (100%) having shared governance documented by either policy, charter or by-laws. While the majority of these implementations were limited to the nursing service (32), there were report of integrated models (5) and one whole system model. Thirty percent (n = 54) of VA hospitals in this sample had the traditional hierarchical VA organizational structure. Of the 38 VA facilities reported to have shared governance structures 24 (63%) were level 1 facilities, 12 (32%) were level two and 2 (5%) were level 3. Initially, this finding would suggest that shared governance was more prevalent at the more complex larger facilities which is supported in the correlation between shared governance years and VA facility complexity level. However, this does not account for the 11 level 3 VA facilities that had shared governance, but were excluded from this sample because they did not have acute medical surgical services. When these are included in the distribution, shared governance implementation does not appear to differ particularly in relation to organizational complexity. Additionally, there was no significant correlation between hospital bed size and shared governance.

The maturity of shared governance structures indicated that much of the shared governance structure has been implemented in VA hospitals over the past decade (9.3%) with 1-3 years maturity, (31.5%) with 3-5 years maturity, (14.8%) having 5-7 years maturity, (7.4%) having 7-10 years maturity and (7.4%) with >10 years maturity. Interestingly, in this sample three of the VA hospitals are Magnet designated and two

are Pathways to Excellence designated (REF Magnet). Brandt, Edwards, Cox-Sullivan, and Zehler (2012) provided an explanation regarding the expansion of shared governance to the Unit-level councils to further increase staff nurse empowerment on the Magnet journey. The VA Office of Nursing Service (ONS) has supported an excellence framework approach and has provided resources and programs to support VA facilities on this journey. Specifically, VA Magnet workshops and monthly national calls have been held to allow for VA facilities to network and share best practices. However, with leadership changes at VA ONS over the past three years, these past practices and resources have not been consistently maintained. The newly appointed VHA Chief Nursing Officer, Donna Gage, PhD, RN, NE-BC, has a vision of excellence that is born from experience as she previously spent ten years establishing an organization-wide nursing shared governance structure which led Penn State Hershey Hospital to Magnet designation.

With this ONS vision for excellence, the finding of the present study that VA hospitals with shared governance having significantly better RN satisfaction with participation, and quality is not surprising and is closely aligned with findings from similar studies in the shared governance and Magnet literature. Specifically, in one VA case study Brandt et al. (2012) reported that RN satisfaction at Central Arkansas Veterans Healthcare System (CAVHS) improved and remained above national VA benchmarks. Sales (2005) reported on nurse outcomes at VA hospitals compared to nurse outcomes from five Countries and found nurses at VA hospitals were less dissatisfied than their U.S. counterparts. Also significant in this study was the percent of VA nurses that reported that quality of care on the unit was excellent (Sales, 2005).

Dunbar et al. (2007) reported that staff satisfaction was monitored to guide implementation of shared governance at the James A. Haley Veterans' hospital and Medical center. James A. Haley Veterans' hospital was the first VA hospital nationwide to receive Magnet designation and was re-designated in 2005 and 2009. Malleo and Fusilero (2009) reported significant evidence of nurse job satisfaction in the fourth year of implementation on a new attempt at shared governance at Metro-Health Medical Center during their eight year magnet journey. Bretschneider et al. (2010) reported using the NDNQI Index of Work Satisfaction survey to monitor progress and improvements related to shared governance implementation. There are many more reports of improved nurse job satisfaction in the Magnet hospital literature (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Kramer & Hafner, 1989; Kramer & Schmalenberg, 1987, 1991a, 1991b; Kramer et al., 2008; Upenieks, 2003). Interestingly for the present study the single item overall RN satisfaction did not have a significant ANOVA result and did not indicate a trend in mean scores like the variables of RN satisfaction with participation and RN satisfaction with quality. This may suggest that the single question item that was used may not be as sensitive of a measure when examining RN job satisfaction at VA hospitals.

Another important finding regarding VA RN satisfaction with participation and quality related to the trending of the mean scores which demonstrated slight decreases in satisfaction at years 1-3. This is consistent with the literature indicating that there is a time lag between shared governance implementation and improved RN satisfaction. Kennerly (1996) found little change in nurse perceptions of job satisfaction at 8

months of shared governance implementation. Frith and Montgomery (2006) found that one year post shared governance implementation, perception and knowledge of shared governance decreased and concluded that the implementation process was slow and required dedication and commitment from management, council members and staff. Caramanica (2004, p. 4) described Hartford Hospital's experience of shared governance implementation as "never easy and requiring the continual freezing and unfreezing of structures and mental modes of all stakeholders."

The only patient outcome that had a significant result in relation to shared governance was HAPU prevalence. The Tukey's post hoc test was not significant. The power analysis indicated a low power and as such these results should be viewed with caution. A larger sample size is needed to fully examine the relationship and to have confidence in the results. However, this is aligned with results reported by Goode, Blegen, Park, Vaughn, and Spetz (2011) and Dunton, Gajewski, Klaus, and Pierson (2007) of lower prevalence of HAPU at Magnet hospitals.

Unfortunately, there were not significant findings related to the outcomes of patient satisfaction, LOS and MRSA. These may also be due to low statistical power. In addition, it raises important theoretical and methodological considerations which will be discussed in the limitations section.

Research question 2. What are the individual and combined effects of organizational context and shared governance structure on quality outcomes, controlling for hospital size and turbulence? The results of the multivariate regressions conducted in steps provided some indication of individual effects of context or structure on quality outcomes, but there were no significant relationships between

context and structure that resulted in quality outcomes. The significant results included additional support to question 1 analysis where maturity of shared governance was predictive of RN satisfaction with quality. In this analysis VA facility complexity was not significant, but the previously identified significant correlation with RN satisfaction of quality indicates that there may be some interaction. These results were similar to those relationships found by Mark, Salyer, and Wan (2003) where professional nursing practice predicted RN satisfaction.

Based on structural contingency theory there was an assumption of relationship between the context variables and the structure variables. These results did not support that assumption. The only significant correlation between the organizational context variables and shared governance structure variable was between the VA facility complexity level and shared governance maturity, which was significantly positively correlated ($r = .275$; $p = .044$). This indicated that the larger, more complex VA facilities have had shared governance in place for a longer period. Contrary to theoretical expectations, there were no other significant correlations between the context and structure variables. This will be further discussed in the section regarding theoretical implication.

There were a number of significant correlations between the independent variables of VA complexity level and CMI, teaching status, hospital bed size, RN education level and shared governance (see Table 6, Chapter 5). This could indicate that this single variable of VA complexity level might be representative of a number of characteristics of context. The complexity level and index is determined by the characteristics of the patient population, clinical services offered, educational and

research mission and administrative complexity (VHA, 2012). As such, the structural contingency theory constructs related to organizational context of environment and technology might be represented in this single variable.

Teaching status was significantly positively correlated with VA facility complexity level, CMI and hospital bed size, which indicates that the larger, more complex VA hospitals were teaching institutions. RN education level was significantly positively correlated with VA facility complexity level and CMI. This indicates that there are more baccalaureate prepared RNs at more complex VA facilities and with higher medical CMI. The higher CMI is an indicator of higher costs per patient. Additionally in this VA sample, there was a range of (40%-87%, mean 65%) of RNs educated at the baccalaureate level or higher. This is significantly higher than the 51.78% bachelor degree level and 3.78% master degree level reported for Magnet organizations (ANCC, 2015). This finding has been previously reported by Sales (2005) who concluded that the nursing workforce in the VHA had some unique characteristics that provided a work environment similar to Magnet hospitals. This study sample included three VA Magnet recognized hospitals (of a total of 401 across the VA system) and two Pathways to Excellence recognized hospitals (of a total of 126 across the VA system) (ANCC, 2015).

The second regression analysis included the dependent variable of patient satisfaction with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. This was not a significant model. Patient satisfaction has been studied extensively and there are nursing studies linking shared governance implementation with patient

satisfaction (Mark et al., 2003; Stumpf, 2001). This finding was unexpected given the significant correlation between RN satisfaction with quality and patient satisfaction ($r = .279$, $p = .041$). This might suggest that the single item measure of patient satisfaction is not adequate for this level of analysis. Future research might include all subscales for facility level analysis. For a more rigorous analysis the matching of patient satisfaction with RN satisfaction at the unit level is recommended.

The third regression analysis included the dependent variable of LOS with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. This regression resulted in two significant models with turbulence being the only significant variable in each model. The study findings indicate that turbulence had numerous interactions to consider. First, the negative correlation between turbulence and CMI seems to support the notion that increased movement of patients is associated with lower costs. The literature relating to patient flow indicates that efficient bed utilization is dependent on “the right care, the right time, the right place every time” (Nowak et al., 2012, p. 82). There is no literature indicating a particular turbulence rate being associated with effective placement of admitted patients. Turbulence is a variable significant to nursing practice and quality that has not been widely studied. CMI was selected as a context variable representing the economic environment because it is a universal measure of costs related to patient care used by CMS. This result seems to indicate that it may be worthy of further consideration related to measuring costs associated with RN workload. There was discussion in the shared governance literature examining the costs-benefit relationship of shared governance implementation (DeBaca et al., 1993).

In presenting a business case for shared governance, cost was used as a factor in numerous studies (Finkler et al., 1994; McDonagh et al., 1989; Minnen et al., 1993). Using CMI as a measure of cost efficiency in VA healthcare should be considered and explored in relation to cost-benefit analysis of shared governance in VA. Finding an association with this measure would allow further comparisons to the private sector shared governance implementations.

The fourth regression analysis included the dependent variable of MRSA with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. There were no significant models in this analysis. This might be suggestive of a difficulty in a variable with a very small range (0.0-0.92) that is also skewed toward zero. The VA's success related to this national initiative is well documented in the literature (Evans et al., 2013). A methodologic approach that might strengthen this analysis would be to use repeated measures at different time periods. Additionally, the MRSA variable could have been coded as a categorical variable for the analysis.

The fifth regression analysis included the dependent variable of HAPU with the independent variables of shared governance years, VA facility complexity, CMI, RN Education level and teaching status controlling for turbulence. The results indicated that turbulence was a significant predictor of HAPU. The relationship was negative in direction meaning that as the turbulence decreases the prevalence of HAPU increases. This finding was supported in the literature. Aydin, Donaldson, Stotts, Fridman, and Brown (2015) conducted a study modeling HAPU prevalence on medical surgical units and through logistical regression found that more patients at risk resulted in more

HAPUs while higher nursing hours per patient day and higher patient turnover or turbulence resulted in fewer HAPUs. Results from this study support the notion that patient movement activities do not seem to impede pressure ulcer prevention programs effectiveness. These findings are contrary to other findings related to turbulence on the in-patient unit. High turbulence rate have been reported to decrease the beneficial effect of RN staffing on failure-to-rescue (Park, Blegen, Spetz, Chapman, & De Groot, 2012). Additionally, Donaldson, Aydin, and Fridman (2014) found that the likelihood of medication errors increased when patient turnover was high. More research is needed on the impact or turbulence on specific patient outcomes considering that there is evidence suggesting higher turbulence is associated with better patient outcomes related to HAPU, but at the same time seems to be related to other poorer patient outcomes.

Research question 3. Are there relationships between organizational context and shared governance structure that predict quality outcomes? In this study there were no significant findings suggesting relationships between organizational context, shared governance structures that predict better outcomes. Overall, the results do not seem to describe the theoretical relationships proposed by structural contingency theory. In particular, the lack of significance between shared governance and the independent variables representing context suggests theoretical and methodological weaknesses. From a theoretical perspective perhaps the contingencies or context of the nursing organization as it relates to shared governance have not been adequately represented by the variables selected. Organizational context might not be as sensitive to the shared governance structure as more specific nursing organizational context. Weston (2006)

identified antecedents of control over nursing practice and suggests strategies for improving the work environment in the acute care hospital setting. These strategies include enhancing autonomy and control over nursing practice which might help to identify variables more representative of the nursing organizational context (Weston, 2010). Strategies for enhancing autonomy include increasing clinical expertise, role modeling for novice nurses, mentoring and creating a culture of learning (Weston, 2010). This suggests that in addition to RN education level, specialty certification, competency-based preceptored orientation, certified nurse mentors, nurse residency program, and nursing academic partnerships might be nursing context variables of interest and significance in relation to shared governance. Strategies for enhancing control over nursing practice include nurse participation in decision making across the organization (Weston, 2010). This might be measured by nurse involvement and leadership on organizational and unit level committees that influence decisions related to practice. These might be policy committees or resource allocation committees. From a methodological stand point Weston (2006) found that contextual measures had a greater influence at the unit-level than at the organizational level. In addition to this methodologic consideration Weston (2006) suggests a complexity theory perspective given a review of literature from nursing, psychology and organizational management. James (2010, p. 139) proposes “that complexity science theory is a natural framework for nurse leaders to use in leading and solving complex, unpredictable problems in highly complex organizations and evolving health care systems.” Complexity science theory focuses on behaviors of complex adaptive systems and recognizes the parts of the sub-system are better understood in the context of their relationship to the whole

system (Davidson, Ray, & Turkel, 2011). Additionally, complexity science theory requires that organizations be viewed from an organic perspective, in that the system evolves, and grows in a life cycle. The next section will discuss limitations of the study.

Limitations

This was a cross-sectional, ex post facto descriptive correlational study intended to explore relationships across the United States VA system. Post hoc power analyses indicated that the sample size was not always adequate to achieve the preferred power of .80. Power analyses conducted for this sample size of 48-54 indicated that a larger sample size of 80-100 would have provided appropriate power for the statistical analysis in question 1 and 2. Power analysis for the MANOVA on RN satisfaction with participation, RN satisfaction with quality and overall RN satisfaction was adequate because the sample was 54. However the outcomes variables where outliers were removed resulted in smaller sample sizes and less power for the ANOVAs. A recommendation would be to conduct power analysis before sampling to determine if the population is large enough given probable sample sizes. This is a consideration for future studies. Given the size of the U.S. VA system, sample and power can be adequately addressed in future studies. Given the lack of power and the absence of two VISNs in the mid-west these results are not generalizable and should be viewed with caution.

There were potential threats to internal and external validity to consider in this study. The study was conducting during a time of political pressure and VA system restructuring involving significant changes in leadership at both the national level and

medical center level. This added to the organizational uncertainty. The VA ONS approval process imposed limits on a national survey of nurse executives, which was not anticipated. This clearly impacted the sample size and quality of data. Also at the same time, there was public attention and concerns for quality of care at VA hospitals nationally which resulted in significant turnover of leadership including VA nurse executives during the study period. A vacancy rate of 11% meant that participation would only be 89% at best. The impact of this vacancy rate cannot be specifically analyzed because acting nurse executives were included to obtain a higher participation rate. Additionally, the nurse executive query approach required by ONS did not allow for nurse executive anonymity. The original design planned as anonymous survey to protect the nurse executive identity and to ensure less bias related to shared governance implementation. The email methodology was questioned by some participants who did not participate. There may have been bias toward reporting on shared governance implementation. In the future the approach should be to secure VA ONS approval before the study goes to a formal IRB proposal so that requirements can be included in the research protocol and protected for the duration of the study regardless of the political events.

The lack of correlation between the context variables and shared governance and the context variables with patient outcomes seem to suggest that there are either theoretical or methodological limitations. Mark et al. (2003) similarly found difficulties with the structural contingency theoretical framework and attempts were made to incorporate their recommendations for this study. First, Mark et al. found that professional nursing practice had few effects on outcomes at the unit level and raised

questions as to the conceptualization of professional practice. This study attempted to make clarify the conceptualization of professional practice as having a shared governance model. Additionally, outcome variables were selected because of the association with national protocols managed by an RN expert. However, Kramer (2002) found that having a shared governance structure did not always produce the outcomes associated with shared governance, such as, autonomy, and control over nursing practice. A significant limitation in this study was having shared governance self-reported by the nurse executive without anonymity which potentially resulted in biased data. The nurse executive might not wish to report not having shared governance if it would be perceived as not being progressive and transformational in nursing leadership. A recommendation to address this weakness might be to measure shared governance with a valid and reliable instrument. Perhaps using the IPNG instrument developed and tested by Hess (1998) would have provided a better measure regarding the presence of shared governance which then could be examined at the unit and facility level. Additionally, future study consideration is needed related to the measure of the outcome variables relative to the nursing protocol. The national reported prevalence rates of patient outcomes may not be sensitive to the nursing interventions or process variables in the national protocol. There are many other variables not related to the nursing process that might influence those rates. Future studies should look at more specific measures for effectiveness of nursing processes for example in relation to MRSA prevalence compliance with MRSA screening and hand hygiene might present more precise measures (Evans et al., 2013).

Selection of the independent variables to represent context were theorized to impact nursing governance structure, however, only VA facility complexity level was positively correlated. This seems to indicate that organizational context variables may not represent the nursing governance context. Recently, Stalpers, de Brouwer, Kaljouw, and Schuurmans (2015) conducted a systematic review to examine the characteristics of the nurse work environment associated with five nurse-sensitive patient outcomes in hospitals. Their review concluded that there was evidence that collaborative relationships with physicians was associated with lower HAPU rates, that RN education level was associated with fewer patient falls and that lower RN tenure on the unit was related to higher patient falls and more HAPU (Stalpers et al., 2015). However, the authors suggest that this evidence needs to be viewed with caution in that many of the studies did not provide clear, strong conclusions. Selection of variables for this study was based on the current evidence demonstrating theoretical congruency. A possible approach for future studies would be to select only variables that have more conclusively demonstrated associations with the outcome perhaps beginning with better established RN outcomes, such as satisfaction, turnover and intent to stay. When selecting a patient specific outcome conducting a pre-examination of the data for normality and linearity would be a strong recommendation in addition to a clearly established correlation. Measurement of the context variables also needs further evaluation. For example, many of the nurse sensitive outcomes that are “never events,” like hospital acquired infections, and HAPUs are highly skewed to zero and have lower amounts of variability for measuring significant variance.

Another area of methodological and theoretical concern was that lack of correlation between the structural variable of shared governance and the effectiveness dependent variables related to patient outcomes. From this study the context variables of VA Facility complexity level, CMI and turbulence appear to have more significant relationships to patient outcomes than shared governance. This is likely due to the method used to collect and measure the variables. In this analysis the categorical shared governance maturity variable was treated like a continuous variable. A recommendation might be to transform the continuous outcome variable with a very small mean to a categorical variable and analyze both as categorical.

While the time span between the structure variable and the outcome variables provided for a year span between measurements, a more robust analysis would involve measuring the variables at multiple time points or over a longer period of time. Assessing variables at multiple time points assists with discernment of which variables are causal agents (Harlow, 2005). Looking at the maturity of the shared governance variable might have been more meaningful if there had been repeated measurement of the outcomes at 1, 3, 5, and 7 years. The research design controlling for hospital size and turbulence while theoretically driven was not realized in the data. Therefore, the controlling of these variables was rather non-consequential in the regression analysis for question 2. The pre-selection of control variables prior to data collection did not ensure the causal inference need to actually control for a variable (Harlow, 2005). Harlow (2005, p. 13) recommends “an experimental design where there is examination of the associations between carefully selected variables as a first step, followed by manipulation of the independent variable such that one or more groups get a treatment

and then randomly select a sufficient number of participants from the population.” This type of design would have decreased the likelihood of spurious relationships and allowed for more specific theoretical analysis. This study identified VA hospitals with and without shared governance structures, and there are VA hospitals that are Magnet and Pathways to Excellence designated which would allow for a natural experimental design similar to those seen in studies in the magnet literature.

Question 3 was designed to examine the variables for relationships consistent with structural contingency theory. Specifically, one mediating effect was tested with non-significant results. While sample size and power may have contributed to this finding, there has also been criticism of the mediation analysis. The mediation analysis conducted utilizing the Baron and Kenny (1986) approach. Zhao, Lynch, and Chen (2010) disagree with this analysis approach which indicates that the lack of a direct effect is indicative of a strong indirect effect, and argues that there does not need to be significance for an effect to be mediated and claims that the Sobel test is very low powered often resulting in non-significant finding.

Finally, although there is significant trust in VA data collection and the validity of VA administrative data it is subject to the possibility of inaccuracy or inconsistency. Every effort was made to select measures with a long history of data collection and validation to ensure the best possible administrative data for this study.

Implications for theory, research, practice, and education.

The findings of this study have several implications, relating to theory, research, clinical practice and educational initiatives.

Theoretical. A Structural Contingency Theory framework was used to guide this research study. “The essence of the contingency theory paradigm is that organizational effectiveness results from fitting characteristics of the organization, such as its structure, to contingencies that reflect the situation of the organization” (Donaldson, 2001, p. 1). Contingencies are circumstances that are possible, but not always predictable and in STC include the environment (Burns & Stalker, 1966) and the size of the organization (Child, 1973). SCT is based on three core principles. First, there is an association between contingency and the organizational structure. Second, contingency determines the organizational structure, and third there is fit of some level of contingency with some level of structure that results in higher performance (Donaldson, 2001). In evaluating SCT as a guiding framework for this study the results do not provide strong support of the three core principles; however, there is some suggestion of an interaction between the contingency or context variable of VA facility Complexity level and shared governance structure. The correlation shows that the larger more complex VA facilities have had shared governance in place for a longer amount of time. The lack of correlation between other context variables raises questions regarding selection of variables that are measuring the context of nursing practice. For example, rather than the binary variable of teaching status determined by the Association of American Medical Colleges, teaching status could be defined in relation to nursing and measured by the number of nursing students having clinical at the facility. Unfortunately, this data is not as readily available, but all students are registered through VA Education Departments and are surveyed on completion of rotations. The intent of this study was not to examine causality between context,

structure and outcome and the data and methods did not allow for further examination of the theoretical principles.

The wide-spread implementation of shared governance throughout VA seems to indicate that the context does not matter in terms of outcome. There is evidence that RN satisfaction increased with years of shared governance. Looking further into the effectiveness question might be better achieved with a different theoretical approach. The nursing shared governance literature as discussed in Chapter 2 identified a number of theoretical perspectives, however only Donabedian (1990) has been widely used as a theoretical lens. Using the Donabedian structure, process, outcome (SPO) paradigm to examine quality might provide for more knowledge development related to what processes and outcomes are affected by shared governance structures. More theoretical development is needed in this area.

Future Research. The current study findings taken in conjunction with the available literature suggest the need for future research studies. There is a need to develop well-planned research studies, which focus on measuring the outcomes of shared governance implementation beyond nurse satisfaction. This study provides a foundation to further explore shared governance implementations in VA to establish causal links between the structuring of nursing practice for lean processes that result in exceptional nurse and patient outcomes.

Education and practice. This study offers implications for nursing leadership, practice and education. The first implication is that over time, shared governance implementation in VA has resulted in nurse satisfaction. Nurse executives wanting to improve RN satisfaction can consider shared governance implementation as a way to

empower and engage nurses in professional practice. Additionally, with how widespread current implementations are VA facilities could pair-up and mentor new implementations to support the culture change during the start-up phase of implementation. The implication for practice is that there is evidence to support a change in the organizational structure of nursing at VA hospitals. RNs are more likely to stay in organizations where they are satisfied with the job and quality of the work. Nurses entering the field of nursing might be persuaded to work for a national organization that is actively examining and improving the nurse work environment. Implications for education include involving students and nurse residences in Council meetings and activities to demonstrate the shared governance model of professional nursing practice. Both academic instructors and practice educators should be preparing nursing staff with the foundations of shared governance ensuring that nurses are knowledgeable about excellence frameworks and elements of the profession that support empowerment structures for their professional practice.

Appendix A

Institutional Review Board Approval

Department of
Veterans Affairs

Memorandum

Date: December 4, 2014 (revised December 11, 2014)

From: Damaris Rohsenow, Ph.D., Chair, Institutional Review Board
VA Medical Center, Providence, RI

Subj: Expedited approval

To: Bonnie Charland, Ph.D., M.B.A., R.N.

Expedited review and approval was given this date, of the investigator's request dated November 21, 2014, for continuing review for the minimal risk protocol entitled **"Relationships Between Organizational Context, shared Governance Structure, and Outcomes in Veteran Affairs Hospitals"** submitted by Bonnie Charland, Ph.D., M.B.A., R.N.

The period of approval is from December 6, 2014, through December 10, 2015.
(The anniversary date was retained per Handbook 1200.05.)

The previously approved alteration of Informed Consent remains in effect.

"This request meets the following criteria for expedited review and approval for continuing approval per Handbook 1200.05 (5/2/2012) paragraph 20(a)(1):
(1) The research is currently approved by the IRB and within its period of approval and involves no more than minimal risk, and (2) No subjects have been enrolled and no additional risks have been identified. "

The updated protocol dated October 5, 2014, that incorporates previously approved modifications is accepted.

Damaris J.
Rohsenow, Ph.D.,
IRB Chair

Digitally signed by Damaris J. Rohsenow, Ph.D.,
IRB Chair
DN: cn=Damaris J. Rohsenow, Ph.D., IRB Chair,
o=Providence VA Medical Center,
ou=Institutional Review Board,
email=Damaris.rohsenow@brown.edu, c=US
Date: 2014.12.11 10:37:44 -05'00'

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FWA: 00003132
IRB: 00000599
DATE: October 15, 2014

TO: Mary Sullivan, PhD, RN
FROM: University of Rhode Island IRB

STUDY TITLE: Organizational context, shared governance structure and outcomes at
Veteran Affairs Hospitals.

IRB REFERENCE #: 579618-4
LOCAL REFERENCE #: HU1314-113
SUBMISSION TYPE: Amendment/Modification

ACTION: DETERMINATION OF EXEMPT STATUS
EFFECTIVE DATE: October 15, 2014

REVIEW CATEGORY: EXEMPT #2

Thank you for your submission of materials for this research study. The University of Rhode Island IRB has determined this project falls into the **EXEMPT REVIEW** category according to federal regulations 45 CFR 46. Per URI IRB policy, the project has been reviewed by either the IRB Chair or the IRB Administrator. **Approval is valid for the duration of the project.**

No changes to procedures involving human subjects may be made without prior IRB review and approval. You must promptly notify the Office of Research Integrity of any problems that occur during the course of your work using Appendix S - Event Reporting.

If you have any general questions, please contact us by email at researchintegrity@ds.uri.edu. For study related questions, please contact us via **project mail through IRBNet**. Please include your study title and reference number in all correspondence with this office.

Andrea Rusnock, Ph.D
IRB Chair

Appendix B

E-mail Query to Nurse Executives

Dear VA Nurse Executive,

The purpose of this email is to request your participation in this doctoral research study. I am supporting Bonnie Charland, MBA, RN, the Director of Quality Management at the Providence VA Medical Center (PVAMC) and a current student at the University of Rhode Island (URI), with completing her doctoral dissertation in nursing. She is conducting a study investigating **shared governance** as an organizational structure that leads to quality outcomes. The results of the study may help nursing leaders in executive roles better understand how to structure the nursing organization for quality outcomes.

- **Your participation will involve responding via email to the three questions below to MS Charland.**
- **Your participation is voluntary.**
- The proposal is approved by the PVAMC and URI IRBs and the PVAMC R&D Committee.
- Data will be de-identified for analysis to protect the confidentiality of both the Nurse Executive and facility.
- Participant responses will be held in complete confidence.
- The study will be submitted for publication as required for doctoral completion.
- Ms. Charland will provide a written report of the results of this email query by facility complexity level to the NE mail group.

In support of our staff pursuing advanced and doctoral degrees I thank you for your consideration!

1. What was the nursing governance structure in place at your facility on September 2012?

- Traditional Hierarchical (No shared governance structure)
- Formal Nursing Shared Governance (Nursing shared governance modeled as defined by policy, charter or by-laws)
- Integrated Shared Governance (Formal nursing shared governance model that includes other disciplines, or services in membership)
- Whole System Shared Governance (Formal nursing shared governance model with all disciplines, or services included in membership)

2. Does your nursing governance structure have?

- Policy
- Charter
- By-laws
- None of the above

3. How long has it been since the implementation of nursing shared governance?

- <1 year
- 3-5 years
- 5-7 years
- 7-10 years
- > 10 years

Debbi

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