University Of Nevada, Reno

# Application of the Prody Model for Continuous Quality Improvement to Enhance Work-Life-Balance in Nurses of a Clinical Microsystem Caring for Veterans

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## Abstract

The primary purpose of this mixed method, qualitative and quantitative, study was to demonstrate improvements in nurse workplace satisfaction through the implementation of the Compressed Work Schedule (CWS) program on the Medical Surgical Telemetry (MST) unit clinical microsystem at the VASNHCS using methods outlined in the Prody Model for Continuous Quality Improvement (PMCQI). The qualitative section utilized focus groups from a cohort of nurses working in the MST unit clinical microsystem. The quantitative section utilized a comparative retrospective research design of data from the same clinical microsystem. The implementation of the CWS using the PMCQI model improved work life balance of the nurses. The change to the CWS was a protective factor ($p = 0.007$) against patient falls in the MST unit clinical microsystem. Since the implementation of the CWS patients have a 39% lower odds of experiencing a fall (OR = 0.61, 95% CI = [0.46 – 0.82]).

## Dedication

In dedication to my loving family and all the support they have show me and the profession of Nursing throughout the years.

**Acknowledgements**

I would like to extend my appreciation to my advisors Dr Bernadette Longo PhD RN and Michelle Granner PhD. Their dedication to the assistance and guidance on this project provided me with the confidence and expert critique to be successful with the research. To my committee member Dr Wei-Chen Tung PhD RN and community member Dustin Booth MPH, thank you for the guidance and experience for development of the model. A special thank you Rachel Crossly RN MSN, Pamela Schueler RN MSN, and Andrea Wagner RN MSN of the VASNHCS Reno NV for the support provided to make this project a success.

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# Chapter One

## Introduction

The Institute of Medicine (IOM) (1999) reported that lack of safety and low quality are problems of systems that neither prepare nor support health care professionals to achieve optimal patient care outcomes. A healthy work environment includes a professional practice environment in which employees are skilled communicators and where face-to-face interactions are open, positive, and consistent with one's professional and ethical mandates (Kupperschmidt et al., 2010). Unhealthy work environments contribute to medical errors, ineffective delivery of care, conflict, and stress among health professionals (American Association of Critical Care Nurses, 2005). Medical errors have a limited relationship to the competencies of staff, but are related to the complexity of the health care system (Tornaben & Miller, 2008). The IOM and the Agency for Healthcare Research and Quality identify safety of the work environment as a research priority. These organizations recognize that the safety and well-being of health care providers are essential to providing high quality care (American Association of Critical Care Nurses, 2005). Adoption of a healthy work environment requires creating the systems, structures, and cultures that provide continual system-wide feedback and supports the efforts of change within an organization. Unhealthy work environments are supported through a lack of the knowledge, skills, and experience in workers to initiate system change. Accompanying these obstacles, organizational attention to work culture is not considered for resource allocation due to the perception that healthy work cultures do not affect an organization's financial health. Unhealthy work environments create

dissatisfied employees resulting in increased medical errors, hospital-acquired infections, patient readmission, and high nurse turnover (American Association of Critical Care Nurses, 2005).

Traditional hierarchal organizational behaviors are often underestimated as a source of work place dissatisfaction despite growing evidence that they contribute to creating unsafe conditions and obstruct the ability of individuals and the organization to deliver high quality care (Aikin et al., 2002; Duffield, 2011; Tanka et al., 2011). Nurses begin to be alienated when decisions that affect practice are made without any consultation or involvement. Bramford-Wade & Moss (2010) noted that change within the healthcare system can be discredited by many of the traditional norms and values of the nursing profession and contributed to a breakdown in collaboration. Change needs to be adopted at every level of the organization, from the bedside to the boardroom (American Association of Critical Care Nurses, 2005).

Evidence indicates psychosocial tensions, burnout, and ethical stress are common and serious stressors among health care workers that negatively influence job satisfaction, stability of nursing staff, and patient care. Addressing workplace issues that improve staff satisfaction can therefore improve unit performance, and serve to attract and retain quality clinicians (Elpern & Silver, 2006). Improvement of the nurse's working environment includes resolving issues of balancing career with private life (Tanka et al., 2010). Factors such as shift work and staffing patterns create increase stress in healthcare professionals. Today's typical hospital patient has high acuity and nurses are expected to provide care that results in shorter stays using fewer resources. The patients' needs often

take precedence over the nurses. Dissatisfaction can lead to burnout, exhaustion, and disconnect from family, increasing the incidence of mistakes and accidents at work and at home (Simmons, 2012).

Hospitals often use staffing patterns that create potentially hazardous conditions. High patient acuity coupled with rapid admission and discharge cycles pose critical challenges for complete and effective nursing care. Patients in the United States received only 55% of recommended care (McGlynn et al., 2003). Patient outcomes are influenced by the organization's utilization of nursing staff. Missed nursing care is related to insufficient time to complete all required care of the patient and potentially influences the prevalence of falls. One method of preventing patient falls is to devise methods whereby nursing staff can efficiently complete all necessary standard nursing care. Completing standards of care is a critical factor for achieving improved patient outcomes (Kalisch, Tschannen, & Lee, 2012).

Hours-per-patient-day is a staffing methodology that is endorsed by the National Quality Forum and is included as a nurse sensitive indicator of patient outcomes (American Nurses Association, 2012). An environment that fosters evidence-based practice incorporated into direct patient care supports nurse sensitive indicators that provide positive patient outcomes. Allowing staff to become part of the solution and improved practice standards empowers the nurse to articulate how their practice directly effects patient care (Grant, Wild, & Vincent, 2004) and improves care delivery.

The Magnet Recognition Program, developed by the American Nurses Credentialing Center (ANCC), designates health care organizations with the Magnet

designation as the ultimate credential for high quality nursing. Magnet is the leading source of successful nursing practices and strategies worldwide (American Nurses Credentialing Center, 2012). Magnet hospitals utilize organizational practices of decentralized decision-making and shared governance models to increase nurses' control over their work environment. Nurses that are empowered through knowledge and input into work policies have the ability to tailor the work environment to meet the needs of the core staff. Empowerment leads to job satisfaction (Tanka et al., 2010). Organizational problems with quality typically do not occur because of a failure of goodwill, lack of knowledge, minimal effort, or limited resources devoted to health care, but occur because of fundamental shortcomings in the ways care is organized. Health care organizations have blinded themselves to lessons learned by other high-risk industries. Despite research and application of learned organizational improvements that could be incorporated into an organization's operations without great cost, knowledge about such actions has not been disseminated among health care institutions or widely implemented (IOM, 2001). The IOM (2001) recommends that organizations reshape health care delivery through the creation of an infrastructure to support evidence-based practice, while preparing the workforce to improve service for patients in a world of expanding knowledge and rapid change.

**Statement of the Problem**

Core nursing staff on the Medical Surgical Telemetry (MST) unit clinical microsystem of the VA Sierra Nevada Health Care System (VASNHCS) reported dissatisfaction with their work environment through the RN Satisfaction Survey, which

was administered as part of the Work Place Assessment, All Employee Survey (AES) in 2012. Using the Job Satisfaction Index (JSI), MST nurses scored lower on overall satisfaction, satisfaction with the quality of care delivered, and satisfaction with staffing patterns when compared to the national average and other units of the VASNHCS (VHA National Center for Organization Development, 2011).

**Purpose of the Study**

The primary purpose of this mixed method, qualitative and quantitative, study was to demonstrate improvements in nurse workplace satisfaction through the implementation of the Compressed Work Schedule (CWS) program on the Medical Surgical Telemetry (MST) unit clinical microsystem at the VASNHCS. Implementation of the CWS was conducted using methods outlined in the Prody Model for Continuous Quality Improvement (PMCQI). The PMCQI is an evidenced-based methodology for formal change within an organizational setting (see appendix A). This study evaluated nurse workplace satisfaction survey scores from the VA Nursing Outcomes Database (VANOD) for 2011 (before) and 2012 (after) the introduction of the CWS. Focus group sessions were used to obtain feedback from nurses addressing topics of work-life balance, job satisfaction, missed nursing care, perceptions in the quality of nursing care delivered, and unintended consequences of the CWS. A secondary focus of the study was to compare aggregrated monthly VSSC data (2011 and 2012) for total patient falls and nursing hours per patient day (NHPPD). These nurse sensitive indicators were evaluated as predictors of patient outcomes resulting from implemention of the CWS.

## Significance of the Study

The IOM (2005) stated that research involving the reduction of error prevention and patient safety is a legitimate academic pursuit. The federal government allocated $50 million annually for patient safety research. Funding was almost entirely spent on information technology, leaving many variables of patient care unaddressed. This study has contributed to the body of knowledge discussing the effectiveness of a theoretical and evidence-based system for implementation of programs that foster a healthy work environment while providing a tool for organizations to incorporate frontline core staff into policy decisions to aid in the reduction of performance gaps through improvements of the organizational infrastructure (Cornett et al., 2012). The study has also advocated for nurses and their unique body of knowledge as an imperative source for appropriate and safe policy development.

## Scientific and Theoretical Assumptions

The major assumptions of this study include the following:

1) Nurses' work satisfaction improves by allowing core staff to provide input into policy development (Miller & Monge, 1986).

2) Core staff input into policy development improves patient outcomes (Grant, Wild, & Vinvent, 2004; American Association of Critical Care Nurses, 2005, Cornett et al., 2012; Tanka et al., 2010).

3) The compressed work schedule (CWS) program has been implemented for enough time to identify significant changes in staff satisfaction levels (US Department of Health and Human Services, ND).

4) Improvement in core nursing staff work satisfaction promotes a microsystem culture that supports a healthy work environment (Tanka et al., 2010; Miller & Monge, 1986).

5) Improvement of job satisfaction improves patient outcomes (Elpern & Silver, 2006; Glanz, Rimmer, & Lewis, 2002.)

6) Utilizing a staffing plan with nursing hour-per-patient day methodology reduces missed nursing care and patient falls (Kalisch, Tschannen, & Lee, 2012).

**Research Questions**

The following research questions will be investigated:

**Qualitative.**

1) Will incorporation of core staff input into staffing policy development increase work-life- balance of the MST Unit VASNHCS nurses?

2) Will improvement of work-life-balance of the MST unit clinical microsystem nurses improve job satisfaction?

3) Will changing the staffing plan to a CWS improve the perception of the quality of daily nursing care to the Veterans?

4) Does appropriate staffing of recommended nurses to hours-per-patient day improve the perception of the quality of care delivered to the Veterans?

5) Do nurses perceive that the CWS allows for a reduction in daily missed nursing care for the Veterans?

**Quantitative.**

1) Would incorporating core staff input into policy development and implementation in 2012 result in an increase from 2011 in the following: a) overall satisfaction, b) quality of care delivered, and c) staffing.

2) Is there a significant association between nursing hours-per-patient day and the incidence of patient falls in the clinical microsystem?

**Limitations.**

***Qualitative.***

Limitations to this section of the study include potential for moderator bias, selection bias, and participant response bias. The student investigator (SI) for this thesis was the facilitator for the focus groups. The student researcher is the same person who developed and implemented the PMCQI and works side-by-side with the nursing team on a daily basis as the unit's Clinical Nurse Leader in a consultant, non-supervisory capacity. The working realtionship between the SI and the participitants could have lead to a positive response bias. Conscious effort was demonstrated to control facial expressions, body language, tone, and language style to limit the influence of the SI upon participant responses. The SI made every attempt to remain objective and keep perceptions and opinions from influencing data analysis. There were two checks for objectivity during the focus group section of the study; a) Debriefing with the note taker at the end of each focus group session concluded that objectivity was maintained for all focus groups, and b) themes from the data and a sample of the focus group transcripts were reviewed by a

second coder (a member of the thesis committee). Each group's questions were asked in the same order and body language of the SI was similar for all focus groups.

There was potential for selection bias due to timing and dates of the focus groups. The sessions were designed for nurses to participate before or after their work tour. The CWS allots for large amount of time off from work and individuals may not come into work on their days off to participate. The voulentary attendance may have allowed individuals who had more strongly positive or negative opinion than the whole population of nurses of the MST unit clinical microsystem. There was potiential that the sample may not be representative of all opinions on the MST unit.

Flyers posted with times and dates available and a confidential signup sheet allowed the nurses the opportunity to sign up for a focus group time. Information sheets were placed in the staff's work mail box's at the same time recrutment flyers were hung. Information sheets and flyers were available one week before focus groups began to allow the nurses to plan and participate in the session of their choice. The flyers were posted with enough time for most nursing staff to have at least one secheduled tour on the unit. Mail boxed are commonly checked by the nursing staff during their tour and all nursing staff unless on leave would have been scheduled for a tour during the recrutment time.

There was no indication of dominator response bias within any of the focus groups. The SI encouraged expression of all perspectives. All individuals participated and the group provided time for all individuals to speak if they wanted to answer a question. The groups were curtious to all members and allowed time for each member to complete

their statements without coersion or undue influence by the other group members or the moderator. This was verified through the debrefing with the note taker.

***Quantitative.***

Longitudinal effects may be a result of the length of program implementation. The CWS program was launched January 2012. Longitudinal effects may not be detectable through the AES, Work Place Assessment 2013 for the VASNHCS, taking into consideration education and efficacy for self-scheduling and alteration of life style changes to accommodate the new work hours. True effect of the program may not be fully demonstrated in the period of data collection. The 2013 AES was closed October 31, 2012 following the development and implementation of the staffing policy and CWS implementation. It is recommended that programs continue at least eight to twelve weeks to achieve long-term impacts (US Department of Health and Human Services, ND). However, policy change and resultant impacts may take longer to be fully realized. The AES was conducted 10 months post implementation and the focus groups were conducted 17 months post implementation. In addition to biases discussed above, this may be an additional potential explanation for the discrepancy between the qualitative and quantitative findings. The additional time for CWS implementation between the administration of the survey and the completion of the focus groups may have allowed more time for impacts of the policy to be realized and/or the nurses' opinions to change. It is also possible that longer implementation may be needed to fully assess the impact of the policy.

There was potential for both positive and negative confounding. Due to the complexity of the hospital setting there was potential for other interventions to have effect on the exposure and outcome of the intervention. Discussions were held with the 2C/3C nurse manager and determined that no other major interventions or programs were implemented during the study time for the MST Unit clinical Microsystem (A. Wagner RN MSN, personal communication, July 7, 2013).

**Conceptual and Operational Definitions**

1) Compressed Work Schedule (CWS): in the case of a full time employee, an 80 hour biweekly work week requirement that is scheduled for less than 10 workdays. In the case of a part-time employee, a biweekly work schedule of less than 80 hours that is scheduled for less than 10 workdays and may require the employee to work more than eight hours a day. A '6-12-8' schedule is defined within the VA/AFGE agreement as an 80 hour biweekly basic work schedule that includes six, twelve hour workdays and one, eight hour work day (VA/AFGE, 2011). This study evaluated this schedule.

2) Continuous Quality Improvement (CQI): is an organizational commitment to system change, linked to the strategic plan, for continuous flow of improvements that meet or exceed the expectations of the Veterans being served. It identifies how the organization knows when a project or program really works or does not work, involving continual reevaluation addressing issues of how to make the program better and more efficient (Gorenflo, 2010; Kane, Moran, & Armbruster, 2009).

3) Core Staff: are permanent, full time or part time Registered Nurses (non-managerial), Licensed Practical/Vocational Nurses, and Nursing Assistants whose primary tour is on the 2C/3C Medical Surgical Telemetry unit at the VASNHCS.

4) Direct Care: are all patient-centered nursing activities preformed by staff assigned to the unit in the presence of or away from the patient (VA Sierra Nevada Health Care System, 2011). The level of direct care determines the nursing hours-per-patient-day.

5) Fiscal Year (FY): is defined as October 1 to September 30.

6) Macro Organizational Level: involves translation of a mission and vision statement to the objectives of the organization. Members involved in administration identify what broad organization-wide quality improvements are needed and disseminate this information through the organization (Witcher & Butterworth, 1997).

7) Missed Nursing Care: is the omission of nursing activities contributing to daily care of the patient (assist with ADL, toileting, education) or ordered from the physician (i.e. ambulate TID) (Kalisch, Tschannen, & Lee, 2012).

8) Clinical Microsystem: Are the specific departments within the organization. The microsystem is the front-line units that provide most health care to most people. A microsystem is a sub-unit of the macro organization. The patient is the center and it expands to the individual provider, to all auxiliary services and all unit team members involved in care (Godfree et al., 2004; The Dartmouth Institute, 2012).

9) Nursing Hours-Per-Patient Day (NHPPD): number of direct care hours related to the patient workload. This includes staff who are counted in the unit's staffing matrix,

individuals from float or other departments who replace a sick call and all other nursing staff whose hours are charged to the unit's cost center (VA Sierra Nevada Health Care System, 2011).

10) Nurse Sensitive Indicators: are patient safety and quality improvement variables, providing research-based national comparative data on nursing care and the relationship to patient outcomes. This study will address issues involving 1) nursing hours per patient day, 2) patient falls, 3) job satisfaction scales (American Nurses Association, 2012; Grant, Wild, & Vincent, 2004).

11) Patient falls: are defined as any event in which patients are found on the floor, either observed or unobserved, and includes unplanned lowering of the patient to the floor by staff or visitors. The variable is used as an indicator of missed nursing care in this study (Kalisch, Tschannen, & Lee, 2012).

12) Patient Outcomes: are measures that describe a patient's health status or level of function during or following health care delivery (VA Sierra Nevada Health Care System, 2011).

13) Prody Model for Continuous Quality Improvement (PMCQI): is an evidenced-based methodology for formal change within an organizational setting.

14) Work Life Balance: is how individuals choose to prioritize their work, family, and community responsibilities (Simmons, 2012).

15) VA All Employee Survey (AES): an annual survey to collect information on employee perceptions of the workplace and satisfaction at work (Sirota Surveillance Intelligence, 2012).

## Theoretical/Conceptual Framework

### Social cognitive theory.

The social cognitive theory explains how people develop and maintain certain behavioral patterns and provides a basis for intervention strategies (Bandura, 2001). Evaluating behavioral change depends on the factors of the social environment including family members, friends, and colleagues. A cognitive or mental representation of the environment affects a person's behavior. Observational learning occurs when a person watches the actions of another person; and reaction to the behavior is based on the reinforcements that the person receives. Observational learning can promote behavior change depending on the individual's behavioral capability. If a person is to perform a behavior, he must know what the behavior is and have the skills to perform it. Positive reinforcements to the behavioral change will increase self-efficacy if the person has confidence in performing a particular behavior. Reciprocal determinism is the dynamic interaction of the person, behavior, and environment in which the behavior is performed. Sustainable positive reciprocal determinism must acknowledge multiple avenues to behavioral influence and change, including environmental, skill, and personal change. This theory also suggests that modification of the environment can influence behavior. People and behavior are constantly influencing each other. Behavior cannot be considered simply the result of the environment and the person, nor can the environment simply be the result of the person and behavior (Glanz, Rimmer, & Lewis, 2002).

**The cognitive model of participative effects.**

Work can have a psychological impact on the individual and subsequently, the individual can impact organizational economic effectiveness. Interest in worker participation grew out of a variety of theoretical perspectives that the proper psychological environment produced worker motivation to work harder, which brought about increased performance, independent of economic rewards. Participation has been widely used in goal-setting approaches. It has been argued that participative goal-setting, as opposed to assigned goal-setting, would yield increased performance (Smith & Sainforn, 1989). The cognitive model of participative effects suggests that participation in decision-making is a good strategy because it enhances the flow and utilization of important information in an organization. The theory proposes that workers typically have more complete knowledge of their work than management; hence, if workers participate in decision-making, decisions will be made with a better pool of information. Also employees that participate in decision-making will have better knowledge for implementing work procedures after the decisions have been made. Application of the theory would first identify employees who have quality information regarding the decision being made and include them in the decision making process, thereby producing a stronger effect of participation in job design and implementation. Second, employee satisfaction would be gradually increased via improved work productivity. Third, worker productivity could also be enhanced through specific inputs from employees on issues that they are interested in and knowledgeable (Miller & Monge, 1986).

### Ecological model for health promotion.

The theoretical framework of the ecological model for health promotion supports the PMCQI. The ecological model for health promotion uses individual and social environmental factors for implementation of programs and interventions. The model demonstrates the importance of change to incorporate policy, community, organization, and interpersonal and individual interactions and perspectives. The PMCQI parallels the theoretical framework of the ecological model with the assumption that changing the environment will produce changes at the individual level. The environmental level of change is in turn supported by the needs of the individual (McLeroy et al., 1988).

## The Prody Model for Continuous Quality Improvement (PMCQI)

The PMCQI is an evidenced-based methodology for formal change within an organizational setting, see appendix A for additional information regarding the theoretical and evidence base for the model. Development and application of the model utilized the Stetler model for research utilization to facilitate evidence-based practice (Stetler, 2009). The PMCQI was originally developed to assist the Carson City, NV Health and Human Service Department in the Public Health Accreditation Board (PHAB) National Accreditation Process. PMCQI was tailored to address continuous quality improvement issues within the VA Sierra Nevada Health Care System Reno NV.

Organizational attention to work culture is commonly not considered for resource allocation due to the perception that healthy work cultures do not affect an organization's financial health. Dissatisfied employees contribute to an increase in medical errors, hospital-acquired infections, patient readmission, and high nurse turnover (American

Association of Critical Care Nurses, 2005). Existing research involving nursing feedback for policies directly affecting patient care has limited theoretical development and standardization (Sofaer & Firminger, 2005).

**Macro organizational level and strategic quality planning.**

A strategic approach to quality is referred to as *hoshin* planning; a client oriented flowing methodology for achieving breakthrough in organizational improvements (Rakich, 2000) through the development of long term goals that are recognized by all within the organization and involving specifically prioritized objectives (Mardsen,1998). Continuous quality improvement (CQI) involves prospective and retrospective reviews of the organization's standards, effectiveness of programs, and improves organizational use of resources and human capital (Harrison et-.al., 2012). CQI methodologies utilizing *hoshin* planning from the manufacturing industry have been developed over the past century to reduce variation and error, increasing the reliability of the production process, improving product quality for the customer, and simultaneously reducing cost. CQI in healthcare is a more recent development. The use of CQI methods and tools in healthcare improvement programs is growing (Nicolay et al., 2012). Client centered perceptions of quality should be the primary focus for quality improvement measures. Input requires a top down and bottom up approach from all levels of the organization. Focusing evaluations that result in continuous improvement of existing systems will improve process outcomes (Wood & Munshi, 1991). CQI specifically attempts to avoid attributing blame but identify and create systems to prevent errors from happening (Duke University, 2005).

**Mission and vision statement.**

The Veterans affairs nursing vision states: "VHA Nursing is a dynamic and diverse group of healthcare leaders and professionals whose innovative and competent practice creates the culture whereby Veterans drive the plan of care to attain and sustain their highest state of health and wellness." Supporting the vision is the VA Office of Nursing Service mission statement: **"**The Office of Nursing Services (ONS) provides leadership and strategic direction for nursing practice across the entire continuum of care delivery that impacts Veterans" (US Department of Veterans Affairs, 2011). The mission and vision supply the context for the macrosystem objectives of the strategic plan (Bart, 1998; McManis & Monslave, 2003).

**Identification of problem/project.**

Core nursing staff on the Medical Surgical Telemetry (MST) unit clinical microsystem of the VA Sierra Nevada Health Care System (VASNHCS) reported dissatisfaction with their work environment through the RN Satisfaction Survey, which was administered as part of the Work Place Assessment, All Employee Survey (AES) 2012. Using the job satisfaction index (JSI), MST nurses scored lower on overall satisfaction, satisfaction with the quality of care delivered, and satisfaction with staffing patterns than the national average and other units of the VASNHCS (VHA National Center for Organization Development, 2011).

**Meet client needs. Macro-level.**

The first step of the process at the macro-level of the organization is to meet the needs of the client. Identification of the target population provides guidelines for

tailoring and a culturally appropriate intervention (Davis, Gross, & Clancy, 2012; Duke, Connor & McEldowney, 2009). The target population was identified as core nursing staff of the 2C/3C Medical Surgical Telemetry clinical Microsystem. Their needs were identified as to improve work place satisfaction for the nursing staff of the MST unit clinical microsystem.

**Focus.**

The second step of the process was to develop objectives to implement a systematic process for improving nurse workplace satisfaction (Davis, Gross, & Clancy, 2012; Harrison et al., 2012; Joly et al., 2012). The organizations Executives approved the core nursing staffs quality improvement project proposal to restructure the workplace environment.

**Achieve organizational objectives.**

Organizational goals and benchmarks are derived from the strategic planning process. The evidenced-based approach to implementation of the CWS is in alignment with the Nursing Practice Transformation section of the National Nursing Strategic plan of the Veterans Administration (2011-2015). Objective 1.3 is to facilitate the use of evidence in clinical practice, through the use of nurse sensitive indicators and the development of policies that guide practice (Veterans Health Administration, 2011). Clarification of critical actions and core processes for the organization are deployed from the senior executives of the organization. The clinical microsystem interprets the organizational objective to departmental objectives that are specific to itself (Witcher & Butterworth, 1997).

**Enhance competitive position.**

As a result of the CQI methodology interventions driven by system wide collaboration, utilizing the PMCQI has potential to enhance the organization's competitive position. Throughout the VA health care system, increased emphasis has been placed upon improving the lives of staff. It is stated that employers should understand that staff have the potential for higher performance rates when there is a balance between work and personal life. Improvement with balance between work and personal life assists in resolution of recruitment and retention issues (Richardson, Turnock, Finley, & Carson, 2007).

**Align the organization and the microsystem.**

This is an intermediary step of the strategic plan to improve quality, begin program implementation, and begin cultural change within the organization (Cornette et al., 2012; Marsden, 1998; Nicolay et al., 2011). Promotion of staff involvement assists with ownership of the quality improvement action, aiding individual departments with the strategic plan and the organization's mission and vision statement (Gorenflo, 2010; Harrison et al., 2012; Witcher & Butterworth, 1997). Top-down, bottom up planning will optimize and provide input from the entire organization and facilitate the back and forth flow of communication. The back and forth flow of communication and ideas fosters the cooperation and input needed for planning and cultural change (Bamford-Wade & Moss, 2010; Wood & Munshi, 1991).

Organizational capacity for continuous learning and process improvement is a critical competency. This system identifies the importance of ensuring significant

frontline staff involvement in process and policy development. Empowerment combined with collaborative multidisciplinary decision-making is an essential attribute of a successful work environment. Job satisfaction, productivity, and retention are positively related to professional recognition (Mannis & Monslave Associates, 2003). There is a direct relationship between quality of the work environment, excellent nursing practice, and patient care outcomes. Inattention to work relationships creates obstacles that may become the root cause of medical errors, hospital-acquired infections, patient readmission, and nurse turnover (American Association of Critical Care Nurses, 2005). Under this system, nursing leaders are required to let go and lead by motivating and coaching rather than by directing and controlling how process improvement needs are identified. An improvement to work design and care delivery processes involves cultivating a work environment that encourages innovation, experimentation, and disciplined evaluation (McManis & Monslave, 2003).

**Select a quality improvement project.**

There is a direct relationship between quality of the work environment, excellent nursing practice, and patient care outcomes. Unhealthy work environments contribute to medical errors, ineffective delivery of care, conflict and stress among health professionals (American Association of Critical Care Nurses, 2005). Performance gaps can be reduced through improvements to the organizational infrastructure (Cornett et al., 2012). Continuous quality improvement equips frontline staff to scrutinize and improve on long-standing processes (Woon & Munshi, 1991; Bamford-Wade & Moss, 2010).

A proposal was submitted to the Chief Nurse Executive by the nurses of 2C/3C medical surgical unit requesting to move from a traditional 5 day 40 hour workweek to a compressed schedule of six, 12-hour shifts with one 8-hour shift per pay period. The proposal allows for the nurses who do not want to move from the traditional 8-hour schedule to remain with the traditional 8-hour/5 day a week schedule. The proposal consisted of a literature review for 12-hours shifts to provide an evidence base to support the hypothesis that the intervention will contribute to improvements of nursing job satisfaction, quality of care delivered, and improved utilization of current nursing staff.

**Assemble a quality improvement team.**

The team should include individuals that are stakeholders and those who are in direct contact with the target population (Cornett et al., 2012; Harrison et al., 2012; Madamala et al., 2012). A team was developed consisting of the Associate Director of Patient Care Services, Associate Chief of Patient Care Services, 2C/3C unit manager, American Federation of Government Employees (AFGE) union, and two front line MST unit nursing staff members.

**Model for improvement.**

The model for improvement identifies what the group is trying to accomplish through AIM, measure, ideas, and sustainability. This format assists in maintaining focus of the QI group through small incremental tests of change (Gorenflo, 2010; Harrison et al., 2012).

***AIM statement.***

Implementation of the CWS staffing plan on the 2C/3C MST unit will improve nurses' preceived workplace satisfaction, quality of care, and staffing patterns in one year.

***Measure.***

The study used a mixed method design of qualitative inquiry and quantitative data analysis. The qualitative section of the study utilizes focus groups from a cohort of nurses working in the MST unit clinical microsystem to address questions pertaining to nurses' perceptions of work-life-balance, quality of nursing care, and job satisfaction. The quantitative section of the study utilizes a comparative retrospective research design of data from the AES for the same clinical microsystem.

***Plan, do, check, act (PDCA) cycle.***

Presuming to know the reason for a problem rather than systematically discovering potential root causes and obtaining baseline measures misses a critical opportunity to focus resources. The Plan-Do-Act-Check cycle is a system for daily control of a newly implemented process or policy (Woon & Munshi, 1991; Witcher & Butterworth, 1997; Rakich, 2000; Harrison et al., 2012).

*Plan.*

Staff desires accompanied with a changing political atmosphere towards the work environment, demonstrated through the AES results, provided a window of opportunity for program implementation. Program content was discussed and approved by the Associate Director of Patient Care Services, Associate Chief of Patient Care Services,

2C/3C unit manager, human resources representative, and the American Federation of Government Employees (AFGE) union prior to the introduction of the program through a series of meetings. In conjunction with program content, a staff education curriculum for self-scheduling and a draft scheduling policy was developed. Final approval of the CWS program was announced through a memo from the hospital Chief of Staff.

*Do.*

Initiation of the 12 hours shift program began as a grass root effort among core floor staff of MST unit at the VASNHCS. The program was implemented as a one-year trial of the compressed work schedule (CWS) beginning January 1, 2012.

*Check.*

Evaluation of the program results was presented to management with recommendations.

*Act.*

The QI team will reevaluate the program and make necessary changes to support CQI.

***Ideas.***

Brainstorming techniques identified collaborative efforts to support the needs of the nursing staff while enforcing the VA and Union regulation as applied to workplace changes.

***Sustainability.***

Program sustainability will be maintained through a final written Standard Operating Procedure (SOP) approved by the Associate Director of Patient Care Services,

Associate Chief of Patient Care Services, 2C/3C unit manager, human resource representative, and the American Federation of Government Employees (AFGE) union president.

**Organizational quality improvements.**

Organizations that openly report quality measures are associated with a more accountable health care system, by providing a feedback loop between expectations and experiences (Harrison et al., 2012). Translating research into organizational wide action requires implementation of change through a performance management system. Effective performance management will improve clinical practice and positively influence heath outcomes. An effective continuous performance management system engages all levels of the health care team under the vision of the organization to develop and implement sustainable change. Incorporation of members from all levels of the organization provides staff ownership that is necessary for changes in procedural methodology or program/intervention implementation (Bamford-Wade & Moss, 2010).

**Continuous quality improvement.**

Quality improvement (QI) involves prospective and retrospective reviews. QI measures the organization current standards, effectiveness of programs, and improves organizational use of resources and human capital (Harrison et.al., 2012). The dominance of market-oriented approaches to reforms in health care delivery and cost contribute to the emergence of a normative perspective on clinical practices (Sofaer, S. & Firminger, K. 2005) that emphasizes the need to deliver client-centered services and the need to focus on client perceptions of quality. Improvements in client satisfaction are

linked to greater accountability and transparency of organizations and assists with the identification of process or programs that need to be reevaluated (Gorenflo, 2010).

**Change in organizational practice and culture.**

Public reporting of quality measures is associated with the accountability of the health care system. Client perceptions of quality should be the primary focus for quality improvement measures providing a feedback loop between expectations and experiences (Gorenflo, 2010). There are two dominating public perceptions that are remodeling the current health care system: an increase in the theoretical shift of market-oriented approaches to reforms in health care delivery cost and the emergence of a normative perspective from the public for clinical practice that emphasizes the delivery of patient centered care (Sofaer & Firminger, 2005). The current era of the health care industry has come under increased pressure to provide evidence of quality controls and quality improvements. Health care service leaders have begun to understand that service aspects of health care are closely linked to health care outcomes of individuals (Sofaer & Firminger, 2005; Wadhwa, 2002). Recognition that health care service must respond to the preferences and values of the consumers of the industry, and that their opinions about care are important indicators of its quality, requires organizations to develop a new approach to strategic planning (Colombatto, 2012; Davis, Gross, & Clancy, 2012; Rakich, 2000).

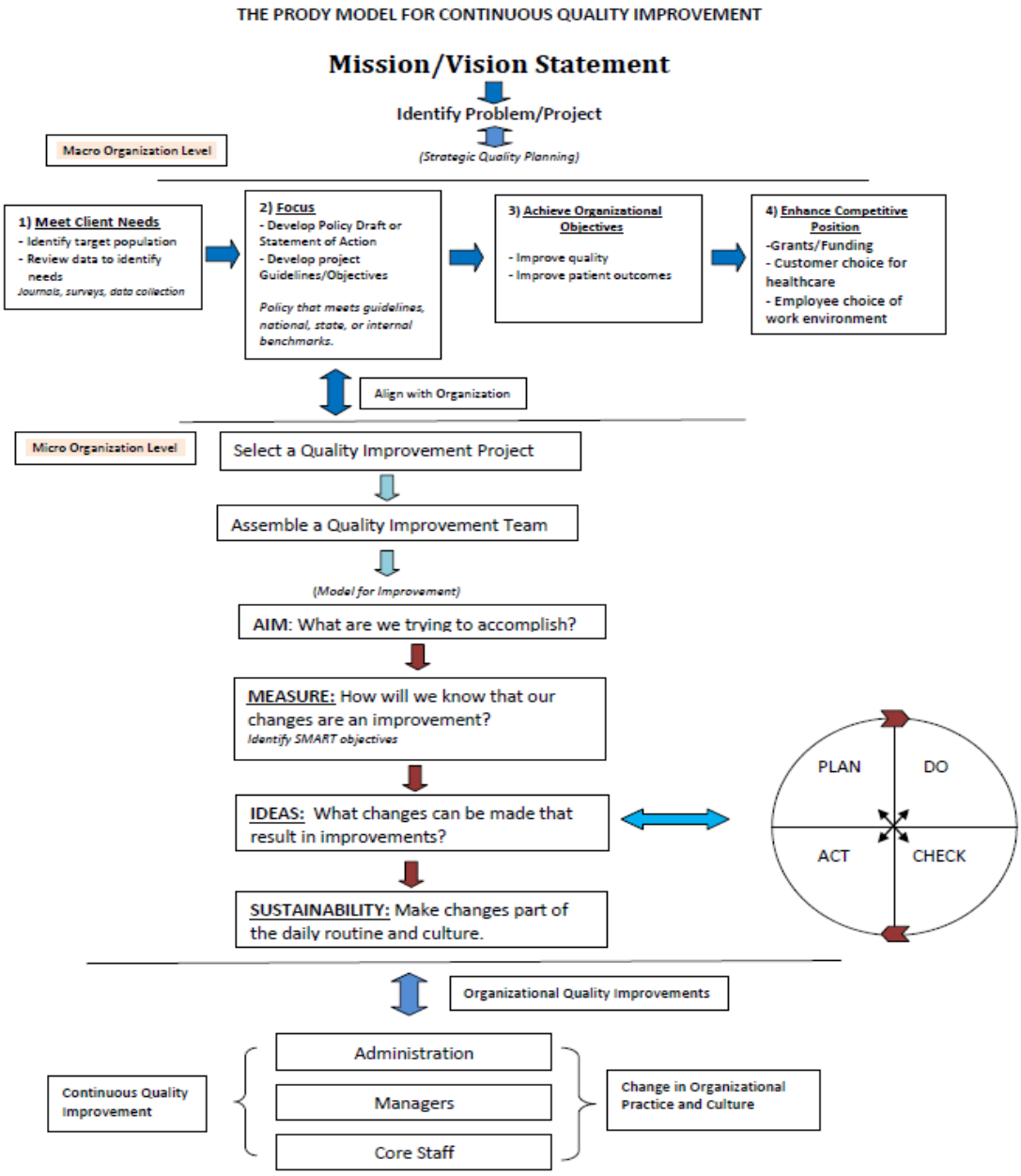


*Figure 1*. The Prody Model for Continuous Quality Improvement (PMCQI). Visual diagram showing the relationship between the research question and conceptual framework.

# Chapter 2

## Review of the Literature

Medical errors within the health care setting contribute to longer hospital stays, adverse patient outcomes and mortality (IOM, 1999). The advancements of medical treatment and science within the last half-century has not translated to advancements in patient care (IOM, 2001). It is estimated 44,000 – 98,000 people die each year because of medical errors. Deaths reported from medical errors are higher than deaths due to motor vehicle accidents, breast cancer, or AIDS (IOM, 1999). Patient care is becoming increasingly complex within the health care system. Shortened length of stays, exploration of new treatments, and accelerated demands for updated education of health care professionals creates a fragmented system. Gaps in clinician communication fuel an environment that is increasingly discipline oriented rather than client centered. Removal of the client from the center of heath care results in omissions of therapy and medical errors. Research demonstrates that medical errors have limited relation to the competencies of staff, but are associated with the cumbersome, fast-paced complexity of the health care system (Tornaben & Miller, 2008). Recommendations from the IOM (1999) state performance standards for health care professionals to have greater focus on patient safety and rely on increased collaboration to formulate guidelines outlying the role of the professional. There is not a comprehensive nationwide monitoring system available to monitor patient safety. Estimates are largely based on insurance claim data, having low sensitivity for detecting quality improvements (Leap & Bearwick, 2005).

Organizational problems with quality typically do not occur because of a failure of goodwill, knowledge, effort, or resources devoted to health care, but because of fundamental shortcomings in the ways care is organized. Health care organizations have blinded themselves to lessons learned by other high-risk industries. Despite research and application of learned organizational improvements that could be incorporated into organizational operations without great cost, knowledge about such actions has not been disseminated among health care institutions or widely implemented (IOM, 2001). The IOM (2001) recommends that organizations reshape health care delivery through the creation of an infrastructure to support evidence-based practice, while preparing the workforce to improve services to patients in a world of expanding knowledge and rapid change.

Large systems fail because of multiple faults that occur together in an unanticipated interaction. System failure results in accidents. Incorporation of human factors into organizational structure refocuses the primary objective of a system to reduce the probability of accidents and errors. Good managerial decisions, a skilled and knowledgeable workforce, reasonable work schedules, well-designed jobs with clear guidance on desired and undesired performance are the precursors for safe processes. The application of human factors, theory, and alternative approaches has successfully reduced and improved reliability in other industries (Institute of Medicine, 1999; Davis, Gross, & Clancy, 2012; Nicolay et al., 2012).

Quality of care is defined as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes (Nicolay et al., 2012).

Patients in the United States receive only 55% of the recommended care (McGlynn et al., 2003). The ability of health care agencies to provide high quality care is compromised due to limitations in organizational capacity. Performance gaps can be limited through the improvement to the organizational infrastructure (Cornett et al., 2012). A fully functioning performance management system that is completely integrated into all levels of the organization's daily practices assists in setting organizational objectives, and identifies indicators to measure progress, responsible parties for monitoring progress and reporting, and areas for quality improvement (Public Health Accreditation Board, 2011; Wood & Munshi, 1991). Effective performance management will improve clinical practice and positively influence heath outcomes. An effective continuous performance management system engages all levels of the health care team under the vision of the organization to develop and implement sustainable change. Incorporation of members from all levels of the organization provides staff ownership that is necessary for changes in procedural methodology or program implementation (Marsden, 1998; Wood & Munshi, 1991; Bamford-Wade & Moss, 2010).

**Nursing Job Satisfaction.**

Identifying levels of nurse satisfaction is linked to greater accountability or transparency. Understanding satisfaction levels identifies what front line work issues need to be addressed. Public reporting of quality measures is associated with increased accountability within the health care system by providing a feedback loop between expectations and experiences (Harrison et al., 2012). Translating research into organizational wide action requires implementation of change through a performance

management system. Effective performance management will improve clinical practice and positively influence heath outcomes. A supportive nursing management and favorable work-group climate promotes job satisfaction (Elpern & Silver, 2006).

Factors that contribute to job satisfaction include inadequate staffing, heavy workload, and poor work environments (Elpern & Silver, 2006; Foley et al., 2002; Best & Thurston, 2004). There is an increasing body of evidence that links nursing job satisfaction to patient outcomes. Hospitals with a high degree of job satisfaction report higher quality of care and better patient outcomes (Aiken et al., 2002; Best & Thurston, 2004; Kovner et al., 2006; Kwak et al., 2010). Nurses have become increasingly dissatisfied with the working conditions in hospitals, reporting that they are spending less time taking care of increasingly ill patients, resulting in decreased safety and quality of care. The outcomes associated with staffing levels of nurses should be viewed as indicators of quality rather than as measures of the full effect of the nurses in hospitals. The level of staffing by nurses is an incomplete measure of the quality of nursing care. Other factors to consider include effective communication of objectives and a positive work environment (Needleman et al., 2002).

The patient safety movement has identified two major types of errors initiated by the IOM: 1) the acts of commission, such as marking the incorrect eye for surgery, and 2) acts of omission, such as not ambulating the patient (IOM, 1999). Among nurses it is widely acknowledged that missed nursing care occurs, but there is little research defining or identifying the implications to nursing practice (Kalisch, Landstrom, & Hindshaw, 2009). Missed nursing care leads to poor patient outcomes. Patterns of missing standard

nursing care are similar across hospitals (Kalisch & Tschannen, 2001). The time constraints involving work to be done and time allotted for the nursing shift create an atmosphere for nurses to make decisions regarding what care will be completed. In these circumstances, nurses may abbreviate, delay, or omit the care (Kalisch, Landstrom, & Hindshaw, 2009). There is an established association between nursing staffing levels, missed nursing care, and patient falls. (Kalisch & Tschannen, 2001; Duffield et al., 2011, Vincent, Knight, & Dunot, 2012). Patient fall rates are sensitive to the extent or quality of nursing care. Approximately 12% of hospitalized patients experience at least one fall during their admittance to the hospital (Kalisch & Tschannen, 2001). Staffing levels are a component in the complex matrix of the hospital environment that contributes the adverse patient outcome such as falls. Identifying an appropriate staffing system is only effective for positive patient outcomes within the context of a quality work environment (Duffield et al., 2011).

**Compressed Work Schedule.**

In 2004, legislation was passed authorizing the Veterans Administration to use alternative work schedules (AWS) for nursing staff in health care facilities or specific units that demonstrate high turnover or difficulty in recruiting or retaining staff. AWS offer competitive schedules for employees (OSN, 2010). One format of the AWS is the Compressed Work Schedule (CWS). The VA/AFGE 2011 agreement defines CWS, in the case of a full time employee, as an 80 hour biweekly work week requirement that is scheduled for less than 10 workdays. In the case of part time employee, it is defined as a biweekly work schedule of less than 80 hours that is scheduled for less than 10 work days

and may require the employee to work more than eight hours a day. A '6-12-8' schedule is defined within the agreement as an 80 hour bi-weekly basic work schedule that includes six, twelve hour workdays and one, eight hour work day.

Shift work can affect sleep, performance, and organizational outcome by the individual obtaining a lower quality of sleep than sleep obtained during traditional hours. Shift work is associated with higher rates of cardiovascular diseases and digestive tract problems. Disorders associated with sleep disturbance from evening and night shift work are greater than that experienced by day shift workers; problems include sleep-related accidents, depression, absenteeism, and missed family and social activities (Admi et al., 2008). One of the primary factors associated with medical errors was shift work (Gold et al., 1992), demonstrated by short–term memory disturbances related to circadian rhythm disruption (Rouch et al., 2005).

Sporadic sickness rates and use of agency staff were reduced through efficient use of ward staff (Bloodworth et al., 2001). Twelve hour shifts provide personal benefits for the staff, including an increase in leisure time, increased job satisfaction, more time spent with family, study time, annual leave maximized, decreased stress due to time management, and decreases in incremental overtime (Bloodworth et al., 2001; Lea & Bloodworth, 2003).

Twelve-hour shifts have shown to be a practical approach to contributing to an increased flexible work pattern. Contributing to the positive effects of twelve-hour shift is the creation of more days off, decreased commuting time, and more choices in shift schedule options. Improvements in patient care include: increased continuity of care and

an increased time allowed for planning and providing care within a given shift. The extended shift reduces pressure to complete assignments and allows for pacing which decreases the stress of the workload (Richardson et al., 2007). Earlier start times for the night shift allowed for a more detailed night assessment and increased the promotion of patient sleep (Bloodworth, 2001). Other findings include improved shift-to-shift communication and accountability among nurses, a decrease in incremental overtime, and a reduction in the need for agency nurses (Bloodworth et al., 2001).

Negative implications of 12 hour nursing shifts have been reported. In a study by Wooten (2000), the increased number of days off between shifts led to a decrease in the continuity of care and increased fatigue of nurses. Todd et al., (1989) described that the quality of patient care was negatively affected with the 12 hours shift pattern. Bloodstone and colleagues (2001), challenged the findings and demonstrated no differences in quality of patient care with regards to staff perceptions, patient perceptions, or documentation between 8 and 12 hour shifts. Further, the staff did not report feeling more tired with the longer hours.

# Chapter 3

## Methodology

Information obtained from this study evaluated potential improvements in nurse workplace satisfaction through application of the Prody Model for Continuous Quality Improvement (PMCQI) by improving work-life-balance for the nurses of the MST Unit clinical microsystem of the VASNHCS. The study also assessed the effectiveness of incorporating front line staff in the development of evidenced-based policy as a key element for improved patient outcomes and an improved work environment work environment. The study contributes to the body of knowledge for nursing care as indicators of patient outcomes through the assessment of improved work environment and its effects on the prevalence of patient falls.

### Research Questions

The following research questions were investigated:

**Qualitative.**

1) Will incorporation of core staff input into staffing policy development increase work-life- balance of the MST unit VASNHCS nurses?

2) Will improvement of work-life-balance of the MST unit microsystem nurses improve job satisfaction?

3) Will changing the staffing plan to a CWS improve the perception of quality of daily nursing care to the Veterans?

4) Does appropriate staffing of recommended nurses to hours-per-patient day improve the nurses perception of the quality of care delivered to the Veterans?

5) Do nurses perceive that the CWS allows for a reduction in daily missed nursing care for the Veterans?

**Quantitative.**

1) Would incorporating core staff input into policy development and implementation in 2012 result in an increase from 2011 in the following: a) overall satisfaction b) quality of care delivered, and c) staffing.

2) Is there a significant association between nursing hours-per-patient day and the incidence of patient falls in the clinical microsystem?

**Research Design**

This study utilized a descriptive design using mixed methods of qualitative inquiry and quantitative data analysis. The qualitative section of the study utilized focus groups from a cohort of nurses working in the MST unit clinical microsystem to address questions pertaining to nurses' perceptions of work-life-balance, quality of nursing care, and job satisfaction. The quantitative section of the study utilized a comparative retrospective research design of data from the same clinical microsystem. The dependent variables or effect are nurses' work satisfaction scores, working conditions, job satisfaction, hours-per-patient day, and incidence of patient falls. The independent variable or cause, is the compressed work schedule (CWS) program which was implemented in 2011. The study design is appropriate as the goal of the research attempted to address associations with the phenomenon that has already occurred. The independent variable cannot be manipulated and the individuals are not randomly selected (Cantrell, 2011).

## Description of Setting

The Veterans Administration (VA) is considered the leader in the creation of an organizational culture where excellence in nursing is valued as essential for quality healthcare for those who served the United States of America. VA is the largest employer of nurses in the Nation, with more than 80,000 RNs, APNs, LPNs/LVNs, and nursing assistants (Office of Nursing Services, 2012). The VASNHCS is a macro system of healthcare services, centrally located in the city of Reno. The Medical Surgical-Telemetry clinical microsystem is a 38-bed unit, divided on the second and third floors of the hospital (2C/3C, denoting the building and floor). Twenty-eight beds are located on the second floor and contain the capacity for 12 telemetry-monitored patients (2C). The remaining 10 beds are located on the third floor (3C); no telemetry monitoring is conducted of the patients admitted to this portion of the facility.

## Sample and Sampling Method

### Qualitative inquiry.

Inclusion criteria was all core nursing staff (RN's, LPN's and NA's) who were involved with direct patient care in the MST unit clinical microsystem. Nurses and nurses aids assigned to the MST unit as their permanent assigment had the opportunity to voluntarily participate in the focus groups. Individuals had no commitment to attend focus groups and were permitted to leave without retribution or consequence at any time during the group. There was no coercion for participation. Exclusion criteria was that management, administration, and non-nursing personel who practice in the clinical microsystem were excluded because they are not the focus of this study. In addition,

nursing staff whose primary position was not on the MST care units were excluded from the focus groups.

The focus groups, consisted of small groups of participants, per session, who are sampled by convenience method (voluntary attendance). Recruitment was conducted with flyers posted with times and dates available and a confidential signup sheet that allowed the nurses to be given the opportunity to sign up for a focus group time (no names, simply a check in an attendance slot showing that an anonymous person wants to attend). Information sheets were placed in the staff's work mail boxes at the same time recrutment flyers were hung. The lowest level of education requirement involved in this study is the Nurses Aid. As stated through the Office of Personnel Management Technical and Medical Support positions within the VASNHCS upon employment were required to show proof of a high school education or equivalent. Contact information was provided with the emails on the information sheet which was covered prior to the beginning of the focus group. The information sheet's Flesch-Kincaid grade level was 12.2.

**Quantitative.**

Inclusion criteria for data from 2011 and 2012 included monthly averages of hours-per-patient-day, nurse work satisfaction scores for the MST unit clinical microsystem, and total patient falls that occurred while admitted to the MST care unit. Exclusion criteria was any fall, nursing hour-per-patient-day calculation or nurse work satisfaction data that were not specific to the clinical microsystem (MST care unit) or occured on dates outside of 2011 and 2012.

There was no recruitment for the quantitative section of the study. The quantitative section of the study used all MST staff present in the VSSC data system. This was an inclusive data set and no sampling frame was needed. Variables NHPPD, monthly census, monthly total falls were analyzed separately comparing 2011 monthly values to 2012 monthly values. Means were compared for the AES results from FY 2012 (survey for 2011) and FY 2013 (survey for 2012).

**Human Subjects Protection**

The study was approved by the Institutional Review Board of the VASNHC and the University of Nevada-Reno prior to data collection (protocol # 2013S094).

**Qualitative inquiry.**

Protection for confidentiality and privacy was maintained in this study. Focus group participants volunteered, without compensation. An information sheet was given to each participant at the start of each focus group. The student investigator (group facilitator) answered all questions and stated that if any participant wants to leave at any time they could do so. Arriving and participating in the focus group reflected that the participant provides consent to the study. Furthermore, this research presented no more than minimal risk of harm to subjects for which consent is required outside of research. The student investigator leading the focus groups read aloud a statement of the purpose of the study, protection of confidentiality and anonymity of the participants (which included no names being stated during the group), and further described the procedure of recording the oral speech of the group to the end product of "themes" extracted from multiple focus groups. The focus groups were audio recorded and later transcribed without identifiers.

Voice recordings and transcripts contained in a locked cabinet in a locked office. To protect anonymity, participants' personal information was kept confidential. The transcripts were further de-identified through coding of themes. All research data was saved/destroyed according to VA Record Control Schedule.

**Quantitative.**

Data collected for this portion of the study included aggregate de-identified and public data.

## Data Collection

**Qualitative data collection.**

Individuals were asked to participate in only one (1) focus group with an estimate one (1) hour of time commitment. Four, 20-45 minute focus groups were conducted on two days within the same week. Two groups were conducted at 0815 and 2015. Small groups of 2-10 employees from the microsystem participated. The groups were facilitated using a predetermined set of eleven questions led by a facilitator and an assistant note taker. Each session was recorded using a digital voice recorder. Recorded data were analyzed for themes (summary of the statements supported with direct anonymous quotations from the respondents) and simliarities and differences in responses.

**Quantitative data.**

Aggregate-level patient fall data was provided by the VASNHC Safety Officer to the student investigator for the MST units during the retrospective time period. These data are not patient-specific, therefore any patient who experienced a fall would not be

able to be identified and their privacy would be maintained. Also, monthly hours-per-patient-day data were retrieved from the VA DSS system. The DSS is a database and set of tools for data reporting and analysis. The DSS input data is from standard VHA sources of VistaA and Austin Automation Center database, providing costed patient care data available for clinical quality and productivity analysis (US department of Veterans Affairs, 2011).

Data for 2C/3C monthly patient census for 2011 and 2012 and the RN Satisfaction Survey, Work Place Assessment 2012 and 2013 for the VASNHCS- Medical Surgical Unit were retrieved from the VA Nursing Outcomes Database (VANOD). Variables assessed for the survey results for 2011 and 2012 included overall satisfaction scores, quality of care delivered, and staffing patterns. The VANOD program is a national database of clinically relevant, nursing-sensitive quality indicators developed to assist in identification of trend related to quality improvement and safety, strategic decision-making though benchmarking, support data driven decisions for clinical practice and staffing, and evaluate relationships between nurse-sensitive indicators and patient outcomes (US Department of Veterans Affairs, N.D.) .

## Research Instruments

### Focus groups.

Focus groups were used for the qualitative section of the study. Focus groups combined with other research methods are a useful tool for understanding complex behaviors through active interaction among participants to explore their views and opinions (Jayasekara, 2012; Morgan, 1998). Focus group discussions can validate the

individual's curiosity of how others are handling the same situation. The group allowed individuals to hear others talk and interpret if what they are hearing is similar to their situation. Focus groups offered an opportunity for participants and researchers to learn from the process of engaging with professionals, policy makers, and end-users.

Reliability and validity of the focus groups was defined through credibility, neutrality, consistency, and applicability (Jayasekara, 2012). To assure reliability and validity, Jayasekara (2012) recommended the following considerations: 1) Developing clear, precise and consistent research questions will provide relevant answers to the research and ensure that it is repeatable; 2) Assure that the facilitators have sufficient involvement but do not dominate so as to bias or inhibit discussion; 3) Utilize a recording technique that addresses descriptive validity (factual accuracy) and interpretative validity (grounded in the language of participants) and be as accurate as possible; 4) Assure the analysis of the results is a balance between the direct connotations of participants (descriptive validity) and the scientific interpretations (theoretical validity) of those connotations; 5) Develop an analytic plan that is contextual and not statistical with the quality of the responses and identify associations for their relevance rather than frequency.

The focus groups questions were developed by the student researcher. Questions were approved through the thesis committee and the Institutional Review Board of the VASNHC and the University of Nevada-Reno prior to data collection

**Focus group questions.**

The following questions were asked during all focus groups:

1) What does the concept work-life-balance mean to you?
2) Did any changes in work-life-balance occur in your life since the unit changed to the CWS?
3) What negative or positive impacts, if any, have occurred in your life since the unit changed to the CWS?
4) What elements of your job provide you with satisfaction?
5) Since the start of the CWS has your job satisfaction changed, if so how?
6) Have any changes in work life balance affected your job satisfaction? If so how?

7) Unintended consequences are unexpected results that occurred as a result of the CWS. What unintended consequences have occurred since the unit changed to the CWS? (Followed by a possible prompt to encourage the conversation to cover both work and life outside of work.)

8) What are your thoughts regarding your level of input into policy and procedure development on the unit? (Followed by a possible prompt to encourage conversation regarding before and after implementation of the CWS.)

9) For those who this question pertains to: Comparing the 8-hour shift to the 12-hour shift schedule, did any aspect of patient care change with the increased duration of the shift? If so, how?

10) Missed nursing care is an omission of standard practice of nursing care. Examples are ambulation of patient three times a day or linen changes. What elements of the work environment contribute to or reduce the occurrence of missed nursing care?

11) Did changing the staffing plan to a CWS have any effect your ability to complete daily nursing care of patients? If so, what or how?

## Procedure

### Procedure for focus groups.

An informative meeting with the Associate Chief of Patient Care Services, 2C/3C unit manager, was held to notify of start of the research project. The Union representative was notified via email per previous agreement. Flyers were posted one week prior to the focus groups allowing all the nursing staff the opportunity to sign up for a focus group time. The note taker was solicited, this research team member was not an MST unit personnel or VA management. One note taker/time keeper was used to improve inter-moderator reliability between sessions. Prior to the focus group sessions, the assistant was briefed by the moderator on observational goals. A structured data-recording sheet was provided for each question to record nonverbal group behaviors. Each session was recorded using a digital voice recorder. Focus group times were at 0815 and 2015 on multiple days within about a one week period allowing individuals to attend after or before their shift. Incentives were provided in the form of refreshments for attendees of the group. An information sheet was given to each participant at the start of each focus group. The student investigator (group facilitator) answered all questions and stated that if any participant wanted to leave at any time could do so. De-identified demographic information of participation was voluntarily obtained from members prior to the start of the focus group. Individuals were allowed to settle in and obtain refreshments for 10 minutes before the commencement of the discussion by the

facilitator. The same questions were asked in the same order for all groups. The note taker observed for nonverbal and group reaction as well as recorded digital time stamp for potential quotations. All of the focus groups finished within 50 min of the first question asked.

## Data Analysis

### Qualitative.

The qualitative section of the study attempted to achieve saturation to redundancy. Information that specifically answers the research questions and related body language, gestures, and tone of voice were considered in the analysis. Analysis utilized a post-session debriefing strategy. This type of analysis is useful in projects that use the same set of questions across groups. A debriefing session was done immediately following every group between the moderator and assistant. Debriefing discussions included group composition, number of participants, consensus of themes, and notable circumstances that may have influenced their opinion. Debriefing was done question by question, discussing major points, summarizing of emotions and responses, and distinguishing between individual opinions and shared opinions.

Recorded data was analyzed with summary of the statements, supported with direct quotations from the respondents and a frequency analysis of coded responses (Krueger, 1998; Market Street Research, 2004). Recorded information was transcribed by the student researcher. Transcripts were reviewed and coding was used to reduce the variety of information obtained into a limited set of common themes. Themes were coded so that the details of the responses remain intact. The data was combined into

broader categories upon analysis. One person coded all of the data. Themes and a sample of data were reviewed by a second person and consensus was achieved prior to coding the rest of the data (Market Street Research, 2004). Themes were complied and supported with de-identified quotations from the focus groups.

**Quantitative.**

The quantitative section of the study utilizes a comparative retrospective research design of data from the same clinical microsystem. The dependent variables or effect are nurses' work satisfaction scores, working conditions, job satisfaction, hours-per-patient day, and incidence of patient falls. The independent variable or cause, is the compressed work schedule (CWS) program which had already been implemented.

The mean scores of 2011 and 2012 data of the RN Satisfaction Survey, Work Place Assessment 2011 for the VASNHCS- Medical Surgical Unit were compared using data obtained from the VANOD system. Variables considered were a) overall work satisfaction; b) quality of care delivered; c) and staffing patterns. Bar graphs were made using IBM SPSS 21 Statistics Premium GradPack bundle (IBM, 2012).

Hour-per-patient day monthly means was evaluated for 12 months prior to the implementation of the CWS and compared to monthly means for 12 months post CWS. Monthly averages from January 2011 (pre CWS) to December 2012 (post CWS) were obtained and a Z test was conducted using PePe statistical package to determine if there is a significant difference in the proportion of total annual falls and average daily NHPPD between year 2011 and 2012. The statistical analysis employed a 5% probability of a

Type 1 error ($\alpha = 0.05$), sample size 365 per year ($N = 730$), giving the study a power of 0.999 (Soper, 2013).

The aggregate number of patient falls per year (January 1, to December 31) and the total MST unit microsystem patient census was utilized in an odds ratio to determine the predictive response of the CWS as it relates to the number of patient falls using PePe statistical package.

**Budget and funding**

Funding for this project was provided by student investigator. Total budget for this project was $100.00. Food and drink were purchased at the Spanish Springs Shopping Center Costco for the focus groups. The digital recorder and microphone was purchased at Best-Buy Reno NV.

Table 1
Project Budget

| Item | Number | Cost | Total |
|---|---|---|---|
| Food/Drink | 4 focus groups | $10 per focus group | $40 |
| Digital Recorder | 1 | $ 29.95 | $ 29.95 |
| Microphone | 1 | $19.95 | $ 19.95 |
| Total | | | $79.90 |

# Chapter 4

# Results

## Description of Sample

### Qualitative focus groups.

The qualitative section of the study utilized focus groups from a cohort of nurses working in the MST unit clinical microsystem. All participants provided direct patient care. Participants included both RN/LPN and NA's, represented a range of ages, gender, and shift tour (n=15). The participation rate was 20%. Detailed demographics were omitted in order to protect confidentiality of the participants.

The nonverbal behaviors of all four focus groups were similar. All participants were pleasant in demeanor, allowed other members to speak, and each spoke on at least one topic. The conversations were animated with hand gestures and multiple personal stories that included personal and work life topics.

### Quantitative.

#### *Nursing MST unit clinical microsystem.*

FY2011 the MST unit microsystem core staff consisted of an average of 57 registered nurses (RN), three licensed practical nurses (LPN), and 22 nursing assistants (NA). FY2012 core staffing consisted of an average of 51 registered nurses (RN), five licensed practical nurses (LPN), and 21 nursing assistants (NA).

Table 2

Demographics Nursing MST Unit Clinical Microsystem

| | 2011 (N=82) | | 2012 (N=77) | |
|---|---|---|---|---|
| Age Nursing Staff (years) | RN/LPN (n=60) | NA (n=22) | RN/LPN (n=56) | NA (n=21) |
| +55 | 17 | 6 | 13 | 5 |
| 54-45 | 11 | 5 | 13 | 6 |
| 44-35 | 16 | 5 | 15 | 6 |
| 30-34 | 5 | 4 | 6 | 4 |
| 33-18 | 11 | 2 | 9 | |
| Education | | | | |
| <High School | | 2 | | 2 |
| Graduation | | 7 | | 7 |
| High School | | 8 | | 8 |
| Graduation | | 1 | | |
| Some College | 3 | 1 | 4 | |
| AA Nursing | 14 | 1 | 10 | |
| BSN | 33 | | 37 | 1 |
| MSN | 3 | 1 | 2 | |
| Non Nurse Bachelor | 2 | | | |
| Non Nurse Masters | 1 | | 1 | |
| Gender | | | | |
| Male | 7 | 5 | 9 | 3 |
| Female | 49 | 15 | 45 | 15 |

***Patient Falls Information.***

Patients admitted to MST unit clinical microsystem were typically admitted for HTN, lipid disorder, acute myocardial infarction, COPD, depression, diabetes, morbid obesity, CHF (Decision Support System, 2013). There was no change in the top primary diagnosis from 2011 to 2012. Table 3 describes the ages of patients who fell as percentage of total falls, and the categorical contributing factors for the falls that were documented by the nursing staff, pharmacy, and physician report. Data were retrieved

from a VASNHCS internal report via the VA Safety Officer. A further comparison of 2012 and 2013 fall data for age and contributing factor showed similar result.

Table 3

MST Unit Clinical Microsystem Patient Falls

| Year | 2011 | 2012 |
|---|---|---|
| Age | | |
| 40 and below | 31% | 29% |
| 40-59 | 42% | 55% |
| 60-79 | 16% | 16% |
| 80+ | 1% | 1% |
| Fall Factor | | |
| Functional/Cognition | 87% | 87% |
| Communication | 0% | 0% |
| Assistive Devices | 11% | 10% |
| Environment | 2% | 3% |

*Notes:* Percentage of total patient falls on MST Unit

## Findings

### Qualitative.

Theme saturation occurred in the focus group sessions. Sixteen distinct themes with several sub-themes were identified from the question-and-answer sessions (see Figure 2 below). Nearly all of the focus group participants indicated that they were satisfied with the CWS. The implementation of the CWS improved work-life balance

through improved sleep patterns, increases in time spent with family and improved quality of personal time. One participant stated, "The quality of time off has really improved. Now, I can go camping and be awake during the day while I camp. And now, I can take my kids places, and now I can leave town actually, yeah, and live a much more enjoyable life when I am off work."

Participants indicated both positive and negative consequences of the CWS. There was an overall consensus that the 8-hour shift of the CWS contributed to a large amount of patient assignment changes and created frustration due to increased workload and anxiety for the nursing staff. The members attributed much of the frustration to multiple assignment changes during a single shift.

> "Yes, the eight hour shifts, for me it is just a mountain. For staffing and for nurses, because there are times…I have been here for the last four days and I change my assignment seven times. If it were you, you would not be happy, I am still angry. I am still angry, yes I am. Please, there are times when it reached a certain level. You know, you have to say something, because this is not okay. I think the bane of that is the 8 hour fluctuation."

A secondary issue related to the 8-hour shift was related to the time constraints of the work shift that contributed to missed nursing care, reduced nurse patient interactions, and missed information.

> "That is really a problem, like you come in and you are going to have them for 12 hours, and remember how we said 12 hours being with them and you have better continuity of care. You find out right in the middle that you are going to give the patient up and you still have all these things unattended to, and you give the patient up to someone who doesn't know how the shift is going to be. Is she also going to move and things get locked up? They couldn't finish it they moved it to the next

> nurse that came on and she had to move and little pieces of information get missed."

Anticipated positive consequences of the policy change that were discussed included an increase in communication, accountability and team work. The reduced information being transferred involving two nurses in 24 hours resulted in perceptions of improved team work and accountability for the completion of nursing tasks. An unanticipated positive consequence was the effect that 12-hour shifts had on perceived horizontal violence within the work place. Horizontal violence most often involves psychological harassment creating hostility rather than physical aggression. Most commonly reported in the literature is verbal abuse, intimidation, humiliation, excessive criticism, exclusion, denial of access to opportunity, disinterest, and discouragement (McKenna et al., 2003).

> "As a result, the horizontal violence between different shifts isn't all the way gone because we are still nurses but, umm it has gone much down, it is a lot less."

The nurses described elements of their job that provided them with much satisfaction. There was an overwhelming response of the enjoyment from watching patients improve and getting to know them. The 12-hour shift provided the nurses with opportunities to have better established the patient-nurse relationship, there by contributing to job satisfaction.

> "Fixing patients. I love it, I love it! When we have victory! An individual and as a team, and finally after 3, 4 days, somebody walks out, oh man. Go back to his life, for me that is the most satisfaction."

> "I really do get to know my patients a lot more, and I also am able to directly impact their care. Now that it is not split up between three people."

A minority of participants did discuss issues with the extended hours of the day stating that the "days were long". Further, a few stated that the 12 hour work days resulted in their day being reduced to primarily work and sleep, causing moderate strain on the family. Despite these few comments of long work days detracting from daily personal time, the majority of the individuals stated that having a full day off outweighed the reduced personal time with family on work days. The CWS allowed for enough time off that they were willing to compromise their time away from family on certain days, in exchange for a higher quality of time on other days.

Obstacles that were not overcome with the CWS included the limited staffing that was available for providing nursing care. There was consensus that there was more time with the patients but issues related to work load continued to contribute to decreased satisfaction within the work environment.

> "One thing I have a problem with this that we have such a heavy load for the CNA's. Fourteen patients and they want you to do things or sit and talk with them, listen to them, we don't have time and that really bothers me."

A second employee stated,

> "That is a lot of it, if it is only you, I am not getting that patient up that is a post-op day one with a total hip or whatever, myself. And if she [NA] is stretched between me and two other nurses with 14 beds and she is way down in 22 and I am in 7, there is no way. So, we really rely on PT to be moving them and if we have more staff on days to be moving them and getting them whatever, cuz man, there in bed for us there in bed! Unless they can move by themselves."

Despite development and implementation of the CWS by frontline staff, there were perceptions that nurses were not being considered in policy change. The staff felt that they were heard to when it came to patient safety. Although when suggestions were made to improve quality for the nurses, there was a notable consensus of perceived hesitation by management and the Union.

> "When it comes to patient safety issues it seems like stuff gets turned around quickly and changes. When it comes to staff issues with nurses, what is in their best interest, those kind of things take forever to get changed, if at all."

The increased duration of the shift, as a result of the CWS, provided the nurses more time for the planning and implementation of nursing care. Improved planning was a result of a decrease in the perception of "being rushed" from task to task. The nurses felt that they had "more control of their workload" and had more time to focus on individual patient needs, prioritizing care as appropriate for the patient.

> "When you are rushed the way you have to prioritize things you are doing is nurse focused care, umm you are prioritizing things according to your needs when you have the time to talk with your patients and learn about their needs and actually have the time to address things beyond their immediate, like immediate keep them alive and chart on that, you can do patient centered care instead of nurse centered care."

Further comments included,

> "If your mind is rushing to think of doing this, this, and this, you don't even have time to strategize, then you can't even strategize to maximize you time."

***Focus group themes.***

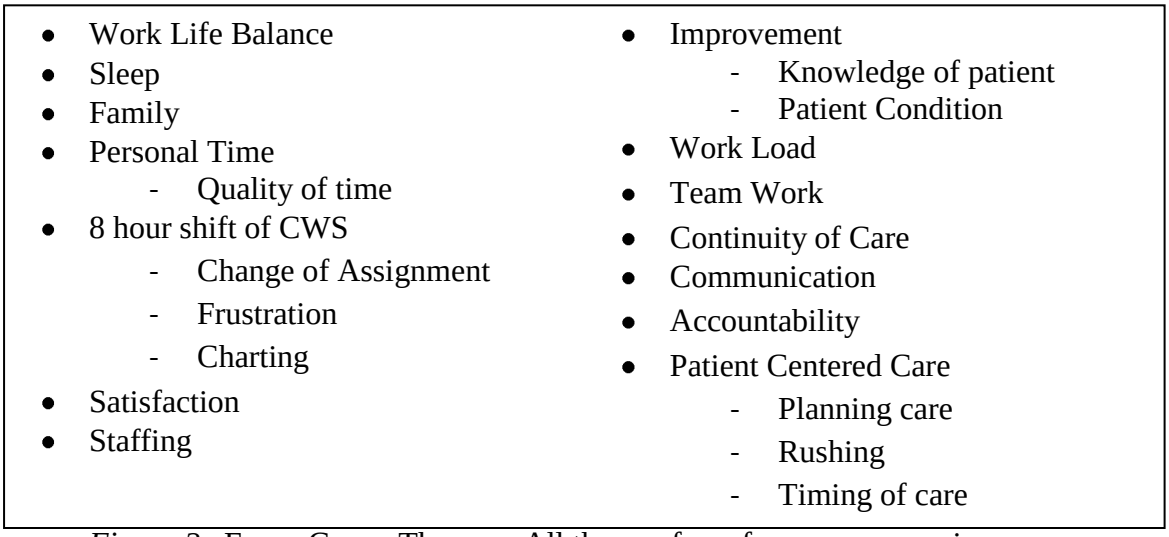


*Figure 2.* Focus Group Themes. All themes from focus group sessions.

**Quantitative Sample.**

***All employee survey results.***

Figure 3 compares the overall means from the ASE survey for 2012. The 2012 AES surveyed for 2011, a total of 29 nursing staff from the MST unit voluntarily participated for a 33% response rate. The 2013 AES surveyed for 2012, 31 nurses voluntarily participated with a 40% response rate of the MST unit nursing staff. Overall satisfaction, quality of care, and staffing were broad categories that were calculated through the VA Office of Nursing Services (ONS). Figure 4 compares individual questions from the overall categories from 2012 (surveys 2011, n=29) and 2013 (surveys 2012, n=31). Overall satisfaction was measured with one question: Compared to what you think it should be, what is your current overall level of satisfaction with your job? The perceived overall satisfaction decreased from 2.6 to 2.3 from 2011 to 2012. Perceptions of quality of care were determined through a series of ten questions. Analysis

of the response averages from one year to the next had small overall negative changes (0.4-0.1) for nine of the ten questions. The question that stated: Patient care assignments that foster continuity of care, i.e. the same nurses care for the patients from one day to the next decreased from 2.8 to 2.0. The overall score for perception of quality of care delivered decreased from 2.5 to 2.3. Perceptions of current staffing were represented by four questions that discussed collaboration, RN staffing, all staffing, and adequate time with patients. Averages for all 4 questions increased from 2012 to 2013 (0.1-0.3), with an increase in the overall score from 1.7 to 1.9. (US Department of Veterans Affairs (N.D.)

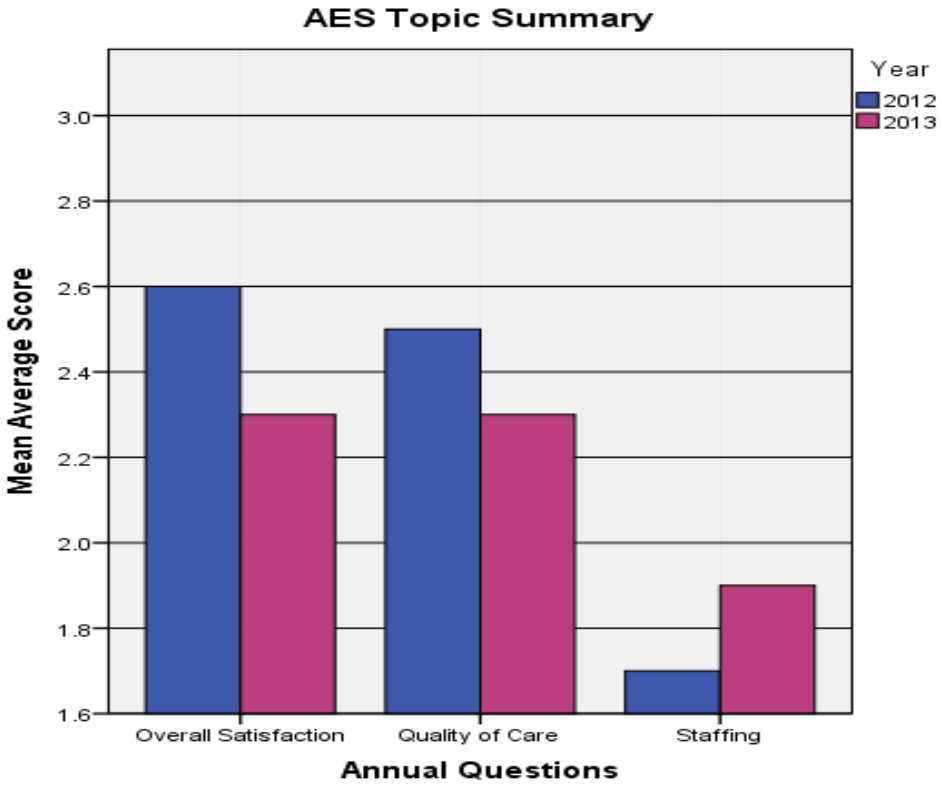


Figure 3. AES Topic Summary. Average scores of question themes.

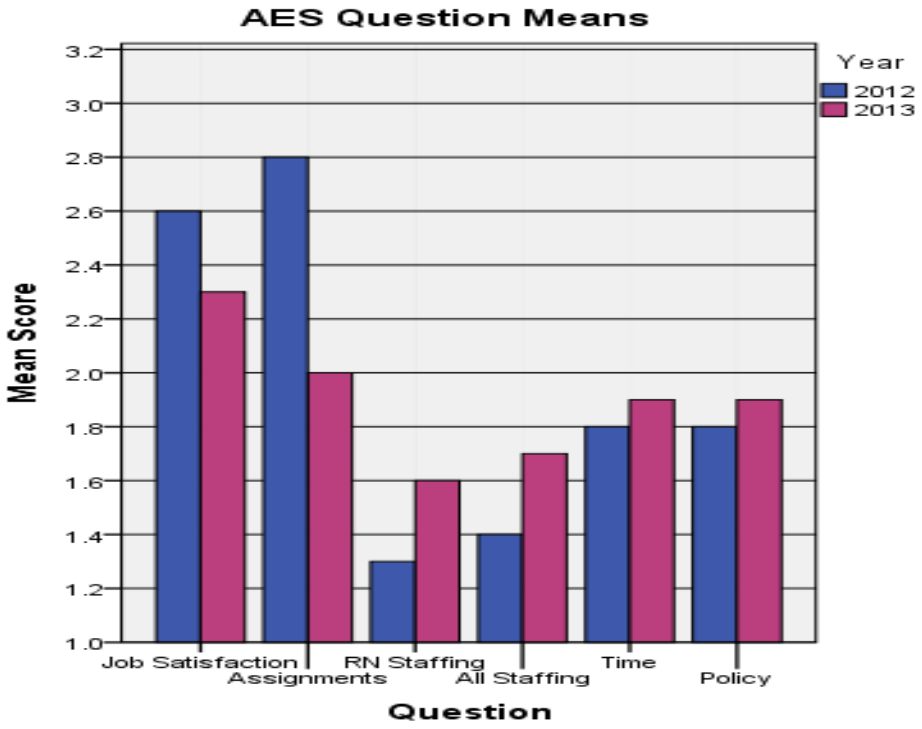


Figure 4. AES Question Means. Means of answers from individual questions.

***Patient falls.***

A Z test was calculated using the variables of total annual number of patient falls / (annual average NHPPD X 365). The assumption was made that there was only one fall per patient. The Z test showed that there is a significant difference ($p = 0.007$) in the proportion of total patient falls to daily average nursing hours per patient day (NHPPD) between pre (2011) and post (2012) implementation of the CWS. There was no changes or efforts for fall reduction for the MST unit clinical Microsystem between years 2011 and 2012.

| Table 4 | | |
|---|---|---|
| Z test (N=730) | | |
| 2011 Pre CWS (n=365) | 109/(8.64 * 365) = 109/3154 | p value 0.0006 |
| 2012 Post CWS (n=365) | 74/(7.69 * 365) = 74/2807 | p value 0.0264 |
| *Notes:* Z= 2.70, p=0.007 | | |

The aggregate number of patient falls per year (January 1, to December 31) and the total MST unit microsystem patient census was compared by an odds ratio to determine the association of the CWS as it relates to the number of patient falls. The following hypothesis was established, Ha: <1.0 = protective, and Ho: 1.0. The change to the CWS was a protective factor against patient falls in the MST unit clinical microsystem. Since the implementation of the CWS patients have a 39% lower odds of experiencing a fall.

| Table 5<br>Odds Ratio | | |
|---|---|---|
| Unexposed 2011 | Falls Pre CWS = 109 | Total # patients = 3498 |
| Exposed 2012 | Falls Post CWS = 74 | Total # patients = 3898 |
| *Notes:* OR = 0.61, 95% CI = [0.46 – 0.82], p=0.001 | | |

# Chapter 5

# Discussions

## Description of study

The primary purpose of this mixed method, qualitative and quantitative, study was to demonstrate improvements in nurse workplace satisfaction through the implementation of the Compressed Work Schedule (CWS) program on the Medical Surgical Telemetry (MST) unit at the VASNHCS. Implementation of the CWS was conducted using methods outlined in the Prody Model for Continuous Quality Improvement (PMCQI). The PMCQI is an evidenced-based methodology for formal change within an organizational setting. This study evaluated nurse workplace satisfaction survey scores from the VA Nursing Outcomes Database (VANOD) for 2011 (before) and 2012 (after) the introduction of the CWS. Focus group sessions were used to obtain feedback from nurses addressing topics of work-life balance, job satisfaction, missed nursing care, perceptions of the quality of nursing care delivered, and unintended consequences of the CWS. A secondary focus of the study was to compare aggregrated monthly VSSC data (2011 and 2012) for total patient falls and nursing hours per patient day. These nurse sensitivity indicators were evaluated as predictors of patient outcomes resulting from implemention of the CWS. This study contributed to the body of knowledge discussing the effectiveness of a theoretical and evidence-based system for implementation of programs that contribute to a healthy work environment.

**Summary of findings**

The nurses of the MST unit clinical microsystem who participated in the focus groups were satisfied with the CWS. The implementation of the CWS provided greater work life balance for the nurses. Improvements included improved sleeping patterns, more time with family and a higher quality of personal time when not at work. The CWS provided improvements to patient care in relation to nurses having more time during the shift to gain greater knowledge of the patient and better understanding of their patient's condition. Environmental improvements were also noted as an increase in team work, better continuity of care, better communication of shift report between nursing staff, and accountability. The extended hours in the work tour assisted the nurses' ability to organize and plan the care they gave their patients by allowing for more appropriate timing of care and decreased pressure to rush from task to task to complete all required care.

Overall employee satisfaction and perceived quality of care did not improve according to the AES results. However, perceptions of current overall staffing improved slightly which increased from 1.7 to 1.9. The change to the CWS was a protective factor against patient falls in the MST unit clinical microsystem. There was significant difference ($p = 0.007$) in the proportion of total patient falls to daily average nursing hours per patient day (NHPPD) between pre (2011) and post (2012) implementation of the CWS. The proportion of total patient falls and daily average NHPPD between pre (2011) and post (2012) implementation of the CWS demonstrated that with the

implementation of the CWS patients have 39% lower odds of experiencing a fall.

**Discussion**

Organizational problems with quality typically do not occur because of a failure of goodwill, knowledge, effort, or resources devoted to health care, but because of fundamental shortcomings in the ways care is organized. The IOM (2001) recommends that organizations reshape health care delivery through the creation of an infrastructure to support evidence-based practice, while preparing the workforce to improve services to patients in a world of expanding knowledge and rapid change.

Addressing workplace issues that improve staff satisfaction, improved unit performance, and serves to attract and retain quality clinicians (Elpern & Silver, 2006). Improvement of the nurse's working environment included resolving issues of balancing career with private life (Tanka et al., 2010). The PMCQI used back and forth flow through all levels of an organization to provide a continuous feedback loop for communication. Communication and acknowledgement of needs provided empowerment to the client. Empowerment combined with collaborative multi-disciplinary decision-making is an essential attribute of a successful work environment. The nurses of the MST unit clinical microsystem proposed to management a re-engineering their staffing plan to a CWS. Following the methodology of the PMCQI using core staff input established a communication feedback loop between front line staff and upper management. The importance of developing a back and forth flow of communication that is in alignment with facility objective provides information for use in continuous quality improvements (CQI) at the macro and micro level of the organization.

Continuous quality improvement (CQI) involves prospective and retrospective reviews of the organization's standards, effectiveness of programs, and improves organizational use of resources and human capital (Harrison et.al, 2012). Evaluation of the implementation of the CWS using nurse sensitive indicators of staff satisfaction, NHPPD, and patient fall closes of the feedback loop between upper management and core staff. The evidenced-based approach to implementation of the CWS is in alignment with the Nursing Practice Transformation section of the National Nursing Strategic plan of the Veterans Administration. Objective 1.3 is to facilitate the use of evidence in clinical practice, through the use of nurse sensitive indicators and the development of policies that guide practice (Veterans Health Administration, 2011).

Using the PMCQI methodology to implement interventions that are driven by system wide collaboration and evaluated with CQI methods have potential to enhance the organization's competitive position. Throughout the VA health care system, increased emphasis has been placed upon improving the lives of staff. Nurses that are empowered through knowledge and input into work policies have the ability to tailor the work environment to meet their needs. CQI projects that result in small incremental changes will result in organizational improvements, changes in organizational practice and culture, and have potential to increase the organizations competitive position.

The implementation of the CWS using the PMCQI model improved work life balance of the nurses on the MST unit clinical Microsystem. Satisfaction and improvements in perceived quality of care and work-life balance reported in the focus groups was not consistent with AES survey findings, which showed decreases in work

satisfaction and perceived quality of care delivered to the Veterans. The majority of the nurses were satisfied with the implementation of the CWS. An unintended consequence was identified in the focus group was associated with utilization of nursing staff specifically for the 8 hour tour of the CWS. There was an overall consensus that the 8 hour tour of the CWS contributed to a large amount of patient assignment changes and created frustration due to increased workload and anxiety for the nursing staff. The focus group attributed much of the frustration to multiple assignment changes during a single daily tour.

The nurses stated that elements of the nurse's job that gave them satisfaction were their contribution to the healing process of individuals. Watching the progression of an individual through the healing stages using of the nursing process provided job satisfaction to the nurses. Assignment changes disrupt the ability of the nurse to fully implement the nursing process to their patients. Many patient care task and interventions are left incomplete or passed on to another nurse, facilitating frustration and anxiety potentially contributing to reduced satisfaction in their work preformed and perceived quality of care delivered to their patients.

There were fewer nurses available and less NHPPD delivered to the patient in FY2012 when compared to FY 2011; although the perceptions from the AES of the nurses in regards to staffing improved. The outcomes associated with staffing levels of nurses should be viewed as indicators of quality rather than as measures of the full effect of the nurses in hospitals. The level of staffing by nurses is an incomplete measure of the quality of nursing care (Needleman et al., 2002). Quality of care is defined as the degree

to which health services for individuals and populations increase the likelihood of desired health outcomes (Nicolay et al., 2012). Other factors to consider include effective communication of objectives and a positive work environment (Needleman et al., 2002).

The increased duration of the shift and reduced fatigue of the nurses due to perceived improvements in work life balance provided a potential explanation for the improved quality of care delivered to the Veterans. The results of the study suggest that there was a statistically significant improvement in the quality of care delivered based on the analysis of the nurses sensitive indicators of patient falls and NHPPD. There was also indication that the implementation of the CWS provided a protective effect for patients on the MST unit clinical microsystem resulting in a patient having 39% lower odds of experiencing a fall after implementation of CWS.

Nurses were delivering quality care with fewer nursing hours delivered to the patients. A potential explanation is elements of nursing practice that contribute to the protective effect of implementation of the CWS. In the literature it has been reported that 12 hour shifts increased nurses' ability to plan and more effectively use their time. Improvements in patient care included: increased continuity of care, increased time allowed for planning, and increased ability to provide care within a given shift. The extended shift reduced pressure to complete assignments and allowed for pacing, which decreased the stress of the workload (Richardson et al., 2007). The nurses who participated in the focus groups discussed that there was improved communication, more time to plan, and more time spent with patients. They had more time to focus their care, changing from a nursing task oriented approach to patient centered focused care. The

increased duration of the shift provided the nurses more time for planning and implementation of the care plan. Discussed within the focus groups, the 12-hour tour decreased the number of nurses caring for the patients over 24 hours from three to two. The nurses were able to directly communicate the plan of care to the next nurse and upon returning to the next day's tour continue with the patient's plan of care without out having to re-orient themselves to a new patient. Allowing the nurses to see the result of the nursing interventions and use critical thinking skills to alter the plan of care based on progression of the patient and acute needs. The changes were then passed on to the returning nurse and continuity of care was improved through reduced loss of patient care information.

The reduction of information transfer to only involving two nurses in 24 hours was related by participants to perceptions of improved team work and accountability for the completion of nursing tasks. Patient benefits of the 12 hour tour were stated by the nursing staff as nurse having improved knowledge of the patient and their condition, better continuity of care, and a change in the delivery of nursing care from task oriented to patient centered care. The improvements to the organization of the care offers an explanation to the improved quality of care delivered with fewer NHPPD available to the patients.

**Implications for Nursing Practice**

Traditional hierarchal organizational behaviors are often underestimated as a source of work place dissatisfaction despite growing evidence that they contribute to creating unsafe conditions and obstruct the ability of individuals and the organization to

deliver high quality care (Aikin et al, 2002; Duffield, 2011; Tanka et al., 2011). Nurses begin to be alienated when decisions that affect practice are made without any consultation or involvement. Bramford-Wade & Moss (2010) noted that changes enacted within the healthcare system can be discredited by traditional norms and values of the nursing profession and have contributed to a breakdown in collaboration. Change needs to be adopted at every level of the organization, from the bedside to the boardroom (American Association of Critical Care Nurses, 2005).

Quality of care delivered provides job satisfaction to the nursing staff of the MST unit clinical microsystem. Organizations must efficiently use nursing staff and incorporate the human element into their staffing plans to provide effective and safe care to the Veterans served. Given the complexities of the hospital system, the need for high reliability within organizations is necessary for improved patient outcomes. Nurses at the bedside have the most knowledge of the clinical microsystem. Identifying nurses and their input into policy is imperative to tailor supporting interventions to meet the needs of the microsystem. Incorporating front line staff into policy and decision making can help organization achieved strategic planning goals and improve patient outcomes.

**Recommendations**

Nursing input into policy was demonstrated to be an effective in improving work life balance and patient outcomes for the MST unit clinical microsystem however, results were not entirely consistent. The PMCQI had provided evidence of incremental changes at the Microsystem level to benefit patient outcomes. Further application and testing the effect of application the PMCQI should be evaluated across other health care settings and

populations. Nursing is a complex and highly unstructured profession when referring to the daily activities of bedside nurses. Continued evaluation of the variables that that contribute to improved nursing job satisfaction with a focus as to how these elements affect nursing practice at a Microsystem level is recommended. More information is required to understand why the intervention is producing higher quality of care yet the nurses perceptions of care does not reflect the patient outcome data. Information linking organization and implementation of nursing care as it relates to patient outcome is needed for the development of effective staffing plans, delivery of quality care and job satisfaction.

Given the inconsistent results and relatively short implementation, more research should be done at the VASNHCS to evaluate the effects of restructuring the traditional staffing plan of the MST unit clinical Microsystem. The nurses were satisfied with the CWS and the effect on work life balance; however, they discussed concerns about utilization of nursing staff specifically with the 8 hour tour of the CWS. It is recommended that management develop a QI team following the PMCQI to address efficient use of the nursing staff, particularly in regards to the 8 hour tour to decrease changing patient assignments, sustain progress in continuity of care, continue improved communication, and decrease work load of the staff. These changes may enhance current changes in patient care delivery and improve the work environment for the nurses of the MST unit clinical microsystem. Although outside the scope of this study, the focus group participants expressed several ideas regarding improving the utilization of 8 hour nursing staff.

**Conclusion**

Large systems fail because of multiple factors that occur together in an unanticipated interaction. System failure results in accidents. Incorporation of human factors into organizational structure refocuses the primary objective of a system to reduce the probability of accidents and errors. Good managerial decisions, a skilled and knowledgeable workforce, reasonable work schedules, well-designed jobs with clear guidance on desired and undesired performance are the precursors for safe processes. The application of human factors, theory, and alternative approaches has successfully reduced and improved reliability in other industries (Institute of Medicine, 1999; Davis, Gross, & Clancy, 2012; Nicolay et al., 2012).

Translating research into organization-wide implementation of change is greatly assisted by utilizing a performance management system. The literature suggests that effective performance management will improve clinical practice and positively influence heath outcomes. On the MST unit Clinical microsystem nurses are the clinicians who spend the most time daily with the Veterans being served. Nurses are a source of invaluable information for microsystem improvements that directly affects the patients. These nurses of the MST unit clinical microsystem have demonstrated that effectively communicating input into policy influences the work environment. The nursing input contribute to small incremental change that affect how nursing care is delivered and improved patient outcomes. It is important that VASNHCS continue to evaluate effects of core nursing staff input into policy development. Nursing has a unique and valuable body of knowledge should not be overlooked as source of input for

improvement in patient care delivery. The VA provides an atmosphere that supports evidence base practice for nursing care. Evidence based solutions to patient care contribute to the ultimate goal of world class care to the Veterans served.

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Appendix A

| | **The Prody Model for Continuous Quality Improvement** |
|---|---|
| **ORGANIZATION LEVEL** | **MODEL CONSTRUCT AND DESCRIPTION** |
| Agency | **Mission/Vision Statement**<br><br>- A written formal document that attempts to capture the organizations purpose and practice position.<br>-Provides a focused basis for allocation of resources.<br>- Create balance among the competing interests of different stakeholders.<br>- Creating behavioral standards.<br>- Provide common purpose and direction.<br>- Defines the scope of the business<br>- Develops shared values or culture within the organization. |
| Evidence | Bart, C. (1998). Mission statement rationales and organizational alignment in the not-for-profit health care sector. *Health Care Management*, 23(4), 54-69.<br><br>Wilson, J., Meyer, K., McNeil, L. (2012). Mission and diversity statements: what they do and do not say. *Innovative Higher Education*, 37( 2) 125-139, DOI: 10.1007/s10755-011-9194-8 |
| Agency, Director, Upper Management | **Identify Problem/ Project**<br><br>- Audit and assessment of current situation.<br>- Clarify gaps and identify critical issues.<br>- Identify core processes and supporting activities. |
| Evidence | Bledsoe, N., Sullivan, D., Mathais, D. (2012). Human capital and process improvement. *Nursing Management*, 1, 46-53.<br><br>Bialek, R., Carden, J., Duffy, G. (2010). Supporting public health departments quality improvement initiatives: lessons learned from the public health foundation. *Journal of Public Health Management and Practice*. 16(1), 14-18. |

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Nicolay, C., Purkayastha, P., Greenhalgh, A, Benn, J., Chaturvedi, S., Phillips, N., Darzi, A. (2011**).** Systematic review of the application of quality improvement methodologies from the manufacturing industry to surgical healthcare. *British Journal of Surgery Society*, 99, 324-335.

Rakich, J. (2000). Strategic quality planning. *Research and Perspectives on Healthcare,* 78(2), 5-11.

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| | Sales, A., Bostrom, A., Buncknall, T., Draper, K., Fraiser, K., Schalm, C., Sharon, W. (2012). The use of data for process and quality improvement in long term care and home care: a systematic review of the literature. *Journal of the American Medical Directors Associatio*n, 13(2), 103-113.<br><br>Sofaer, S. & Firminger, K., (2005). Patient perceptions of the quality of health services. *Annual Review of Public Health*, 26, 513-59<br>Witcher, B. & Butterworth, R. (1997). Hoshin karni: a preliminary review. *Total Quality Management*, 8, S319-S323.<br><br>Winship, K. & Lee, S. (2012). Using evidence-based accreditation standards to promote continuous quality improvement: the experiences of the San Mateo County Human Services Agency. *Journal of Evidence-Based Social Work*, 9, 68-86. |
| Macro Organizational | **<u>1) Meet Client Needs</u>**<br><br>- Identify target population for the intervention or program application.<br><br>-Review data to identify what the target population needs are and how the intervention can be culturally tailored or developed. |
| | Davis, M., Gross, C. & Clancy, C (2012). Building a bridge to somewhere better: linking health care research to health care policy. *Health Service Research*, 47(1) 329-336. DOI: 10.1111/j.1475-6773.2011.01373.x<br><br>Duke, J., Connor, M., McEldowney, R. (2009). Becoming a culturally competent health care practitioner in the delivery of process safe care: a process oriented approach. *Journal of Cultural Diversity,* 16(2), 40 -49.<br><br>Marsden, N. (1998). The use of hoshin kanri planning and deployment systems in the service sector: an exploration. *Total Quality Management*, 9, 167-171. |

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| | Sofaer, S. & Firminger, K., (2005). Patient perceptions of the quality of health services. *Annual Review of Public Health*, 26, 513-59.<br><br>Witcher, B. & Butterworth, R. (1997). Hoshin karni: a preliminary review. *Total Quality Management*, 8, 319-323.<br><br>Wood, G. & Munshi, K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226. |
| | **2) Focus**<br><br>- Develop policy draft or statement of action.<br>- Asses program or intervention for ability to meet regulatory guidelines.<br>- Does program align with target population needs findings?<br>- Define scope of project and responsible parties.<br>- Develop objectives.<br>-Develop estimated timeline. |
| Evidence | Davis, M., Gross, C. & Clancy, C. (2012). Building a bridge to somewhere better: linking health care research to health care policy. *Health Service Research,* 47(1) 329-336. DOI: 10.1111/j.1475-6773.2011.01373.x<br><br>Harrison, L., Shook, E., Harris, G., Lea, S., Cornett, A., Randolph, G. (2012). Applying the model for improvement in a local health department: quality improvement as an effective approach in navigating the changing landscape of public health practice in Buncombe County, North Carolina. *Journal of Public Health Management Practices*, 18(1) 19-26.<br><br>Joly, B., Booth, M., Shaler, G., Conway, A. (2012). Quality improvement leaning collaborative in public health: findings from a multi site case study. *Journal of Public Health Management Practice*, 18(1), 87-94.<br><br>Marsden, N. (1998). The use of hoshin kanri planning and deployment systems in the service sector: an exploration. *Total Quality Management*, 9, 167-171. |

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| | Sales, A., Bostrom, A., Buncknall, T., Draper, K., Fraiser, K., Schalm, C., Sharon, W. (2012). The use of data for process and quality improvement in long term care and home care: a systematic review of the literature. *Journal of the American Medical Directors Associatio*n, 13(2), 103-113.<br><br>Witcher, B. & Butterworth, R. (1997). Hoshin karni: a preliminary review. *Total Quality Management*, 8, 319-323.<br><br>Wood, G. & Munshi, K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226. |
| | 3) **<u>Achieve Organizational Objectives</u>**<br>- Improve Quality<br>-Program Implementation<br>-Cultural Change |
| Evidence | Cornett, A., Thomas, M., Davis, M., Mahanna, E., Cordova, A., Herring, C., Lea, S., Harrison, L., Randolph, R. (2012). Early evaluation results from a statewide quality improvement-training program for local public health departments. *Journal of Public Health Management Practice*, 18(1), 43-51.<br><br>Jesse, E., Morrow, J., Herring, D., Dennis, T. & Laster, B. (2009). Translating Research to Prevent Antepartum Depression in a Local Health Department Prenatal Clinic: A Model Approach. *Journal of Public Health Management*, 15(2), 160-166.<br><br>Marsden, N. (1998). The use of hoshin kanri planning and deployment systems in the service sector: an exploration. *Total Quality Management*, 9, 167-171.<br><br>Nicolay, C., Purkayastha, P., Greenhalgh, A, Benn, J., Chaturvedi, S., Phillips, N., Darzi, A. (2011**).** Systematic review of the application of quality improvement methodologies from the manufacturing industry to surgical healthcare. *British Journal of Surgery Society*, 99, 324-335. |

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| | Sales, A., Bostrom, A., Buncknall, T., Draper, K., Fraiser, K., Schalm, C., Sharon, W. (2012). The use of data for process and quality improvement in long term care and home care: a systematic review of the literature. *Journal of the American Medical Directors Associatio*n, 13(2), 103-113.<br><br>Witcher, B. & Butterworth, R. (1997). Hoshin karni: a preliminary review. *Total Quality Management*, 8, S319-S323.<br><br>Wood, G. & Munshi, K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226. |
| | 4) **<u>Enhance Competitive Position</u>**<br><br>- Improve opportunities for grants and funding from other sources.<br>- Become customers choice for health care.<br>- Improve patient outcomes |
| Evidence | Sofaer, S. & Firminger, K., (2005). Patient perceptions of the quality of health services. Annual *Review of Public Health*, 26, 513-59<br><br>Jennings, B., Heiner, S, Loan, L., Hemman, E., Swanson,K. (2005). What really matters to health care consumers. *Journal of Nursing Administration*, 35(4), 175-80.<br><br>Rakich, J. (2000). Strategic quality planning. *Research and Perspectives on Healthcare,* 78(2), 5-11.<br><br>Sofaer, S. & Firminger, K., (2005). Patient perceptions of the quality of health services. *Annual Review of Public Health*, 26, 513-59.<br><br>Witcher, B. & Butterworth, R. (1997). Hoshin karni: a preliminary review. *Total Quality Management*, 8, S319-S323.<br><br>Wood, G. & Munshi,K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226. |

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| | **Align with Organization**<br><br>This is an intermediary step of the strategic plan. This promotes staff involvement and assists with ownership of the quality improvement action, ailing individual departments with the strategic plan and the organization's mission/vision statement. Top –down , bottom up planning. This will optimize and provide input from the entire organization. The back and forth flow of communication and ideas fosters the cooperation and input needed for planning and cultural change. |
| Evidence | Bamford-Wade, A. & Moss, C. (2010). Transformational leadership and shared governance: an action study. *Journal of Nursing Management*, 18, 851-821.<br><br>Harrison, L., Shook, E., Harris, G., Lea, S., Cornett, A., Randolph, G. (2012). Applying the model for improvement in a local health department: quality improvement as an effective approach in navigating the changing landscape of public health practice in Buncombe County, North Carolina. *Journal of Public Health Management Practices,* 18(1) 19-26.<br><br>Gorenflo, G. (2010). Achieving a culture of quality improvement. *Journal of Public Health Management Practice*, 16(1), 83-84.<br><br>Jesse, E., Morrow, J., Herring, D., Dennis, T. & Laster, B. (2009). Translating Research to Prevent Antepartum Depression in a Local Health Department Prenatal Clinic: A Model Approach. *Journal of Public Health Management*, 15(2), 160-166.<br><br>Bledsoe, N., Sullivan, D., Mathais, D. (2012). Human capital and process improvement. *Nursing Management*, 1, 46-53.<br><br>Wood, G. & Munshi,K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226. |

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| Micro Level Organization/ Individual departments, Management, Core and Auxiliary Staff | **Select a Quality Improvement Project**<br><br>- Selections of QI plans stem from the organizational strategic plan and are developed at the micro organizational level.<br><br>- Plans are selected based on feedback surveys, accreditation guideline, regulatory agency recommendations, or other data/input sources. |
| Evidence | Cornett, A., Thomas, M., Davis, M., Mahanna, E., Cordova, A., Herring, C., Lea, S., Harrison, L., Randolph, R. (2012). Early evaluation results from a statewide quality improvement-training program for local public health departments. *Journal of Public Health Management Practice,* 18(1), 43-51.<br><br>Bialek, R., Carden, J., Duffy, G. (2010). Supporting public health departments quality improvement initiatives: lessons learned from the public health foundation. *Journal of Public Health Management and Practice*. 16(1), 14-18.<br><br>Kane, T., Moran, J., Armbruster, S. (2009). Developing a health department quality improvement plan [White Paper]. Retrieved from the Public Health Foundation. http://www.phf.org/resourcestools/Documents/Developing_a_Quality_Improvement_Plan.pdf<br><br>Harrison, L., Shook, E., Harris, G., Lea, S., Cornett, A., Randolph, G. (2012). Applying the model for improvement in a local health department: quality improvement as an effective approach in navigating the changing landscape of public health practice in Buncombe County, North Carolina. *Journal of Public Health Management Practices,* 18(1) 19-26.<br><br>Jennings, B., Heiner, S,. Loan, L., Hemman, E., Swanson, K. (2005). What really matters to health care consumers. *Journal of Nursing Administration,* 35(4), 175-80. |

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| | Joly, B., Booth, M., Shaler, G., Conway, A. (2012). Quality improvement leaning collaborative in public health: findings from a multi site case study. *Journal of Public Health Management Practice*, 18(1), 87-94.<br><br>Madamala, K., Sellers, K., Beirsch, L., Pearsom, J., Jarris, P. (2012). Quality improvement and accreditation readiness in state public health agencies. *Journal of Public Health Management Practice*, 18(1), 9-18. |
| | **Assemble Quality Improvement Team**<br><br>-Team is over seen by the department Manager.<br><br>-Department Manager or delegated individual is responsible to report actions to upper management team.<br><br>- QI team is made up of individuals that are directly associated with the QI issue. |
| Evidence | Cornett, A., Thomas, M., Davis, M., Mahanna, E., Cordova, A., Herring, C., Lea, S., Harrison, L., Randolph, R. (2012). Early evaluation results from a statewide quality improvement-training program for local public health departments. *Journal of Public Health Management Practice,* 18(1), 43-51.<br><br>Harrison, L., Shook, E., Harris, G., Lea, S., Cornett, A., Randolph, G. (2012). Applying the model for improvement in a local health department: quality improvement as an effective approach in navigating the changing landscape of public health practice in Buncombe County, North Carolina. *Journal of Public Health Management Practices,* 18(1) 19-26.<br><br>Gorenflo, G. (2010). Achieving a culture of quality improvement. *Journal of Public Health Management Practice*, 16(1), 83-84. |

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| | Joly, B., Booth, M., Shaler, G., Conway, A. (2012). Quality improvement leaning collaborative in public health: findings from a multi site case study. *Journal of Public Health Management Practice*, 18(1), 87-94.<br><br>Bledsoe, N., Sullivan, D., Mathais, D. (2012). Human capital and process improvement. *Nursing Management*, 1, 46-53.<br><br>Rilley, W., Brewer, R. (2009). Review and Analysis of Quality Improvement Techniques in Police Departments: Application for Public Health. Journal of Public Health Management and Practice, 15(2), 139-149. |
| | **Model For Improvement (MFI)**<br><br>-Allows health practitioners to make small incremental tests of change.<br><br>-Highlights organizational commitment to system change for continuous flow of improvements that meet or exceed the expectations of the Veterans served through the organization.<br><br>-Linked to organizations strategic plan. |
| | Gorenflo, G. (2010). Achieving a culture of quality improvement. *Journal of Public Health Management Practice*, 16(1), 83-84.<br><br>Joly, B., Booth, M., Shaler, G., Mittal, P. (2012). Assessing quality improvement in local health departments: results from the multi-stat learning collaborative. *Journal of Public Health Management Practice*, 18(1), 79-86.<br><br>Wood, G. & Munshi,K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226. |
| Evidence | **AIM:** What are we trying to accomplish?<br><br>**MEASURE:** How will we know that our changes are an improvement?<br>-Write objectives. |

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| | **<u>IDEAS</u>:** What changes can be made that result in improvements?<br><br>**<u>SUSTAINABILITY</u>:** Make changes part of the daily routine and culture. |
| | Gorenflo, G. (2010). Achieving a culture of quality improvement. *Journal of Public Health Management Practice*, 16(1), 83-84.<br><br>Harrison, L., Shook, E., Harris, G., Lea, S., Cornett, A., Randolph, G. (2012). Applying the model for improvement in a local health department: quality improvement as an effective approach in navigating the changing landscape of public health practice in Buncombe County, North Carolina. *Journal of Public Health Management Practices*, 18(1) 19-26<br><br>Jennings, B., Heiner, S,. Loan, L., Hemman, E., Swanson, K. (2005). What really matters to health care consumers. *Journal of Nursing Administration*, 35(4), 175-80 |
| Evidence | **<u>PLAN, DO, CHECK, ACT</u>**<br><br>- Begin with low hanging fruit. Begin process with simple obtainable goals and work up to more complex. Build on experience from previous applications of the model.<br><br>**PLAN** for change to bring about improvements<br>- Flow charts<br>- Brainstorming<br>- Solution<br>- Evaluation matrix<br><br>**DO** change on small scale first to trial them.<br>-Small groups<br>- One department<br><br>**CHECK** to see if the changes are working<br>- Key performance indicators<br>-Control charts. |

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| | **ACT** to get greatest benefit from change.<br>- Process mapping<br>-Process Standardization<br>-Formal training<br><br>This is not a linear model the order of the process can change depending the application. |
| | Harrison, L., Shook, E., Harris, G., Lea, S., Cornett, A., Randolph, G. (2012). Applying the model for improvement in a local health department: quality improvement as an effective approach in navigating the changing landscape of public health practice in Buncombe County, North Carolina. *Journal of Public Health Management Practices,* 18(1) 19-26<br><br>Rakich, J. (2000). Strategic quality planning. *Research and Perspectives on Healthcare,* 78(2), 5-11.<br><br>Witcher, B. & Butterworth, R. (1997). Hoshin karni: a preliminary review. *Total Quality Management*, 8, S319-S323.<br>Wood, G. & Munshi,K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226. |
| Evidence | **Organizational Quality Improvements**<br>Input and implementation from director , division manager, core and auxiliary staff.<br>Involvement at all levels of the organization. |
| | Bledsoe, N., Sullivan, D., Mathais, D. (2012). Human capital and process improvement. *Nursing Management*, 1, 46-53.<br><br>Jennings, B., Heiner, S,. Loan, L., Hemman, E., Swanson, K. (2005). What really matters to health care consumers. *Journal of Nursing Administration*, 35(4), 175-80.<br><br>Sofaer, S. & Firminger, K., (2005). Patient perceptions of the quality of health services. *Annual Review of Public Health*, 26, 513-59. |

| Evidence | **Continuous Quality Improvement/Changes in Organization**<br>Continued reevaluation of practices and standards is necessary to maintain a high level of organizational quality. |
|---|---|
| | Bamford-Wade, A. & Moss, C. (2010). Transformational leadership and shared governance: an action study. *Journal of Nursing Management*, 18, 851-821.<br><br>Bledsoe, N., Sullivan, D., Mathais, D. (2012). Human capital and process improvement. *Nursing Management*, 1, 46-53.<br><br>Gorenflo, G. (2010). Achieving a culture of quality improvement. *Journal of Public Health Management Practice*, 16(1), 83-84.<br><br>Jennings, B., Heiner, S,. Loan, L., Hemman, E., Swanson, K. (2005). What really matters to health care consumers. *Journal of Nursing Administration*, 35(4), 175-80.<br><br>Rakich, J. (2000). Strategic quality planning. *Research and Perspectives on Healthcare,* 78(2), 5-11.<br><br>Witcher, B. & Butterworth, R. (1997). Hoshin karni: a preliminary review. *Total Quality Management*, 8, S319-S323.<br><br>Wood, G. & Munshi,K. (1991). Hoshin karni: a systematic approach to break through improvement. *Total Quality Improvement*, 2(3), 213-226 |

Appendix B

**Focus group questions.**

1) What does the concept work-life-balance mean to you?
2) Did any changes in work-life-balance occur in your life since the unit changed to the CWS?
3) What negative or positive impacts, if any, have occurred in your life since the unit changed to the CWS?
4) What elements of your job provide you with satisfaction?
5) Since the start of the CWS has your job satisfaction changed, if so how?
6) Have any changes in work life balance affected your job satisfaction? If so how?

7) Unintended consequences are unexpected results that occurred as a result of the CWS. What unintended consequences have occurred since the unit changed to the CWS? (Followed by a possible prompt to encourage the conversation to cover both work and life outside of work.)

8) What are your thoughts regarding your level of input into policy and procedure development on the unit? (Followed by a possible prompt to encourage conversation regarding before and after implementation of the CWS.)

9) For those who this question pertains to: Comparing the 8-hour shift to the 12-hour shift schedule, did any aspect of patient care change with the increased duration of the shift? If so, how?

10) Missed nursing care is an omission of standard practice of nursing care. Examples are ambulation of patient three times a day or linen changes. What elements of the work environment contribute to or reduce the occurrence of missed nursing care?

11) Did changing the staffing plan to a CWS have any effect your ability to complete daily nursing care of patients? If so, what or how?

Appendix C

# Department of Veterans Affairs

# Memorandum

Date: June 11, 2013

From: Associate Chief of Staff for Research, VASNHCS,

Reno, NV (654/151) Subj: Memorandum of Approval

for New Study

To: Bernadette Long, PhD, RN (654/118)

Re: New study review for: Application of Prody Model for Continuous Quality Improvement to Enhance Work-life Balance in Nurses of a Clinical Microsystem Caring for Veterans

IRB#: 2013S094

RSS Approval Date: 26Marl3
PRS Approval Date: 23Aprl3

IRB Approval Date/Level of Review: 29Apr13/Expedited
Enrollment #(current/Maximum): 00/40

Initial IRB Approval Date: 29A
prl3 Research Expiration
Date: 28Aprl4

1. . The Research Office has received the required approval recommendations from the Research and Development Committee (RDC) and its subcommittees, which include the Protocol Review Subcommittee (PRS), Institutional Review Board (IRB), and the Research Safety Subcommittee (RSS); you must retain this memorandum of approval with your research files. Your research request has been approved.

2. Any changes In your research protocol requires that you submit a modification request to the I RB through the Research Office. If you need to enroll more subjects than approved by the RDC/I R B, you must submit a modification request to increase the approved enrollment number and provide justification for the increase. Any changes in your research protocol require that you submit a modification request to the I R B through the V ASN HCS Research Office. To continue your research after the expiration date, you must contact the Research Office at least two months prior to the Research expiration date listed above.

3. As the Principal Investigator (Pl) you are required to maintain all tram mg requirements for your research team members throughout the study. Please ensure that you and your team members stay current with the Research Service required courses (listed below) and that all training documentation is forwarded to the Research Office i n a timely manner. This should include:

A. 1 - course required every two years by OR D Collaborative I RB Training Initiative (CIT!) via www.citi program.org :
Human subjects Protection & Good Clinical Practices (HSP&GCP)

B. 3 - courses required annually by V ASNHCS (via TMS): VA Privacy and Information Security Awareness and Rules of Behavior; V HA Privacy Policy Web; and Ethics Most Wanted Training professionals.

To publish scientific papers, provide scientific exhibits, and participate in other scientific communications. VA Sierra Nevada Health Care System (VASNHCS) policy requires that your role and any support from the Department of Veterans Affairs be acknowledged in any publication, exhibit, report or presentation resulting from your research. Publications and presentations must be approved through the research office prior to their submission for publication or presentation.

5. On behalf of the entire VASN HCS Research and Development Department, I wish to thank you for your interest and efforts in conducting quality research at the V ASNHCS and wish you continued success on your project.

Elizabeth E Hill, PhD, RN ACOS for Research

cc: Research Office
Pharmacy

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