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Staff Perceptions of the Health Call Center Workplace Environment

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Abstract

The complexities of the Health Call Center (HCC) amidst of a pandemic has caused an uptick in nurses and staff experiencing physical, emotional, and mental fatigue. An increase in sick calls during peak call days and times, breakroom discussion related to workload and competing patient and clinical priorities, and the consistent need to care for patients and caregivers, while maintaining familial and fiscal responsibilities and priorities contribute to the exhaustion of the nurses. The purpose of this Quality Improvement (QI) project was to use a structured survey tool and open-ended questions to identify HCC nurses' perceptions of stressors and burnout in the HCC workplace. The burning platform was to validate work-related stressors caused by the perceived internal and external forces which can assist the leadership team in formulating stress management solutions to promote a healthy and productive HCC work environment. The primary outcome objective was to measure burnout using a descriptive design with the Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) and to perform a thematic analysis of open-ended questions to understand the nurses' perspectives about potential work-related stressors in the HCC environment that could lead to burnout. Results indicated nurses had lower scores for Emotional Exhaustion (EE) and Depersonalization (D), and high scores for Personal Accomplishment (PA) representing healthier behaviors and decreased burnout characteristics. Thematic analysis findings revealed themes related to standard work, process changes, clinical tools, operational practices, and organizational culture. In the HCC, the QI project recognized the domains of Emotional Exhaustion, Depersonalization, the looming COVID-19 pandemic, and standard work variations as potential work-related stressors of HCC nurses that could lead to burnout.

Key words: DNP Project, telephonic nurse triage, burnout, work stress, resilience.

Executive Summary

Problem

Registered Nurses (RN) functioning in a Health Call Center (HCC) are at increased risk for burnout. Burnout is characteristically manifested as evidence of physical, emotional, and mental fatigue. The pandemic, workplace environment, along with increasing complexities and acuity levels of patients add to the afflictions of nurses.

Purpose

This Quality Improvement Project (QIP) focused on analyzing nurse sensitive indicators of workplace strain utilizing a structured survey and open-ended questionnaire. Data findings will be used to support potential solutions for a constructive HCC work environment.

Goals

This project focused on substantiating occupational stressors and quantifying burnout levels caused by perceived strains among HCC nurses.

Objectives

The outcome objective for the study was to distinguish vocational stressors leading to lassitude among nurses in the HCC. Evidence-based survey tools used in this project evaluated emotional exhaustion (EE), depersonalization (DP), and personal achievement (PA) in addition to assessing mitigating factors of the environmental setting.

Plan

This study utilized a descriptive correlational design to assess causative associations between practice environments and attributes of work-related quality of life in nursing providers. The Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) with an open-ended questionnaire was blindly delivered to 89 RNs in the HCC who were asked to voluntarily participate in evidence-based two-part survey.

Outcomes and Results

Of the 89 RNs, 13 (15%) participated in completing the online survey. The MBI-HSSSMP produced significant findings correlating to stated goals with the domains of EE and DP to yield lower scores indicating more healthier responses with decreased burnout perceptions. The PA domain resulted in higher scores which indicated increase engagement and satisfaction among nurses. The thematic analysis provided two central themes, standard work and organizational culture, with potential opportunities for engaged participation in shared leadership from the CAS nurses.

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Staff Perceptions of the Health Call Center Workplace Environment

The Registered Nurse (RN) is educated, trained, and skilled in utilizing each of their five senses when conducting various aspects of the nursing process. This skill set allows the nurse to expand their clinical and professional capabilities in a variety of healthcare settings. Nurses transitioning from bedside care and into a non-traditional patient care setting such as a health call center (HCC) often experience feelings of stress and anxiety. The immersion in complex and diverse patient populations, the need for new clinical and technological competencies, the acquisition of skills-based knowledge in a telephonic patient care setting, and fear of the unknown are perceived sources of overwhelming stress for nurses in the HCC. Increased levels of stress and anxiety may potentially lead to attrition, burn-out, and decreased morale with significant financial burden and impacts on the department and organization. The current Coronavirus disease 2019 (COVID-19) pandemic has placed additional workplace stressors on the staff and environment due to everchanging county, state, and governmental guidance including masking and physical distancing requirements in addition to departmental and organizational requirements not allowing the staff to work remotely. The identified need to assess sources of anxiety and stress in the workplace environment is key for the Clinical Advice Services (CAS) Leadership Team to support staff in the HCC to ensure a safe and clinically sound workforce. Potentially designing and implementing a comprehensive leadership system to support assessment findings may increase the nurse's confidence, enhance morale, and ultimately result in safe, effective, and quality patient care with clinical effectiveness and optimal outcomes. This Doctor of Nursing Practice (DNP) Quality Improvement Project (QIP) outlined the practice problem, defined project objectives, synthesized current research and literature, provided the framework of the evaluation plan, results, and implications for change.

Problem Recognition and Definition

Statement of Purpose

The purpose of this QIP was to use a structured survey tool and open-ended questions to identify HCC nurses' perceptions of stressors and burnout in the workplace. Data collected can assist the Leadership Team in formulating stress management solutions to promote a healthy and productive HCC work environment.

Problem Statement

In CAS, the RN receives the patient phone call and performs a thorough medical record review to include the medication administration record (MAR). Identified medication issues are pended in medical record for the physician and if deemed critical, must be escalated to the respective on-call physician for immediate resolution. This workflow creates increased demands and burdens, a decreased quality of life, and unnecessary resource utilization for the on-call physician. Hatch et al. (2018), identified the correlation between physical and mental declines in health and wellness closely linked with regressions in work performance, productivity, and engagement. The lack of standard work (SW) related to RN medication reconciliation significantly impacts the nurse with functioning in a stressful work environment, following a regimented paging protocol leading to dissatisfied on-call physicians, and a general sense of not practicing at the highest levels of the RN licensure (C. Pascual, personal communication, September 28, 2020). Additionally, determining the appropriate clinical service and physician escalation pathway for an enterprise-wide solution is daunting for even the most seasoned clinician. Maintaining physical distancing, masking, and hand hygiene pandemic protocols within the confines of a cubicle also places added anxiety during high call volume peak times. The CAS Quality Assurance Committee, including the Medical Director, Executive and

Administrative Directors, Managers, and Nurse Educators, have identified physical and emotional exhaustion of the staff as evidenced by comments made during 1:1 meetings between the staff member and their direct supervisor.

With staff facing personal and professional challenges and frustrations, it is paramount the CAS Leadership Team develop clear visions of support for the department, to ensure the safe and quality delivery of patient care. Supportive practice environments are paramount for safe and quality patient care with optimal outcomes (Barandino & Soriano, 2019). COVID-19 forced healthcare organizations to shift care delivery models with a greater emphasis on telehealth and telemedicine to align with health and safety guidelines (Crain et al., 2020). During the peak of COVID-19 in November 2020, the CAS HCC had an average weekend combined total call encounter volume of 10,214 staffed with 45-50 staff, float, contract, and agency RNs to address pandemic fears for the SHC, community, and national peoples (A. Yuen & B. Arenas, personal communication, March 19, 2021). Meischke et al. (2018) note the significant value in requiring self-management and resource support from leaders in readily addressing valid and perceived concerns of staff to assist callers in crisis. The HCC nurse is an integral member of the interdisciplinary healthcare team for ensuring patients receive access to care via telephonic assessment. The balanced physical, mental, and emotional state of the HCC staff provides great insight into the delivery of care for each patient. Addressing and supporting the development of a healthy workplace environment ensures resiliency among nurses while reducing turnover and burnout (Rushton et al., 2015).

The average annual CAS RN salary for a (1.0) full-time equivalent (FTE) is $255,000. Salaries, taxes, and benefits were calculated with taxes: Claim 0 dependents, 10% Federal, 3.5% State, 6% Social Security, 1.5% Medicare, Benefits Package: 45% of salary (SHC, 2018). The

California Bay Area has a significantly higher wage and cost of living than other areas of the United States. With an RN annual salary of $255,000, attrition rates could pose detrimental outcomes related to access and delivery of care for patients.

The problem statement of this QIP is as follows: the complexities of the HCC amidst of a pandemic has caused an uptick in nurses and staff experiencing physical, emotional, and mental fatigue. An increase in sick calls during peak call days and times, breakroom discussion related to workload and competing patient and clinical priorities, and the consistent need to care for patients and caregivers, while maintaining familial and fiscal responsibilities and priorities contribute to the exhaustion of the staff.

Although the challenges appear daunting to the average person, staff in the HCC have continued to remain loyal to the department, organization, and most importantly, the patient population. The burning platform was to validate work-related stressors and measure burnout levels caused by the perceived internal and external forces and the need for CAS Leadership to develop concrete and sustainable interventions to support the staff during stressful periods.

PICO/Practice Question

The capstone project utilizes the "PICO" question format rather than a formal research hypothesis. The PICO acronym stands for: Population or Patient (P), Intervention (I), Comparative Intervention (C), and Outcome (Houser & Oman, 2011). The PICO for the project is:

P- Registered Nurses in a health call center (HCC)

I- Maslach Burnout Inventory™ and open-ended questions

C- None

O- Perceptions of work-related stress and burnout in a HCC

The major question for this QIP is: What work-related stressors of health call center RNs potentially lead to burnout?

Project Significance, Scope, and Rationale

Project significance. The transition from direct patient care to a HCC causes physical, emotional, and mental fatigue for the RN. CAS requires each RN to utilize each aspect of the nursing process with heightened awareness as each patient encounter is conducted in a rapid call cycle averaging 10-15 minutes with highly acute and complex patient populations. The RN must determine the appropriateness of care ensuring successful education and teaching with effective resource utilization. Although workplace stressors in healthcare are unavoidable due to taxing workloads, patient acuities, and pandemic challenges, real-time assessment of the environmental temperament is key to facilitate sustainable and supportive interventions to mitigate mental and emotional fatigue of the staff (Amarneh et al., 2017).

Scope. The scope of this QIP focused on a HCC in an AMC in the Bay Area of Northern California. The DNP Student aimed to assess perceptions of stressors in the workplace environment and measure burnout. The DNP Student will not be developing new knowledge and will localize efforts to the HCC.

Rationale. Considering the vulnerabilities of the CAS HCC nursing population and eminent need to ensure patient safety and quality of care, the DNP Student focused this project on the following American Association of Colleges of Nursing (AACN) DNP Practice Essentials: Essential I-Scientific Underpinnings for Practice, Essential II-Organizational and Systems Leadership for Quality Improvement and Systems Thinking, Essential III-Clinical Scholarship and Analytical Methods for Evidence-Based Practice, Essential VI-Interprofessional

Collaboration for Improving Patient and Population Health Outcomes, and Essential VIII-Advanced Nursing Practice (Zaccagnini & White, 2017).

Theoretical Foundation

The Theory of Experiencing Transitions (TTET) provides a theoretical framework and plan for implementing and analyzing data in the QIP. See Appendix A for a visual representation of TTET. This theory was selected based on the adaptability to the nurse experiencing adverse feelings due to an ever-demanding work environment, much as a patient, which encounters similar emotions based on the healthcare environment, illness, disease, and fear of the unknown. TTET by Afaf I. Meleis was founded on the fundamental principles of Florence Nightingale where the nursing process is an integral component in assisting the patient in achieving optimal levels of health (Piccoli et al., 2015). This middle-range theory was developed to assist the nurse in applying interventions for patient specific situations and facilitating the experience and evolutions for the patient throughout care (Piccoli et al., 2015). Meleis used the model to solidify the relational concepts between the patient, interaction, transition, and environment (Piccoli et al., 2015).

Major concepts in the theory include the nature of transition conditions: facilitators and inhibitors, patterns of response, and nursing therapeutics (Meleis et al., 2000). The first concept, nature of transitions is further divided into 3 sub-categories to include types, patterns, and properties (Meleis et al., 2000). Patterns of transition include all identified elements in the theory: single, multiple, sequential, simultaneous, related, and unrelated in the HCC environment (Meleis et al., 2000). Awareness, engagement, change difference, critical points, and events are key properties in the issue. The second concept, transition conditions: facilitators and inhibitors focus on identifying the underlying reasons and concerns causing anxiety and stress for the nurse

(Meleis et al., 2000). In the third concept, patterns of response, applicable process indicators include feeling connected, interacting, locating and being situated, and developing confidence (Meleis et al., 2000). Major assumptions include the outcome indicator of mastery crucially pertinent when evaluating the effectiveness of nursing interventions (Meleis et al., 2000).

TTET is applicable to HCC nurses due to a shift in providing patient care by using a telephone within a complex practice setting (Meleis et al., 2000). The transitions experienced by the nurse often occurs cyclically and rapidly due to caring for patient concerns from specialties outside of their own customary clinical experiences. Nursing therapeutic principles focusing on patients can also be practically applied to the nurse with an emphasis on interventions building confidence and improving self-care (Meleis et al., 2000).

The Conservation Model (TCM) is a grand theory developed by nursing scholar, Myra Estrin Levine, with four principles of conservation: energy, structural integrity, personal integrity, and social integrity (Mefford & Alligood, 2011). See Appendix B for a visual representation of Myra Estrin Levine's Traditional Conservation Model. Levine developed her theory based on fundamental principles where the nurse is an integral component of the environment and assists the patient in achieving a state of wellness by confronting individualized issues (Mefford & Alligood, 2011). Levine defines the holistic-being interacting with their environment to, "…conserve or defend his wholeness" (Webb, 1993). Humans interacting with the internal environment fostered by the holistic care of the nurse ensures the conservation of structural integrity, personal integrity, and social integrity (Webb, 1993).

Major concepts of the model include environment, person, health, nursing, adaption, conceptual environment, conservation, energy conservation, holism, homeostasis, models of communication, personal integrity, social integrity, structural integrity, and therapeutic

interventions (McEwen & Willis, 2014). Major assumptions about nursing indicate that identifiable interventions must be developed collaboratively between the individual and nurse to gain optimal success and achievement of attainable goals (Webb, 1993).

Based on the unconventional practice setting, the HCC, the nurse encounters increased levels of anxiety and stress due to fear of making clinical errors without visually assessing the patient, which leads to deviations in standard work, burnout, and lack of confidence. These multifaceted aspects place significant financial burden resulting from increased sick calls in the department. While the nurse is an essential component in assisting the patient in achieving wellness through collaborative decisions, the TCM model can also be applied to the nurse. The leadership team may assist the nurse in achieving a state of equilibrium through identifying and implementing appropriate interventions to combat environmental stressors leading to an improved sense of well-being.

Literature Selections/Systematic Process

A comprehensive systematic review of literature (SROL) was performed to facilitate the knowledge acquisition process. Database search engines consisted of CINAHL, Medline, PsycInfo, Academic Search Premier, Directory of Open Access Journals, and SPORTDiscus. Keywords centralized around themes of risk, workplace, nurse, stress, after-hours, resilience, work-related strain, mindfulness, coping, turnover intention, burnout, engagement, aggression, and violence yielding, 25,688 articles with dates from 2015-2021. The search was then limited to full text online, scholarly peer reviewed journals, and English. Due to the abundance of articles related to the stated keywords and lack of articles focusing on HCC and telephonic nurse triage, the DNP Student narrowed the article selection to 45 articles with a final selection of 30 articles pertinent to the workplace setting, telephonic nurse triage, RN, with additional exclusions

centered around non-healthcare related call centers and studies that did not utilize an assessment tool.

Scope of Evidence

Research design for the journal articles varied from comparative quantitative research survey design, descriptive correlational survey design, cross-sectional survey design, qualitative survey design, and multi-stage study randomized controlled trial design. The levels of evidence based on Melnyk and Fineout-Overholt (2015) ranged from Level I- systematic review and meta-analysis of randomized controlled trials; clinical guidelines based on systematic review or meta-analyses, Level II- one or more randomized controlled trials, Level III- controlled trial (no randomization), Level V- systematic review of descriptive and qualitative studies, Level VI- single descriptive or qualitative study, and Level VII- expert opinion. As noted in Appendix C, the final selection of 30 articles fell into the following categories:

- Level I- systematic review and meta-analysis of randomized controlled trials; clinical guidelines based on systematic review or meta-analyses: 1
- Level II- one or more randomized controlled trials: 1
- Level III- controlled trial (no randomization): 2
- Level IV – Case-Control or cohort study: 0
- Level V- systematic review of descriptive and qualitative studies: 1
- Level VI- single descriptive or qualitative study: 23
- Level VII- expert opinion: 2

Review of Evidence

Background of Problem

Nurses functioning in non-traditional healthcare workplace settings such as HCC have become mainstream especially given the recent COVID-19 pandemic. Possessing resiliency, fluidity, and flexibility in care paradigms is crucial for continuing access to care for vulnerable populations. Nurses from across the country have fled positions in their hometowns to provide care for areas severely debilitated with healthcare and economic challenges. The nurse has grown accustomed to working long shifts for many days in a row to continue the delivery of care for critically ill patients in every healthcare setting. Along with customary patterns of career and workplace norms in nursing, professionals have faced physical, mental, and emotional exhaustion due to the current landscape of the world and profession (Riley et al., 2018). These multifaceted issues have compounded over time and forced many to consider their true sources of stress and anxiety.

The transition from a direct patient care environment and into a HCC can be daunting for even the most experienced and seasoned clinician. Based on the organizational and departmental structure of the HCC, the nurse may be tasked with addressing numerous patient health calls at once, while also paying close attention to non-licensed personnel requiring immediate attention for urgent clinical escalations. In CAS, the nurse manages an average of 3-4 calls at once and must be readily available for patients experiencing suicidal ideation, 911 emergencies, and return pages from the on-call providers (B. Arenas, personal communication, March 1, 2021). Forced to comply with county health regulations set forth due to COVID-19, the staff also faces challenges with speaking clearly on a headset telephone while wearing a mask, remaining physically distanced during break and lunch periods, and attempting to remain committed to patients,

providers, staff, and to self. Clearly soliciting feedback and input from staff and assessing internal and external stressors will potentially empower and increase engagement, while reducing obstacles for the staff.

Systematic Review of Literature (SROL)

The DNP Student conducted a SROL yielding evidence-based research articles to support the QIP as depicted in Appendix D: Systematic Review of Literature. Utilizing the thematic appraisal process from Melnyk and Fineout-Overholt (2015), the DNP Student categorized literature findings into the following overarching themes: environment related to nurse stress and burnout and leadership support.

Environment Related to Nurse Stress and Burnout

Maslach et al. (2018) defined burnout as a culmination of syndromes and feelings related to, "…emotional exhaustion, depersonalization, and low personal achievement". This foundational meaning focuses on the pertinence of the observant domains influenced by the individual in the workplace environment (Maslach et al., 2019). Numerous studies have utilized various iterations of the Maslach survey focused on the principal employment industry to better understand sources of burnout, stressors, and exhaustion (Maslach et al., 2019).

Bjorkman, Engstrom, Olsson, and Wahlberg's (2017) Delphi study identified the multifaceted challenges in a telehealth clinical call center including mental and emotional burnout, physical exhaustion, and lack of collegial and collaborative support from inter- and intra- professional team members. Bjorkman et al. (2017) implemented stress and anxiety reducing interventions such as creating and fostering a calm and low stress work environment, and providing clinical, technical, operational, and physician support services.

Borteyrou, Truchot, and Rascle (2014) studied work stress in oncology nurses by assessing various tools that measure nurse stress levels. The authors found that the Work Stressor Inventory for Nurses in Oncology (WSINO) in conjunction with the General Health Questionnaire and the Maslach Burnout Inventory provided qualitative and quantitative data related to identifiable areas for action and intervention of stressors in the workplace (Borteyrou et al., 2014). This study is relevant to clinical call center nurses as there are specific stressors affecting the nurse and overall delivery of care and utilized the Maslach survey tool to identified unique stressors. Repeated exposure to suicidal ideation calls, patients experiencing end-of-life clinical concerns, and emergent situations in various clinical specialties throughout the enterprise often create an overwhelming sense of emotional and physical stress and anxiety in the HCC.

The article, "Work Engagement and Resiliency Impact the Relationship Between Nursing Stress and Burnout" studied nursing burnout and stress as it relates to the workplace due to burnout syndrome and the affiliated symptoms of physical, emotional, and psychological impacts (Hetzel-Riggin et al., 2020). The study aims to research work engagement related to vigor, dedication, and absorption in the nursing workplace. A demographic survey was utilized to gather data with information including the likelihood of the participant to continue practicing nursing in three years, the Nurse Stress Scale, the Utrecht Work Engagement Scale measuring dedication, vigor, and absorption related to enthusiasm of the job, the Resiliency Scale, and the Maslach Burnout Inventory. Respondents took 45-minutes to complete the survey using electronic software with an emailed survey link. Regression analysis identified nursing stress had a significant impact on emotional exhaustion with absorption being a positive predictor of emotional exhaustion, and vigor being a negative indicator of emotional exhaustion. Nursing stress indicated depersonalization and bootstrapped analysis showed approximately 40%

variance in personal accomplishment. Burnout in nurses is affected by vigor absorption, dedication, resiliency requiring support, education, and training development from managers and leaders. Collegiate educational preparation, mentorship support, and appropriate interventions are paramount for supporting nurses with burnout and improving engagement (Hetzel-Riggin et al., 2020).

Cetinkaya et al. (2018) evaluated violence experienced among nurses of various generations and their coping mechanisms due to stress related violence. Verbal violence is increasingly reported more than any form of violence due to the legal ramifications associated with physical sources of violence and fear of retaliation (Cetinkaya et al., 2018). Strong correlations exist between this research study and the relevance of the CAS RNs as violence characteristically experienced by nurses from patients and family members goes underreported and is processed internally by the nurse (Cetinkaya et al., 2018).

Gilardi et al. (2020) aimed to address workplace aggression emotional work (EW), and emotional labour (EL) as indicated by the hospital setting, patients and family members, self-efficacy, and communication. Third party aggression was identified and positively related to both outcomes in emotional work, depersonalization, but not to self-efficacy communication. Communication and self-efficacy are negatively associated with emotional engagement. Research indicates a direct correlation with third party verbal aggression, exhaustion, and increased job demands lead to burnout and overall decreases in well-being. The need for consistent employee support is vital in challenging and demanding healthcare roles to decrease burnout (Gilardi et al., 2020).

Leadership Support

Mutual respect, open communication, transparency, and Shared Leadership are essential elements for a supportive and healthy workplace environment. Amarneh (2017) conducted a comparative quantitative research survey design to compare workplace stressors and social support systems of Jordanian nurses in academic and non-academic hospitals. Research indicates a variable difference between teaching and non-teaching hospitals, with teaching hospitals requiring supportive measures and interventions related to uncertainty with treatments, preparation, and the need to build support relationships with staff (Amarneh, 2017). Work stressors were identified more frequently in teaching hospitals with the work shift as an indicator of a significant source of stress for both teaching and non-teaching hospitals (Amarneh, 2017). Workplace stressors are inevitable in the healthcare environment due to taxing workloads and increasing patient acuities (Amarneh, 2017). When stressors are identified by nursing staff, it is vital that leadership assess issues and implement sustainable and supportive training and social support interventions to decrease anxiety, while improving quality patient care and work life balance (Amarneh, 2017).

Nurses are frontline healthcare workers who witness violence in all forms to include local and world events to peer bullying, workplace stress and violence. The exposure to violence in the workplace impacts retention, resilience, and job satisfaction (Garcia-Dia et al., 2018). Garcia-Dia et al. (2018) advised that leadership and management can identify sources of internal and external factors to then implement measures for engagement, satisfaction, recruitment, and retention. Nursing professionals characteristically work in high intensity and critical areas where increased burn-out and challenges with recruitment and retention are inevitable (Garcia-Dia et al., 2018).

Continuing educational support, acknowledgment, and holistic care of the nurse is key for engagement of the staff in a demanding HCC. In the article, "Effectiveness of a Technology-Based Intervention to Teach Evidence-Based Practice (EBP): The EBR Tool", the authors indicate how technological advances have morphed the way students, clinicians, and healthcare professionals gather EBP information (Long et al., 2016). As a result, a web-based tool was developed for clinical use in gathering EBP research to develop safe and quality plans of care prior to implementation (Long et al., 2016). The EBP tool proved to be vital for safeguarding patient safety through reputable scientific research, while enhancing clinical outcomes. To enhance compliance with the use of EBP tools, the clinician must first identify any barriers for use, and incorporate the behavior into practice by developing EBP focused care regimens (Long et al., 2016). It is vital for EBP tools to be easily accessible and integrated for nurses with direct patient contact into already hectic workdays. In this study, access to EBP research proves vital for safeguarding patient safety and supporting nursing judgement by using reputable scientific research, while enhancing clinical outcomes, as nursing interventions are not merely focused on memory, but rather on inquiry (Long et al., 2016).

The article, "Differential effects of workplace stressors on innovation: An integrated perspective of cybernetics and coping" identified the increasing work demands in all sectors with stressors commonly associated to ineffective coping strategies, role ambiguity, and conflict (Fay et al., 2019). The aim of this study was to test workplace stressors on innovation implementation with the use of cybernetics to mitigate redundancy and inefficiencies (Fay et al., 2019). The goal of this research article was to test the two following hypotheses: work demands are a positive indicator of innovative design, and negative predictors of role ambiguity and professional compromise (Fay et al., 2019). It was concluded that innovation in the workplace is essential to

positive workplace perceptions and demands (Fay et al., 2019). Focusing on cybernetics as a mechanism of change management will allow leaders to critically think through stressors and acknowledge all levels of work performance among teams (Fay et al., 2019).

Elliot (2017) had a goal to understand the underlying factors of workplace stress causing nursing professionals to leave the field due to emotional and physical burnout. Historically, nursing was characterized as a female dominated profession often undervalued, which over the years has seen an increase in popularity among the male nurse in further gaining clarity and understanding of the true worth and value of the nurse (Elliott, 2017). The article is used to make recommendations to managers and leaders in developing plans to support the emotional taxed nursing professional (Elliott, 2017). Emotional labour is a significant cause for nurses to consider leaving the profession due to compassion fatigue and physical and emotional burnout (Elliott, 2017). It is vital that once emotional labour is identified, leadership intervene to reduce workplace stress, as the patient, caregiver, and nurse will ultimately suffer (Elliott, 2017). Developing interventions focused on perception, understanding, and support of the nurse with true and perceived stressors is paramount to decreased burnout and turnover (Elliott, 2017).

Project Plan and Evaluation

Market/Risk Analysis

SWOT Analysis

A Strengths, Weakness, Opportunities, and Threats (SWOT) analysis was conducted for this DNP QIP as shown in Table 1. The strengths of conducting this project included support of the CAS Executive Leadership who encourage a shared vision in influential change management. The setting provided direct insight into the unique challenges and obstacles in the HCC workplace environment. An esteemed cadre of professional nurses with an average clinical

background of 8 to 10 years brings clout to their feedback. URAC Accreditation and compliance with regimented metrics and standards focuses the delivery of care on safety and quality assurance.

Opportunities with this project stemmed from challenges in recruiting qualified nurses due to the pandemic and the need to fill vacancies with agency and traveler nurses. The lack of transparent communication between staff and the Leadership Team is a weakness as evidenced by discussion among staff with Unionized Representatives. The increased number of sick calls and Kin Care calls, resistance to change, and the inability of staff to work remotely theoretically foster threats and additional opportunities for improvements in the HCC workplace.

Table 1

SWOT Analysis

Strengths	Weaknesses
• CAS Executive Leadership support • QI Project will be conducted in DNP Student's place of work • Highly skilled RNs with an average of 8-10 years clinical experience • Compliance with URAC Accreditation metrics	• Increased number of agency and traveler nurses • Transparency in communication between frontline staff and CAS Leadership • Staff resistant to change
Opportunities	**Threats**
• Staff and Leadership development • Improve engagement • Decrease aggravating environmental factors in the HCC	• Lack of qualified HCC nurses • Sick Calls and Kin Care • Positions allowing remote capabilities

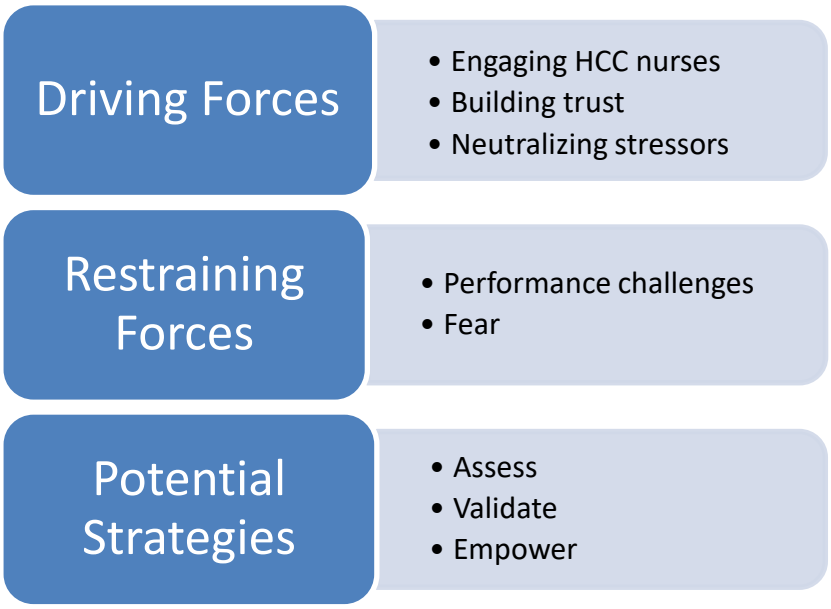
Driving and Restraining Forces

The drivers for change which necessitated this project focused around engaging the HCC nurses as key stakeholders and building mutual trust, while identifying prominent pressure points in the workplace environment. Assessment of internal and external forces for change included easing the overall pressurized atmosphere of the HCC during peak days of the week and call volume times to increase a sense of equilibrium. Neutralizing stressors commonly verbalized during Daily Huddles such as repeated changes to standard Work (SW), challenges with identifying appropriate on-call providers for patients with numerous clinical specialties involved in their plans of care and addressing staffing issues in real-time as personal and familial situations abound during the pandemic is essential in fostering communal ownership between the staff and Leadership Team.

Restraining forces are challenging, as the workplace has proven to cause disruptive patterns of performance among the staff. While the professional tone can be taxing, resistance to change is often difficult for individuals, especially those in CAS who have worked at SHC prior to transferring into the department and are accustomed to other clinical areas. Fear of the unknown related to survey findings may also generate angst among the staff, as engagement and buy-in of shared and developed interventions is key for successful change. Potential strategies for driving and restraining forces included assessing and validating nurses' perceptions of physical, mental, and emotional fatigue, while fostering self- and peer- empowerment. Refer to Figure 1 for an overview of driving and restraining forces and potential actions and strategies in reducing restraining forces.

Figure 1

Driving Forces, Restraining Forces, and Potential Strategies



Needs, Resources, and Sustainability

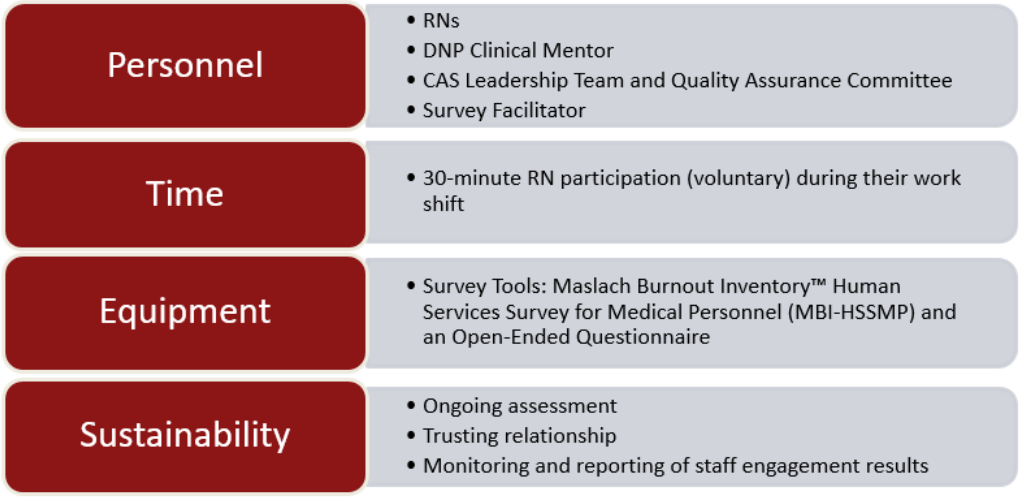
Hetzel-Riggin et al., 2020 identifies nursing burnout and stress as it relates to the workplace due to burnout syndrome with the affiliated symptoms of physical, emotional, and psychological impacts. Moreover, engagement has direct correlations to vigor, dedication, and absorption in the nursing workplace (Hetzel-Riggin et al., 2020). The need for this QIP allowed the DNP Student to assess apparent strain and pressure in the workplace and the direct correlation in the HCC. The growing need for organizations to provide telehealth and telemedicine access for patients as the world navigates pandemic confronts with COVID-19 variants, vaccine allocation and testing resource limitations, and funding restrictions, places an emphasis on assessing, identifying, and implementing sustainable measures to secure the welfare of the HCC staff.

The resources required to complete this QIP included evidence-based literature, the Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) with an Open-ended questionnaire to gather qualitative data (MindGarden, 2019), access to the CAS computer systems for RN staff to complete the surveys, and approximately 30-minutes of staff voluntary participation time during their work shift.

Ongoing assessment of staff needs through linked check-ins with direct supervisors, encouraged participation in SHC organizational Engagement Pulse Surveys, and monthly Connect, Introduce, Communicate, Ask, Respond, Exit (CICARE) Departmental Rounding facilitated sustainable measures of this QIP. Encouraging and nurturing a trusting relationship among staff with their Direct Supervisor will further bridge communication gaps (Mallak & Yildiz, (2016). Monitoring and reporting of staff engagement results during CAS Quality Assurance Committee (QAC) Meetings will allow the Leadership Team to readily intervene and implement change as necessary (Mallak & Yildiz, 2016). Refer to Figure 2 for needs, resources to include personnel, time, and equipment, and sustainability.

Figure 2

Needs, Resources, & Sustainability



Feasibility, Risks, and Unintended Consequences

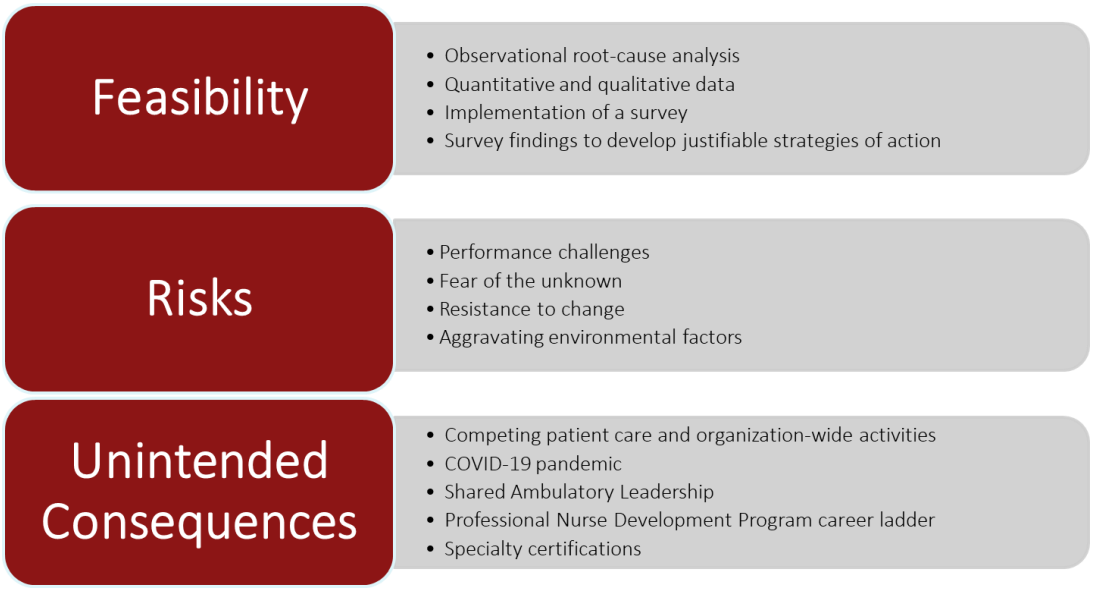
To ensure feasibility of this DNP project, the project team conducted an observational root-cause analysis to better understand the problem. Feasibility is paramount when implementing interventional plans to ensure achievable outcomes (Kolenic, 2018). To best gather quantitative and qualitative data, the decision to implement a survey was the most viable option. Survey findings can then potentially provide the CAS Leadership Team with tangible data to develop justifiable strategies of action.

There were minimal associated risks for the participant subjects with this QIP. A survey can elicit feelings and emotions of apprehension based on the administration process with technological and operational issues as significant limiters (Eldermire et al., 2020). Risks for the CAS nurses focused on angst with analyzing their own professional and clinical performance, the unfamiliar and opposition to change based on survey findings, and the true perceptual assessment of the workplace environment.

Based on numerous competing patient care activities, the COVID-19 pandemic, and initiatives in the organization, CAS has not been an active contributor in SHC Ambulatory Shared Leadership initiatives. Unintended consequences included a fostered and renewed interested in CAS and Enterprise-wide Shared Leadership with a focus in the SHC Professional Nurse Development Program career ladder, and in obtaining specialty certifications. Figure 3 depicts the feasibility, risks, and unintended consequences of this project.

Figure 3

Feasibility, Risks, & Unintended Consequences



Stakeholders and Project Team

Principle stakeholders for the project are the CAS RNs at SHC in Palo Alto, California. Various groups will benefit from the initiative to include patients, caregivers, family members, providers, clinicians and operational leaders, clinical specialties and services, and the community at large who access CAS services through an enhanced HCC experience. Through interdisciplinary and intradisciplinary collaborative partnerships, the SHC enterprise benefits from process efficiency, cost effectiveness, patient-centered care, and potential decreases in clinical escalations to the on-call provider by the CAS nurse functioning in a calm, supportive, and highly functioning workplace environment. Of significant value for the CAS RN is a potential reduction in stress and anxiety, increased self-confidence, enhanced departmental morale, and the safe and quality delivery of care.

The project team included Eric Lee G. Escobedo-Wu, DNP Student; Dr. Kathleen Whalen, DNP Project Chair; Dr. Cheryl Kruschke for assistance with statistical analysis, and Dr.

Joan Slagle, DNP Student Mentor. Additional supportive team members included: Alpa Vyas, Chief Patient Experience Officer and Vice President; Dr. Nawal Johansen, FACP, CAS Medical Director and Internist; Fouzel Dhebar, MPA/HSA, MSc., Executive Director-Health Navigation Services, Chito Pascual, MS, RN, FNP, Patient Care Manager, Karen Calderon, Manager, Alicia Yuen, MBA, Project Manager, and Khatra Latifi, MBA, Director of Finance.

Cost-Benefit Analysis

The cost to conduct and implement this QIP was approximately $6,314.93. See Appendix E for the Project Budget. Costs included the purchase of the Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) with the open-ended questionnaire (MindGarden 2019), the Group Report: Toolkit for Medical Personnel, and the Maslach Burnout Toolkit™ Manual. The MindGarden organization provided a volume and student discount on licenses with purchase. Incentives for staff were nominal and only in the form of food and beverage. Staffing costs comprised the voluntary participation for 89 RNs to complete a 30-minute online survey during their work shift. At SHC, additional funding and cost requirements are approved on projected units of services, utilization and analysis reports, and encounter call volume. Collaboration with the Telephony, Technology, and Space Planning Departments is critical to ensure effective and timely delivery of healthcare services (Martin, 2017). Surges in COVID-19 cases and vaccination rollout deployments may place additional resource requirements to support the mental and emotional needs of the CAS staff since the department supports the enterprise and community with this flexing call volume.

Increased morale, decreased fatigue, and enhanced nurse retention with an estimated cost savings of $45,000 per RN were essential and defined benefits for conducting the QIP (C. Pascual & B. Arenas, personal communication, March 29, 2021). Fay et al. (2019) notes the

importance of identifying staff verbalizing workplace stressors in real-time for the implementation of innovative plans of action to address unique challenges and stressful work demands. Goals of decreasing sick and kin care calls, increasing participation in shared leadership, reports of positive comments in 1:1 with direct supervisors, and enhanced staff RN participation in the Professional Nurse Development Program career ladder will ultimately lead to optimal patient, staff, and provider satisfaction and outcomes (Garcia-Dia et al., 2018).

External funding resources were not obtained for this QIP. See Appendix F for Cost to Replicate. The DNP Student utilized personal funds for the purchase and administration of the Maslach Burnout Toolkit™ for Medical Personnel Transform™ Survey Hosting (Data), the Group Report: Toolkit for Medical Personnel, the MindGarden Open-ended Questionnaire, the Maslach Burnout Toolkit™ Manual, and food as an incentive for a total of $859.23 (MindGarden 2019). The cost for the SHC CAS organization includes voluntary staffing cost for 30-minutes to complete the survey totaling approximately $5,455.70. Replication of this QIP for another organization would be variable based on the number of RN FTEs. Projected Cost Avoidance as depicted in Appendix G would be measured based on the annual number of sick calls and Kin Care calls from nurses in CAS with a projected target decrease of 50%.

Mission and Vision

The DNP Student's mission was to assess identified perceptions of workplace challenges of HCC staff to ultimately enhance patient and provider synergies, closely aligning to the CAS mission to, "…enhancing access and efficiency to care with a focus on the optimal patient experience" (SHC CAS Mission Statement, 2019). The DNP Student's vision was to implement a sustainable plan to mitigate environmental turmoil, enhance staff engagement, and encourage shared leadership and ownership, which correlates to the CAS vision of, "increasing

comprehensive access to health care services throughout telehealth methodologies with an individualized patient-centric focus" (SHC CAS Vision Statement, 2019).

Goals

The main goal of this QIP was to center around the prevention of physical, mental, and emotional exhaustion and fatigue of HCC nurses. To do this, the DNP Student first administered a survey to assess perceived work-related stressors. The long-term goal was to develop sustainable measures, which alleviate these stressors respectively and ongoing for sustained performance metrics.

Process and Outcome Objectives

The primary outcome objective for this DNP QI Project was to identify work-related stressors among HCC nurses that could potentially lead to burnout. The Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) measured burnout and was followed by an open-ended questionnaire to gather qualitative data about potential work-related stressors (MindGarden 2019).

Logic Model

Work-life balance is essential for the HCC nurse in CAS to maintain physical and mental equilibrium. The ability to decompress utilizing positive self-care techniques is vital for decreasing overall fatigue. The complex patient acuity levels, multi-management capabilities required during phone calls, and complex critical thinking skills during a rapid call cycle all compound work related stressors and the environment. The proposed QIP: *What work-related stressors of health call center RNs potentially lead to burnout?* clearly identifies resources, activities-, outputs-, short- and long-term outcomes, and impacts. As shown in Appendix H, the Logic Model provides a sound representation of relational concepts required to operationalize a

plan clearly defining planned work through resources and inputs and the intended results via activities, outputs, outcomes, and impact (W.K. Kellogg Foundation, 2004).

QI Project Design

To identify work stressors and levels of burnout, the DNP Student utilized a descriptive design using a quantitative survey and open-ended questions to collect additional feedback from the participants that might not be addressed in the survey questions. Barandino and Soriano (2019) applied a descriptive correlation design to determine the causal relationships between practice environments and work-related quality of life as perceived by nursing providers. Previous studies have acknowledged the synergies between highly stressful environments and the potential adverse effects on quality of care provided to patients (Barandino & Soriano, 2019). Additional research findings from Gilardi et al. (2020) utilizing the Maslach Burnout Inventory reinforce the need for educational awareness regarding third-party aggression and improved communication techniques vital in supporting healthcare workers at risk for burnout and assisting them in developing techniques for effectively managing conflicts with challenging patients and clients. Odeh et al. (2014) conducted qualitative semi-structured email interviews to understand how the lack of resources and support in telehealth programs require organizational and leadership support to ensure staff feel safe in providing quality care. A descriptive quantitative and qualitative design provided greater insight into the workplace sources of strain in the HCC and the data for CAS Leadership to develop interventions and resources to aid in mitigating these factors (Pekince & Aslan, 2020).

Setting

Stanford Health Care (SHC) is a Level-1 Trauma Academic Medical Center (AMC) located in the Bay Area of Palo Alto between San Francisco and San Jose providing

comprehensive healthcare services for Northern and Central California (SHC, 2020). CAS was formally integrated into the SHC Enterprise in 2015 reporting to the Chief Patient Experience Officer and Vice President as the clinical and operational entry point for telephonic clinical concerns for patients and providers (F. Dhebar, personal communication, October 5, 2020). With an identified need to deliver 24-hour seamless connectivity, an enhanced patient and provider experience, and appropriate resource utilization throughout the enterprise, CAS provides four core services: nurse triage for over 150 ambulatory clinics and specialty services, post-discharge phone calls for the inpatient units and the Adult and Pediatric Emergency Department, a remote Online Second Opinion Program covering: Cardiovascular, Myocardial Bridge, Orthopaedic, Neurology, Neurosurgery, Ophthalmology, Hematology, and Oncology services, and COVID-19 Rapid Response Support (F. Dhebar, personal communication, January 31, 2020). The CAS work setting is focused on cubicles, telephone headsets, computers with dual monitor capabilities, and a myriad of technological software applications requiring astute multitasking skills.

CAS is supported by a team of Clinical and operational leaders providing 24-hour coverage for clinical escalations, workflow guidance, and supportive mentoring. The Executive Team includes an Internal Medicine Medical Director, and Executive Director of Health Navigation Services, and an Administrative Director of Clinical Navigation Services. In November 2019, CAS received full accreditation for health call centers from the Utilization Review Accreditation Commission (URAC) and must comply with rigorous safety, quality, and reporting regulatory requirements.

Population and Sampling Parameters

The survey was delivered to a convenience sample of 89 seasoned RNs with a variety of clinical experience in both inpatient and ambulatory settings covering various shifts. The target was to obtain a sample size of n=30-40 with an alpha =0.05 (Cullen, n.d., p. 1) to assume 40-50% of all RNs in CAS will participate in the survey. The actual sample size included n=13 with 15% completing the survey.

Due to the nature of the clinical setting, a convenience sample was selected based on the availability of the RN sample population and need to gather data respective to this environment (Andrade, 2021). The population of HCC nurses is further broken-down into 48 Unionized Nurses and 41 Agency and Traveler Nurses (C. Pascual, personal communication, March 3, 202). The population in CAS consists of 70% female and 30% male RNs in the HCC with 100% of all RNs hold a Baccalaureate of Science in Nursing degree or higher (B. Arenas, personal communication, March 19, 2021). The HCC RN is involved with in-direct patient care via telephonic nurse triage and guided each shift with a Charge Nurse and Resource Nurse for immediate assistance. Participation in the survey was voluntary during the RN's work shift, with inclusion criteria including an RN background and active employment in CAS. Exclusion criteria focused on CAS Leadership Team Members to include RN Leaders and non-licensed personnel. Given the COVID-19 pandemic and challenges with recruitment for qualified HCC nurses, CAS deployed urgent staffing measures to meet department demands and surges in patient call volumes.

Protection of Human Rights

This QIP was presented to the Institutional Review Board (IRB) at Regis University and the Executive Director who had approval and signing authority over the CAS Quality Assurance

Committee (QAC) for implementation of this project. The RN population sample for this QIP are not classified a vulnerable or at-risk population by definition and no participants were under the age of 18. Vulnerable populations characteristically face challenges with access to care, navigating complex health systems, and increasing financial costs of living (Franklin, 2018). Due to a stressful work environment, RNs may recount previous professional and personal experiences aggravating stress, anxiety, and psychological vulnerabilities. Regimented measures were considered throughout the QIP by providing an informational recruitment email, performing a voluntary blinded survey, and protecting participant's identity through de-identified collection of data and results aggregation. Refer to Appendix I for the Participant Informational Email. To ensure moral and ethical responsibility of research participants, confidentiality and privacy are imperative, while safeguarding the ethical principles of respect for persons, nonmaleficence, and beneficence. Ethical principles are a safety mechanism to ensure confidentiality, privacy, and truth-telling are maintained between the CAS RNs and the DNP Student.

The DNP Student ensured nurse confidentiality and anonymity through the delivery and completion of an electronic survey tool for forthright responses. Respondents were provided with a neutral survey facilitator and designee for questions regarding the survey process. Additionally, as not to elucidate bias, keywords such as burn-out, fatigue, and stress were not used in communications (MindGarden, 2019). All data findings were maintained on a password-secured computer and will be for up to 3-years following the QIP per IRB protocol. As shown in Appendix J, the DNP Student completed the CITI training course (Certificate # 12935126)

There were no risks to the participants. Subject burden was minimized by allowing respondents the opportunity to voluntary participate in the survey. There was no penalization for

not completing the survey or choosing to terminate the survey prior to completion. The subjects were compensated for 30-minutes of their hourly base rate during their regularly scheduled shift, and nonparticipation did not affect their employment status.

Project Instruments

Maslach Burnout Inventory ™ Human Services Survey for Medical Personnel

The DNP Student employed the use of the Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) with an open-ended questionnaire for data collection of the HCC nurse population (MindGarden 2019). Refer to Appendix K to view permission for use and copyright statement requirements.

The 22 question MBI-HSSMP assessed burnout due to emotional exhaustion, depersonalization, and low personal accomplishment utilizing a Likert scale of 0 (never) to 6 (daily) (MindGarden, 2019). Scoring was conducted via the MindGarden scoring service group report Method 2 (AVE) process for the following independent variables: high scores of Emotional Exhaustion and Depersonalization, and low scores of Personal Accomplishment correlated with a higher degree of burnout (MindGarden, 2019). In this technique, the mean score ranges from 0 (Never) to 6 (Daily) with a scale sum divided by the number of items, as depicted in Appendix L: The MBI for Medical Personnel: MBI-HSS (MP) Scoring Method. Interpretation of scores provided notable insight into the degrees of burnout; although, “It is important to understand that there is no definitive score that ‘proves’ a person is ‘burned out” (MindGarden, 2019). For absolute values, utilizing a 7-point MEAN response scale score fostered stimulating insight into potential interventions related to data points (MindGarden, 2019).

Variables. The workplace environment is noted as the independent variable with the survey tools, MBI-HSSMP and the open-ended questionnaire as the dependent variable (MindGarden, 2019). Teo et al. (2021) conducted research indicating burnout as a significant dependent variable for the three categories. Participants indicating higher scores in the EE and DP categories related to higher levels of burnout with lower PA scores reflecting higher burnout scores (Teo et al., 2021). Extraneous variables closely represented perceptions related to health call center environment and physical space, cubicle areas, shared equipment to include computers, telephony, chair, desk supplies, perceived workload, and job dissatisfaction (J. Slagle, personal communication, March 18, 2021). Figure 4 illustrates the independent, dependent, and extraneous variables influencing this project.

Figure 4

Variables

Independent	Dependent	Extraneous
• Work environment	• Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) • Open-Ended Questionnaire	• Perceptions related to HCC environment • Cubicle space • Shared equipment: computers, telephone, chairs • Space allocation • Perceived workload • Job dissatisfaction

Intended statistics. A quantitative approach was utilized for the MBI-HSSMP. Ratio is the Level of Measurement (LOM) for the survey data due to the ability to categorize, rank, infer equal intervals between neighboring data points, and a true zero exists. The ratio LOM was planned to be performed on the three independent variable domains: Emotional Exhaustion, Depersonalization, and Personal Accomplishment. A paired sample t-test was performed to analyze synergies among the three domains: EE, D, and PA. Additionally, the Kendall's Tau Correlation (Non-Parametric) test was completed to determine associations between the domains

with an analysis of frequency and percentages of mean scores. A comparative analysis for themes was executed for the open-ended questionnaire.

Instrument reliability and validity. Reliability of the survey exceeded the recommend levels for research instruments with various indications solely based on various statistical analysis calculation methods (MindGarden, 2019). Meta-analytic review, analysis, and confirmation hypothesis directly correlates with the validity of this tool and the synergistic relationships between job roles and stated burnout perceptions (MindGarden, 2019). Internal reliability using Cronbach's coefficient alpha (Cronbach, 1976) with estimates for the MBI-HSS scales indicates: Emotional Exhaustion (.90), Depersonalization (.79), and Personal Accomplishment (.71) (MindGarden, 2019). Validity has been demonstrated with correlating scale scores across an array of job conditions in other fields of employment as in a study of 140 mental health workers (MindGarden, 2019).

Open-Ended Questionnaire

A three-question open-ended survey was administered to provide an opportunity for nurses to share their perspectives of workload stressors and factors associated with burnout and fatigue in their work environment. See Appendix M for the Open-Ended Questionnaire. The open-ended questionnaire was used to gather data in a candid and honest approach. Borteyrou et al. (2014) conducted a Work Stress Inventory for Nurses in Oncology utilizing a quantitative and qualitative design to solicit correlations between workload, death and dying, suffering, interpersonal conflicts, and interactions with patients and family members. This study reinforces the importance of gathering mixed data to accurately assess validity of stressors in the workplace related to emotional and organizational factors (Borteyrou et al., 2014). Joan Slagle, DNP, RN, CNL DNP Clinical Mentor and the DNP Student were authors of the survey and

assessed for validity of the questions based on a review of research articles with an emphasis on interviews, surveys, and qualitative approaches.

Data Collection and Treatment Protocol

The protocol, and timeline for this QIP included completion the following steps (See Appendix N: Timeline):

Process for conducting DNP Project

- **02/01/2021:** PICO Identified
- **03/03/2021:** Obtained permission to use the survey instrument
- **03/18/2021:** Developed Open-ended questions
- **03/30/2021:** Defended Proposal
- **03/31/2021:** DNP Project Letter of Intent (See Appendix O)
- **04/07/2021:** Site approval letter obtained (See Appendix P)
- **04/10/2021:** IRB approval obtained (See Appendix Q)
- **05/05/2021:** Conducted an informational email/meeting with the staff
- **05/06/2021:** Initiated project and administered survey online
- **05/21/2021:** Survey end date and completion
- **05/26/2021:** Quantitative results and open-ended questionnaire analyzed with interpretation of findings
- **06/02/2021:** Analyzed data and derived themes
- **07/16/2021:** Shared results of the QI Project with CAS Leadership Team
- **07/19/2021:** Oral Defense
- **08/06/2021:** Completion of final QIP

Project Findings and Results

Objective

The primary outcome objective for this DNP QI Project was to distinguish and assess occupational stressors in HCC nurses potentially causing and exacerbating burnout. The Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) measured burnout utilizing a 7-point Likert scale (Figure 5). Lower scores for Emotional Exhaustion and Depersonalization, and higher scores for Personal Accomplishment represented healthier scores with less burnout characteristics.

Figure 5

MBI-HSSMP 7-Point Likert Scale

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

The MBI-HSSMP was followed by an open-ended questionnaire to gather qualitative data about potential work-related stressors that may not be captured in the quantitative survey (MindGarden 2019).

Results Discussed According to EBP Question

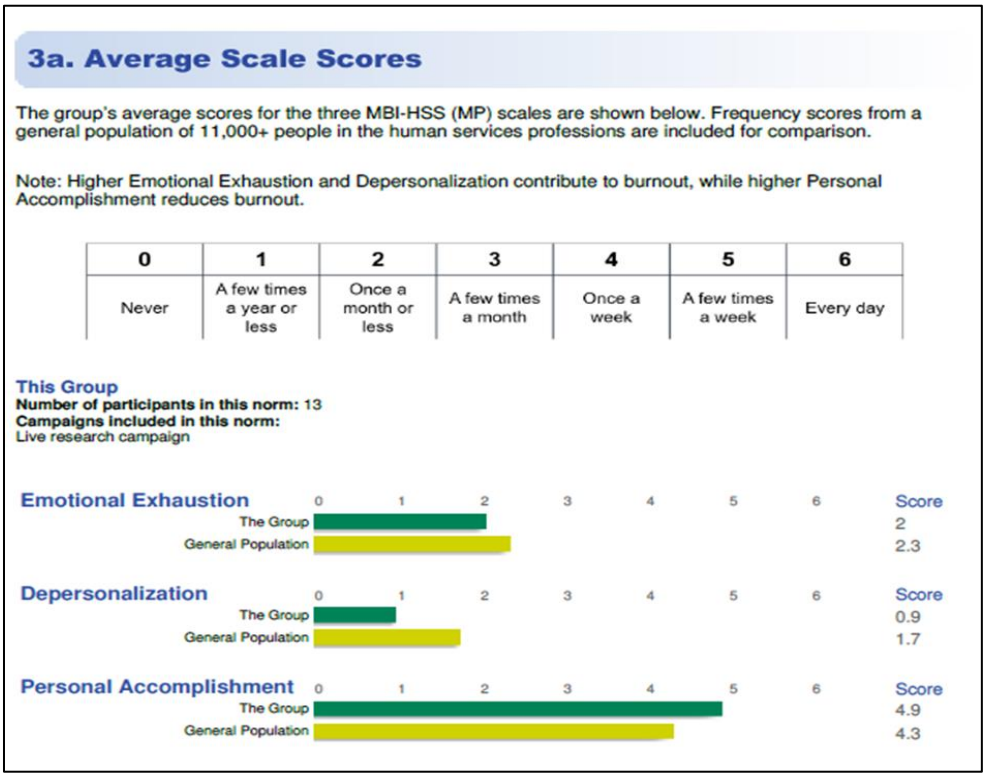
A group report (Toolkit for Medical Personnel) was purchased from MindGarden and provided average scale scores and standard deviations based on a general population sample of 11,000+ individuals working in human services professions for comparison to the CAS sample population (MindGarden, 2019).

Average scale scores. In the Emotional Exhaustion domain, CAS RNs averaged a score of 2 (once a month) in comparison to the general population with a score of 2.3 indicating a

better score in this domain than the general population. CAS RNs scored an average of 0.9 (0-Never and 1-A few times a year or less) versus the general population with an average score of 1.7 also noting healthier responses in the Depersonalization domain. Furthermore, in the Personal Accomplishment domain, CAS nurses also averaged higher scores noting increased satisfaction and engagement with a score of 4.9 (4-Once a week and A few times a week) compared to 4.3 with the general population. Refer to Figure 6, Average Scale Scores.

Figure 6

Average Scale Scores

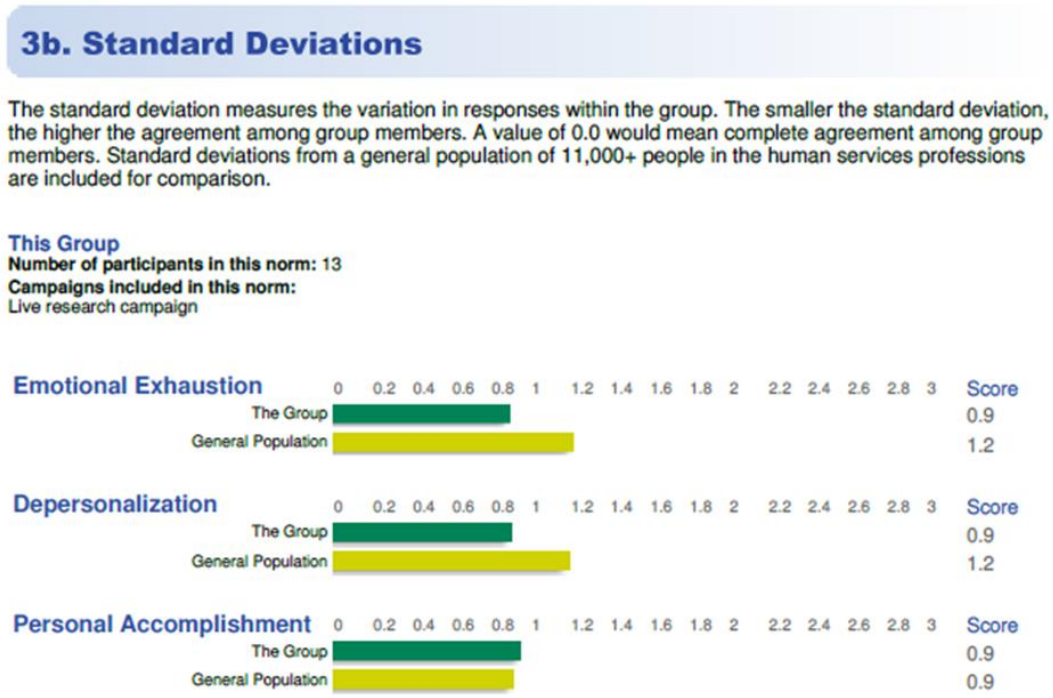


Standard deviations. The MindGarden Group report articulated findings consistent with average scale scores noting the lesser degree of standard deviation correlating with the increased agreement among the group (MindGarden, 2019). The standard deviations indicated lower numbers with the CAS population of 0.9 compared to 1.2 for the general population in the

Emotional Exhaustion and Depersonalization domains. Conversely, in the Personal Accomplishment domain, both CAS staff and the general population had a standard deviation of 0.9. Figure 7 below indicates the Standard Deviations.

Figure 7

Standard Deviations



Paired Sample t-Test. To analyze the data gathered from MindGarden from the MBI-HSSMP the raw data was exported into an Excel spreadsheet and categorized into the following three domains: Emotional Exhaustion (EE), Depersonalization (D), and Personal Accomplishment (PA). The three domains were entered into the Statistical Package for the Social Sciences (SPSS) and a paired sample t-test was performed to compare the respective domains to each other. The rationale for the paired sample t-test is to compare two of the three domains with each other under the same environmental setting to determine whether there is a

statistical mean difference among the paired domains with significant difference from zero (Kent State University, 2021).

A Likert Scale was used in the MBI-HSSMP with options for selection between 0-6 (MindGarden, 2019). Please refer to Figure 5, the MBI-HSSMP 7-point Likert Scale, on page 45. Scores for EE and D are intended to produce a lower score on the scale noted as a healthier score with less burnout characteristics in comparison to a higher score in these domains. (MindGarden, 2019). PA scoring is intended to elicit a higher result focusing on healthful responses as opposed to a low score on the scale (MindGarden, 2019). The closer the response is to 6 on the MBI-HSSMP scale denotes better responses than a result closer to zero (MindGarden, 2019). The following section will compare the domains, EE, D, and PA, with statistical logic using MBI-HSSMP scale (MindGarden, 2019).

Pair #1. The comparison of domains D and PA resulted in a P-value = .000. This noted the mean scores for D and PA are different and the variance is statistically significant. A mean score of D = .89 indicated a lower score for better and healthier responses on the MBI-HSSMP scale. The mean score of D = .89 falls between 0-Never and 1-A few times a year or less (MindGarden, 2019). The mean score for PA = 5.09 noted a higher performing score on the scale, falling between 5-A few times a week and 6-Every day (MindGarden, 2019).

Pair #2. Domains D and EE yielded a P-value = .000. The mean score for D and EE are dissimilar, and the inconsistency is statistically different. A mean score of D = .89 indicates a lower score, meeting the desired goal within the range of 0-Never and 1-A few times a year or less (MindGarden, 2019). The mean score for EE = 2.23 also indicated a lower score within 2-Once a month or less and 3-A few times a month (MindGarden, 2019).

Pair #3. Domains PA to EE were compared with a P-value = .000, with mean scores for PA and EE representing findings that are statistically different and significant. A mean score of PA = 4.93 is scored higher on the MBI-HSSMP scale with results falling within the range of 4-Once a week and 5-A few times a week (MindGarden, 2019). Domain EE generated a mean score of 1.04, indicating a lower score ranging between 1-A few times a year or less and 2-Once a month or less (MindGarden, 2019).

Kendall's Tau Correlation (Non-Parametric). This test was done in SPSS to measure the correlational associations between the quantitative survey questions among the three domains, EE, D, and PA in the MBI-HSSMP survey (See Appendix R: Kendall's Tau Correlation (Non-Parametric) Table) (Aerd Statistics, 2018). The level of measurement is ratio with the ability to categorize, rank, and infer equal intervals between neighboring data points, and a true zero does exist (Matthews, 2017). A high positive correlation exists in the following domain between question #4 (PA) and question #9 (PA). Two or more moderate positive correlations exist among a significant number of the questions in the domains.

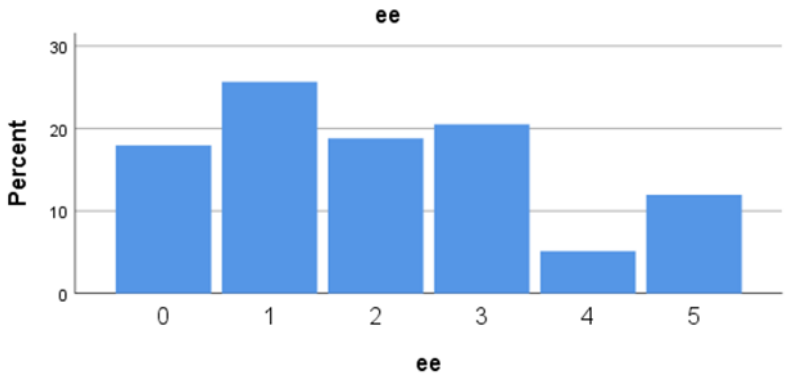
A low positive correlation exists with question #1 (EE) and question #13 (EE) with a low negative correlation with question #8 (EE) with question #19 (PA).

Frequencies. An analysis of response frequencies for the three domains EE, D, and PA using MBI-HSSMP Likert Scale was conducted with the options for selection between 0-6 (MindGarden, 2019). Please refer to Figure 5, the MBI-HSSMP 7-Point Likert Scale, on page 45 for reference to the scale (MindGarden, 2019).

In the EE domain, most responses indicated options selected between 0-Never to 3-A few times a month indicating lower scores and healthier responses as depicted in Figure 8 (MindGarden, 2019).

Figure 8

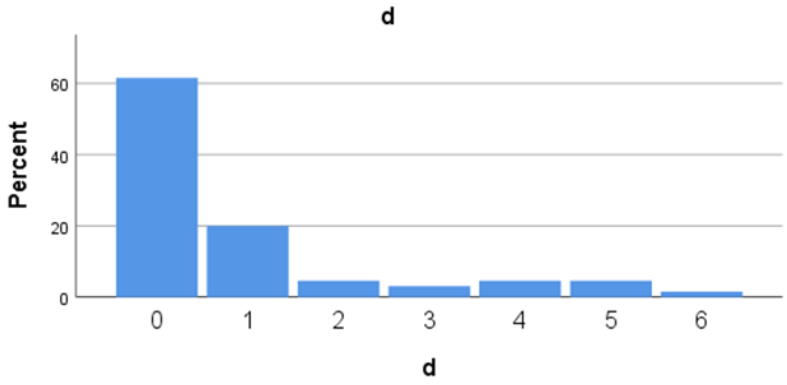
Emotional Exhaustion (EE) Domain



In the D domain, response rates for 0-Never through 1-A few times a year indicated consistent findings with lower scores, indicating less symptoms of burnout as depicted in Figure 9 (MindGarden, 2019).

Figure 9

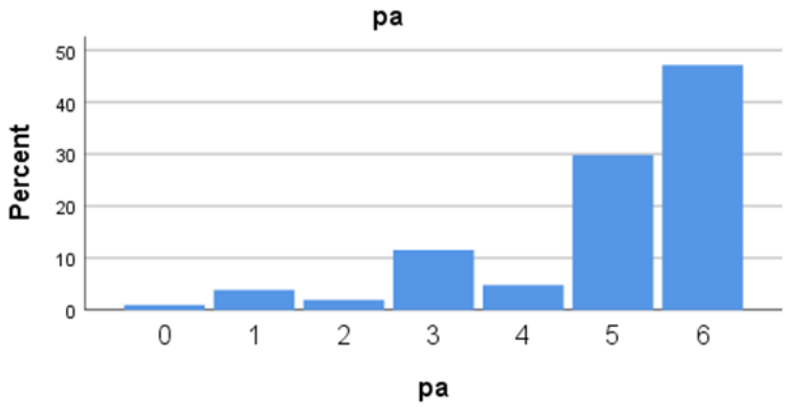
Depersonalization (D) Domain



In the PA domain, the responses for 5-A few times a week and 6-Everyday directly noted positive responses as depicted in Figure 10 (MindGarden, 2019).

Figure 10

Personal Accomplishment (PA) Domain



Thematic analysis. A thematic analysis of the open-ended questions was conducted to gather information and candid responses that may not be captured in a quantitative survey. Two central themes were aggregated upon reviewing staff responses from the open-ended questionnaire with a focus on standard work and organizational culture. Standard work (SW) was grouped into subthemes associated with process changes to include clinical and operational practices and the chief use of clinical tools most notably the nurse triage clinical protocols and algorithms used during each patient phone call encounter and issues related to patients. The second theme, organizational culture (OC) consisted of subthemes around perceptions, emotions and feelings, belief and support systems, self-worth, autonomy, and the clinical population serviced by CAS.

Question #1: "*What areas of your job feel overwhelming or stressful*?". One participant's response was, "Lack of training with new workflows. We are expected to pick up as we go. This creates a lack of confidence and frustration" falling into the SW theme. Two additional responses, "Not being able to provide immediate relief to patients." and "Dealing with patients emotionally." correlated to the OC subtheme.

Question #2: "*How do you feel prior to the start of your shift?*". Seven participants reported positive comments under the OC subtheme. Comments included the following: "Usually energetic and happy to see my colleagues", "Enthusiastic", and, "I always come into work with a positive attitude". Comments related to the SW theme were as follows: "For CAS, relieved, as it is a break from the hectic ER setting" and "Weekend shifts make me anxious because we are often understaffed. Otherwise, I feel good.".

Question #3: "*What makes you feel empowered at work?*". Responses included "When patients are having medical concerns and I'm able to address their concerns" and "Being able to help and reassure patients that their problems are taken care of despite me being unable to have a face interaction with them", and were categorized in the SW theme. The OC theme was evident in the following statements, "Helping patients", "Autonomy", "Being independent" and, "Confidence in myself that I know what is expected of me and how to follow through appropriately". Table 2 summarizes the themes and subthemes.

Table 2

Thematic Analysis

	Standard Work	Organizational Culture
Question 1: What areas of your job feel	• Failure to provide immediate patient relief / resolution	• Leadership perceptions • Upset patients and providers
	Standard Work	**Organizational Culture**
Question 2: How do you feel prior to the start of your shift?	• Relieved with Clinical Advice services (CAS) setting versus hectic ER setting	• Energetic and enthusiastic • Positive attitude • Self-care • Mind renewal • Ready to face challenges
Question 3: What makes you feel empowered at work?	• Having tools to assist patients • Self-challenging with complex patients compared to CVICU and CAS setting • Providing patient advice • Addressing patient concerns • Help and reassure patients without face-to-face interactions	• Thankful / Helping patients • Positive outcomes • Physician agreement with RN clinical decisions • Independence / Autonomy • Excellent feedback and outcomes • Confidence with expectations and follow through

Results Summary

Quantitative and qualitative data analysis for the evidence-based question for this DNP project, *What work-related stressors of health call center RNs potentially lead to burnout?* provided valuable information with potential opportunities for shared leadership departmental process and culture changes to increase engagement, while mitigating perceptions of burnout. The areas surrounding emotional exhaustion, depersonalization, the COVID-19 pandemic, and standard work particularly related to expectations, the patient population, workflows, and scheduling practices provide numerous opportunities for the CAS Leadership Team to partner with frontline staff to influence change for the betterment of all.

Limitations, Recommendations, and Implications for Change

Limitations for this project included the limited sample size of 15% of CAS RNs participating in the online survey. The targeted goal prior to implementation of the survey intervention was to obtain a sample size of 40-50% RN participation. Additionally, while discussing the emailed information letter during CAS Huddles, RNs informally reported survey fatigue due to an increasing number of requests for participation in various surveys both in the workplace and in various aspects of their lives. The COVID-19 pandemic has increased survey request participation in all venues to include governmental, workplace, and social media inquiries. In the open-ended questionnaire, a possible limitation included a potential persuasive response from participants with probing verbiage directly related to burnout and fatigue by asking, "*What areas of your job feels overwhelming or stressful*".

Recommendations for this study include replication after the initiation of shared strategies and action plans from the CAS Leadership and RN staff with a focus on increasing the sample size to gather a more definitive statistical response to the perceptions of workplace

stressors in CAS. Providing further qualitative survey questions to solicit additional staff viewpoints and perceptions would potentially enable the CAS Leadership Team to embrace the SHC shared leadership vision by supporting the introduction of CAS into the SHC Ambulatory Coordinating Council. Additional recommendations include excluding agency and traveler nurses from the sample size due to their limited understanding of the SHC and CAS enterprise and organizational background.

Implications for change include utilizing Afaf I. Meleis' The Theory of Experiencing Transitions (2000) as the theoretical framework for this project directly correlating with statistical findings in the quantitative and qualitative surveys. As Meleis has confirmed the synergies between environment and feelings with patients, CAS RNs were noted to have comparable findings related to demanding workload, increasing patient acuity levels, multitasking challenges, and fear of the unfamiliar (Piccoli et al., 2015). Establishing the Ambulatory Shared Leadership Committee in CAS will allow the RNs to provide on-going opportunities to share perspectives and values thereby enhancing synergies between the workplace environment, feelings, perceptions, and patient encounter.

Summary

The RN is a valuable and integral member of the healthcare interdisciplinary team. The workplace environment has been illustrated to influence the perceptions of the staff. With the CAS possessing the clinical capability to care for a multi-complex patient population throughout the SHC Enterprise, it is plausible there are internal and external environmental factors that influence the delivery of care for the patient and over all well-being of the nurse. The COVID-19 pandemic has compounded sensitivities in the workplace with focal points of ensuring the health and safety of the individual nurse and their families. Although this study correlates with positive

findings, a larger sample size and increasing the number of qualitative questions may illicit different statistical findings.

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Appendix A

Afaf I. Meleis' The Theory of Experiencing Transitions

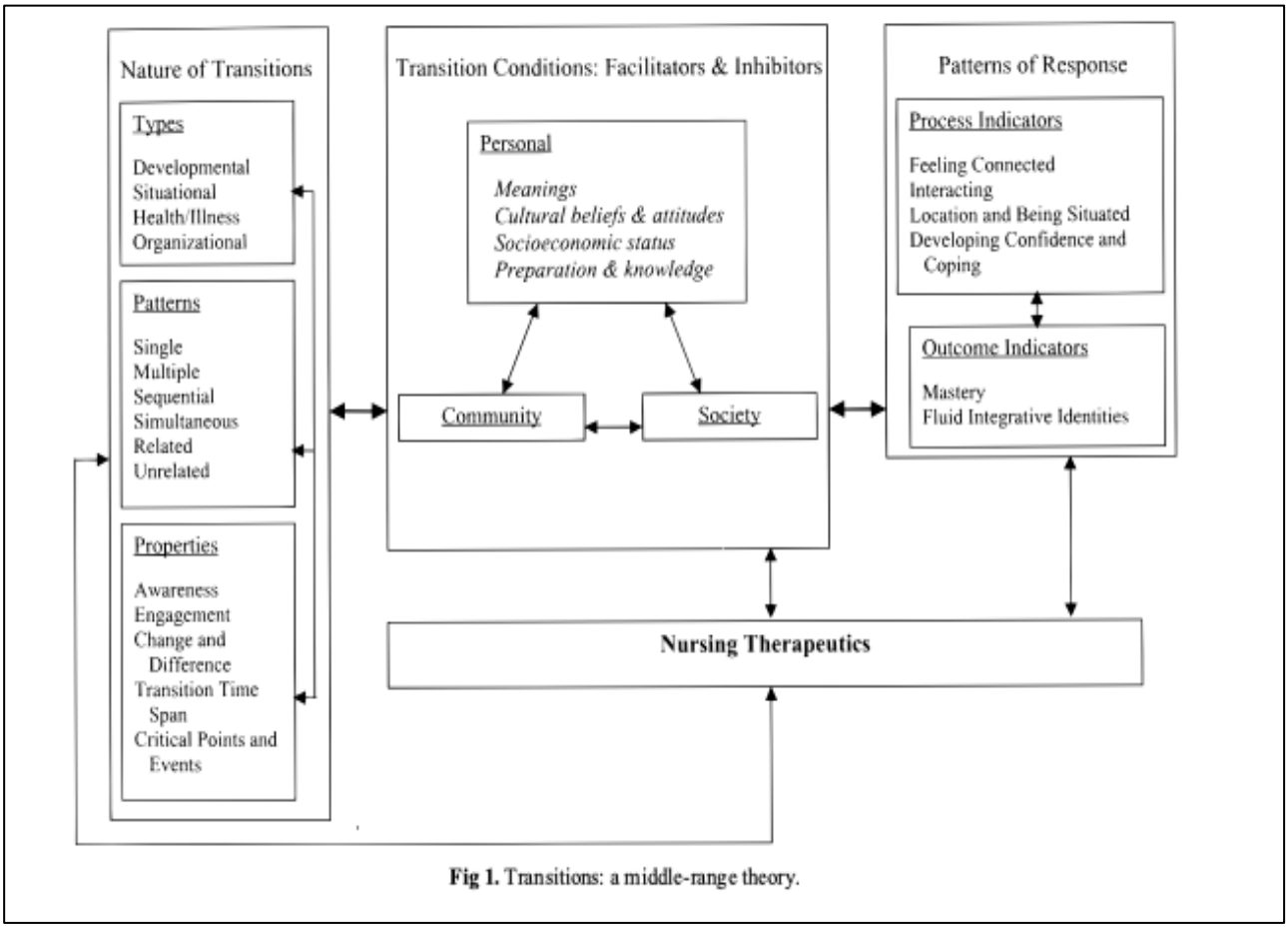
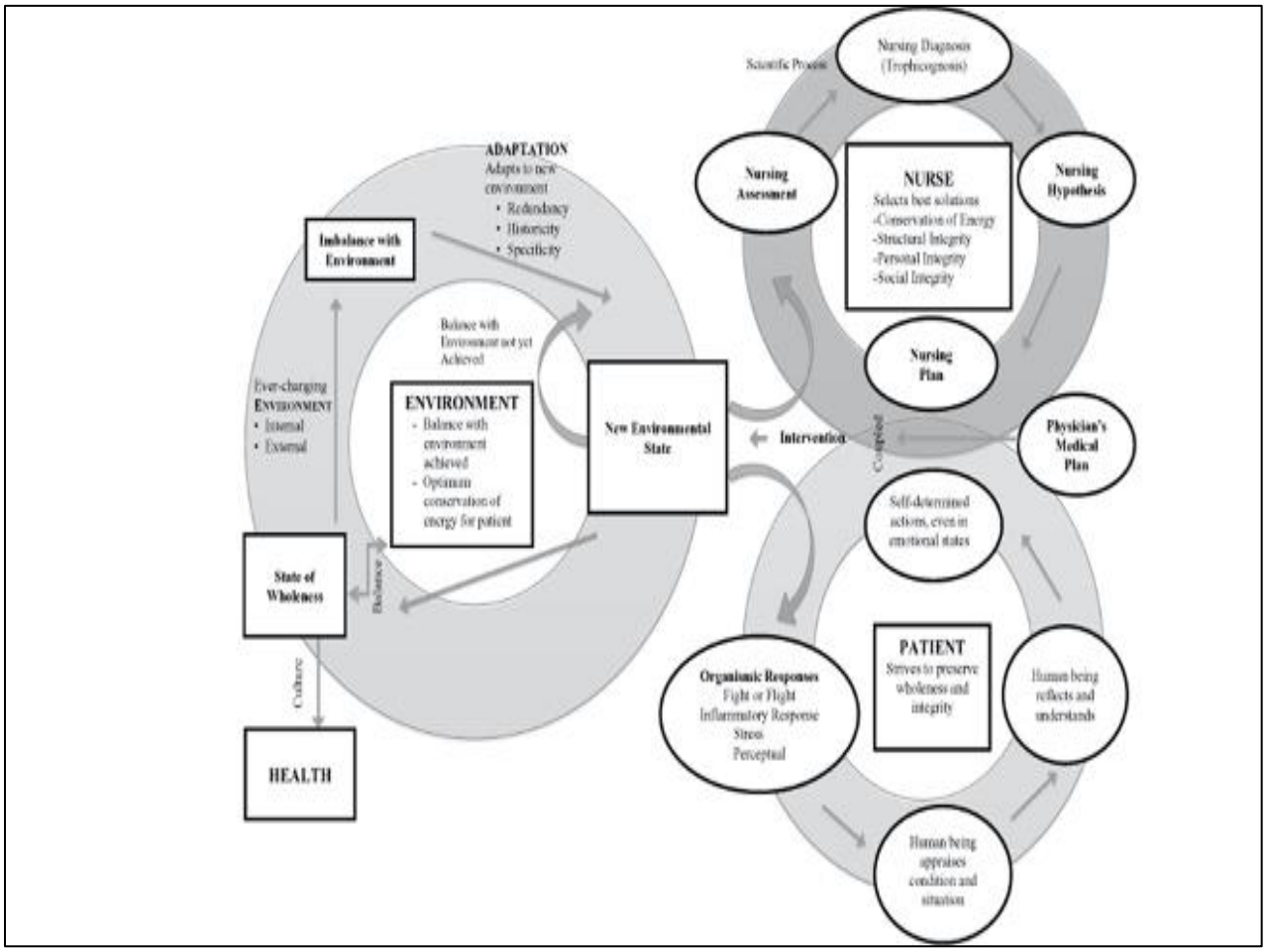


Fig 1. Transitions: a middle-range theory.

(Meleis et al., 2000)

Appendix B

Myra Estrin Levine's Traditional Conservation Model



(Abumaria et al., 2015)

Appendix C

Scope of Evidence

Levels of Evidence	Number of Articles	Authors and Dates
I Systematic Review or Metanalysis	1	Stalpers et al., 2015
II Randomized, Controlled Trial	1	Meischke et al., 2018
III Controlled Trial without Randomization	2	Fay et al., 2019; Yohei et al., 2017
IV Case-control or Cohort Study	0	
V Systematic Review of Descriptive and Qualitative Studies	1	Elliot, C., 2017
VI Qualitative or Descriptive Study	23	Amarneh, B.H., 2017; Barandino & Soriano, 2019; Biksegen et al., 2016; Borteyoru et al., 2014; Cetinkaya et al., 2018; Garcia-Dia et al., 2018; Ghaffari et al., 2015; Gilardi et al., 2020; Hatch et al., 2018; Hetzel-Riggin et al., 2020; Jameson & Bowen, 2020; Kleppe et al., 2017; Lee et al., 2019; Leeuw et al., 2020; Louch et al., 2017; Mallak & Yildiz, 2016; Odeh et al., 2014; Pekince & Aslan, 2020; Riley et al., 2018; Rushton et al., 2015; Shin & Lee, 2016; Smits et al., 2017; Turnbull et al., 2017
VII Opinion or Consensus	2	Bjorkman et al., 2017; Graveson et al., 2019

(Melnyk and Fineout-Overholt, 2015)

Appendix D

Systematic Review of Literature

Article/Journal	"Social Support Behaviors and Work Stressors among Nurses: A Comparative Study between Teaching and Non-Teaching Hospitals"	"Practice environment and work-related quality of life among nurses in a selected hospital in Zamboanga, Philippines: A correlational study"	"Burnout Status at Work among Health Care Professionals in a Tertiary Hospital"
Author/Year	Amarneh, B. H. (2017).	Barandino & Soriano. (2019).	Biksegn, et al. (2016).
Database/Keywords	CINAHL Complete / Work stressors, Social support, Behaviors, Nurses, Hospitals	CINAHL Complete / Health facility environment, nurses, quality of life (QOL)	Medline / Burnout, Health professionals, Occupational health, Work related factors
Research Design	Comparative quantitative research design; survey design	A descriptive correlational design to determine the causal relationship between practice environments and work-related QOL (Barandino & Soriano, 2019). survey design	A cross-sectional study (Biksegn, et al., 2016). survey design
Level of Evidence	Qualitative and Quantitative **Level 6** (Melynyk, 2015).Level 6 is described single descriptive or qualitative study	Qualitative and Quantitative Level 6 (Melynyk, 2015).	Qualitative and Quantitative Level 6 (Melynyk, 2015).
Study Aim/Purpose	To compare workplace stressors and social support systems in place for Jordanian nurses in academic and non-academic hospitals (Amarneh, et al., 2017).	A research study to determine the relationship between the practice environment and the work-related QOL as perceived by nursing providing direct patient care. It has been previously studied that nurses often work in highly stressful environments, which can potentially affect the quality of care provided to patients (Barandino & Soriano, 2019).	To identify burnout causes among health care professionals using the Copenhagen burnout inventory tool and the self-reporting questionnaire (SRQ-20) to detect mental distress. The SRQ-20 was developed by the World Health Organization (WHO) to detect mental distress among health care workers in primary settings of underdeveloped and low-income countries. A score of 6 or above out of 20 identifies mental distress. Alcohol use disorder was assessed using the CAGE tool with a score of 2 above "Yes" answers through four questions (Biksegn, et al., 2016).
Population/Sample size/Criteria/Power	A convenience sampling of hospital administrators and nurses with a breakdown of 463 nurses out of a total of 700 possible participants, 291 nurses from five teaching hospitals and 172 from 8 non-teaching hospitals with an overall response rate of 66.3% (Amarneh, et al., 2017).	A total of 103 nurses working in various units in Level 3 Philhealth accredited hospital in Zamboanga City. Nurses must have been employed by the hospital for at least one year and provide direct patient care (Barandino & Soriano, 2019).	403 permanently employed health professional of Jimma University Teaching Hospital (JUTH) with 83% (n=334) participants in the study/ The majority of participants were males (64.7%, n=213) with a mean age of 28.6 (Biksegn, et al., 2016).

Appendix E

Project Budget

Cost Description	Qty	Unit Price	Total Cost
Project Budget			
Maslach Burnout Toolkit™ for Medical Personnel Transform™ Survey Hosting (Data)	100	$3.90	$390.00
- Volume Discount (30%)	100	($1.17)	($101.17)
- Student Discount on Licenses			($54.60)
Group Report: Toolkit for Medical Personnel	1	$250.00	$250.00
MindGarden Open-ended Questionnaire Cost	1	$200.00	$200.00
Maslach Burnout Toolkit™ Manual	1	$75.00	$75.00
Staff Food as an Incentive			$100.00
Staffing Cost for 30 min Survey Completion	89 FTE	$61.30	$5,455.70
Total Project Budget			**$6,314.93**

Appendix F

Cost to Replicate

Cost to DNP Student			
Cost Description	**Qty**	**Unit Price**	**Total Cost**
Maslach Burnout Toolkit™ for Medical Personnel Transform™ Survey Hosting (Data)	100	$3.90	$390.00
- Volume Discount (30%)	100	($1.17)	($101.17)
- Student Discount on Licenses			($54.60)
Group Report: Toolkit for Medical Personnel	1	$250.00	$250.00
MindGarden Open-ended Questionnaire Cost	1	$200.00	$200.00
Maslach Burnout Toolkit™ Manual	1	$75.00	$75.00
Staff Food as an Incentive			$100.00
Cost to Replicate:			**$859.23**
Cost to CAS			
Cost Description	**Qty**	**Unit Price**	**Total Cost**
Staffing Cost for 30 min Survey Completion	89 FTE	$61.30	$5,455.70
Cost variable based on number of FTEs:			**$5,455.70**

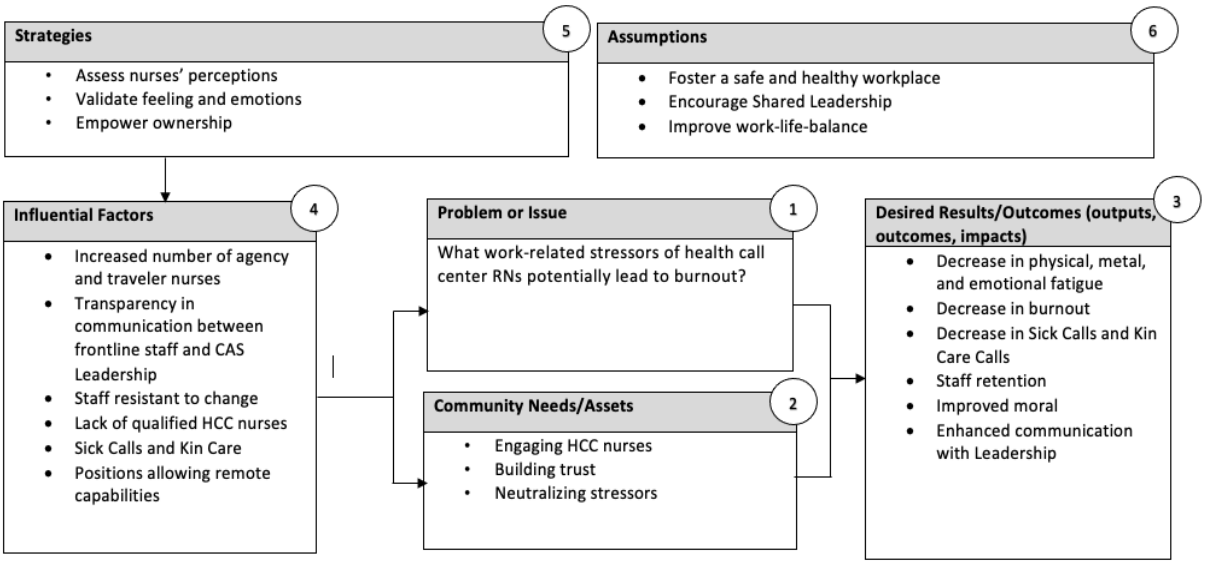
Appendix G

Projected Cost Avoidance

Projected Cost Avoidance			
Cost Description	**Qty**	**Unit Price**	**Total Cost**
Annual Number of Sick and Kin Care Calls Decreased by 50%	180 Days	$980.72 *($122.59 RN Loaded Hourly Rate x 8 Hours)*	$176,529.60
Total Projected Cost Avoidance			**$176,529.60**

Appendix H

Logic Model



Adapted from: Evaluation Logic Model Guide, W.K. Kellogg Foundation, Page 57

Appendix I

Participant Informational Email

Health Call Center Quality Improvement Project Informational Letter

Date: May 5, 2021

Dear Esteemed Clinical Advice Services Registered Nurses,

My name is Eric Lee G. Escobedo-Wu and I have worked in the Clinical Advice Services (CAS) Health Call Center (HCC) as the RN Administrative Director for 5 years. I am conducting a quality improvement (QI) project for my Doctor of Nursing Practice degree at Regis University in Denver, Colorado to assess workload and workplace environment.

This QI project will give you an opportunity to share your perceptions of workload demands experienced by you, the Registered Nurse, in the HCC. You are being asked to participate in an evidence-based online two-part survey: Part I: Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) (22 questions) (MindGarden, 2019) and Part II: Open-ended questionnaire (3 questions).

Parts I and II will be administered anonymously via the MindGarden online platform and will take you approximately 30-minutes to complete. Time will be allowed to complete the survey during your regularly scheduled work hours (break and lunch time are not considered work hours). Coverage will be provided and you will be compensated as hours worked.

Participation is voluntary. Participation or non-participation does not affect your employment at the Stanford Health Care CAS HCC. You have the option of not completing the survey once you begin.

I will blind copy the survey link to your HCC email address by May 6, 2021. Your completion of the survey and open-ended questions indicates your consent to participate in this QI project.

Please perform the following steps to participate in the survey:

1. Click on the Special Key Link:
https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Ftransform.mindgarden.com%2Flogin%2Fkey%2Ffcc8-60804696a6234&data=04|01|ELEscobedo%40stanfordhealthcare.org|23140878b7424152045d08d904dde27c|9866b506dc9d48ddb7203a50db77a1cc|0|0|637546173332123689|Unknown|TWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0=|1000&sdata=XDWhxq5OoMXtSi+1QAqB9%2FWJf+1lLzVqVbtdmP6bdrc=&reserved=0
2. Enter your name, email address, create a password, and agree to the terms of service (or, if you are returning to Mind Garden, enter your email address and password in the blue box)
3. Complete the survey.

Please note: Participant Privacy has been enabled on this campaign. Participant names and email addresses will be omitted from the campaign data file. You will not have access to any Individual Reports associated with this campaign.

There are no risks associated with this QI project. All information will remain confidential. Surveys will be coded without any personal identifiers. Only de-identified aggregate data will be reported in scholarly papers or future publications.

It is my hope that results from this survey will allow you the opportunity to be candid in responses to elucidate productive feedback and opportunities. It is also my expectation that information gleaned from this project could potentially assist the CAS Leadership Team in developing future sustainable measures in the Health Call Center.

Please contact me at escob782@regis.edu (214-458-7669) if you need additional information.

Thank you so much for your time and consideration.

Sincerely,

Eric Lee G. Escobedo-Wu, MS, RN, PHN, CCM
DNP Student
Regis University

Reference

Mind Garden. (2019). *Maslach burnout toolkit for medical personnel*. https://www.mindgarden.com/329-maslach-burnout-toolkit-for-medical-personnel

Appendix J

CITI Training Certificate

CITI PROGRAM

Completion Date 14-Feb-2019
Expiration Date 13-Feb-2022
Record ID 30593262

This is to certify that:

Eric Lee Escobedo

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Human Research
(Curriculum Group)
Social Behavioral Research Investigators
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Regis University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w815a9906-08d7-4c00-9cc3-e5f63b3d5ae6-30593262

Appendix K

Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) Permission for Use and Copyright Statement

www.mindgarden.com

To Whom It May Concern,

The above-named person has made a license purchase from Mind Garden, Inc. and has permission to administer the following copyrighted instrument up to that quantity purchased:

Maslach Burnout Inventory forms: Human Services Survey, Human Services Survey for Medical Personnel, Educators Survey, General Survey, or General Survey for Students.

The three sample items only from this instrument as specified below may be included in your thesis or dissertation. Any other use must receive prior written permission from Mind Garden. The entire instrument form may not be included or reproduced at any time in any other published material. Please understand that disclosing more than we have authorized will compromise the integrity and value of the test.

Citation of the instrument must include the applicable copyright statement listed below.
Sample Items:

MBI - Human Services Survey - MBI-HSS:
I feel emotionally drained from my work.
I have accomplished many worthwhile things in this job.
I don't really care what happens to some recipients.

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MBI - Human Services Survey for Medical Personnel - MBI-HSS (MP):
I feel emotionally drained from my work.
I have accomplished many worthwhile things in this job.
I don't really care what happens to some patients.

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MBI - Educators Survey - MBI-ES:
I feel emotionally drained from my work.
I have accomplished many worthwhile things in this job.
I don't really care what happens to some students.

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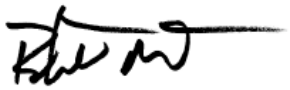
Cont'd on next page

Appendix K (continued)

MBI - General Survey - MBI-GS:
I feel emotionally drained from my work.
In my opinion, I am good at my job.
I doubt the significance of my work.

MBI - General Survey for Students - MBI-GS (S):
I feel emotionally drained by my studies.
In my opinion, I am a good student.
I doubt the significance of my studies.

Sincerely,



Robert Most
Mind Garden, Inc.
www.mindgarden.com

Appendix L

The MBI for Medical Personnel: MBI-HSS (MP) Scoring Method

Method 2 (AVE). For ease of interpretation by respondents, it is useful to calculate the mean response for the items that make up each scale. For all scales, the mean scores can range from 0 (Never) to 6 (Daily). Using Method 2, simply begin by creating the scale Sum and then divide by the number of items in the scale, as follows:

Emotional Exhaustion (AVE) = [Items 1 + 2 + 3 + 6 + 8 + 13 + 14 + 16 + 20] ÷ 9
Note: Higher scores indicate higher degrees of burnout.

Depersonalization (AVE) = [Items 5 + 10 + 11 + 15 + 22] ÷ 5
Note: Higher scores indicate higher degrees of burnout.

Personal Accomplishment (AVE) = [Items 4 + 7 + 9 + 12 + 17 + 18 + 19 + 21] ÷ 8
Note: Lower scores indicate higher degrees of burnout.

Appendix M

Open-Ended Questionnaire

1. What areas of your job feels overwhelming or stressful?
2. How do you feel prior to the start of your shift?
3. What makes you feel empowered at work?

Appendix N

Timeframe

	Escobedu-Wu Doctor of Nursing Practice Quality Improvement Project Timeline																				
Course	Task	Status	2017	2018	2019	2020					2021										
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			
NR 701 - Theoretical Applications/DNP	Explore Nursing Theories and Theoretical Frameworks	Complete																			
	Explore Potential Quality Improvement Projects/PICO	Complete																			
NR 703 - Informatics	Complete NR 703 Course Requirements	Complete																			
NR 722 - Finance and Marketing	Cost Benefit Analysis	Complete																			
NR 721 - Strategic Planning	SWOT Analysis	Complete																			
NR 707- Clinical Research	Continue to refine PICO	Complete																			
	Initial Systematic Review of Literature (SROL)	Complete																			
NR 704 - Epidemiology	Complete NR 704 Course Requirements	Complete																			
NR 708 - Health Policy Analysis	Define Policy Issue and Refine PICO	Complete																			
NR 706A - DNP Project A *NR 725A - Application to Practice A*	Attempt to Gain Affiliation Agreement	Complete																			
	Clinical Advice Service Quality Assurance Committee to serve as Affiliation Agreement and Approving Authority	Complete																			
	Refinement of PICO	Complete																			
	Complete Service Learning	Complete																			
	Complete SROL	In Progress																			
NR 702 - Applied Statistics	Complete NR 702 Course Requirements	TBD																			
NR706B - DNP Project B *NR 725B - Application to Practice B*	Begin Power Point Presentation for Defense	TBD																			
	Submit to Regis University for Approval	TBD																			
	Implementation of Quality Improvement Research Project (QIRP)	TBD																			
	Begin Quantitative and Qualitative Survey	TBD																			
	Data Collection	TBD																			
	Data Analysis	TBD																			
	Implement QIRP Interventions	TBD																			
NR 706C - DNP Project C *NR 725C - Application to Practice C*	Final Paper	TBD																			
	Defend Project	TBD																			
	Submit to Regis University for Publication	TBD																			

Appendix O

DNP Project Letter of Intent

To: Fouzel Dhebar, MPA/HSA, MSc., Executive Director-Health Navigation Services, Stanford Health Care

From: Eric Lee G. Escobedo-Wu, MS, RN, PHN, CCM, NEA-BC, DNP Student, Regis University

Subject: Staff Perceptions of the Health Call Center Workplace Environment

Date: 03/31/2021

I am writing to obtain permission to conduct a quality improvement (QI) project in your facility, Standford Health Care's Clinical Advice Services (CAS), with the purpose of identifying Health Call Center (HCC) nurses' perceptions of stressors and burnout in the HCC workplace by Summer 2021. This QI project will be done to fullfill requirements for completion of the Doctor of Nursing Practice degree at Regis University, Denver, CO. The following information will review the study:

This project will employ a **Population-Intervention-Comparative-Outcome (PICO)** format for development of the QI project question to be investigated:

Population: Registered Nurses in a health call center (HCC)

Intervention: Maslach Burnout Inventory and questionnaire with open-ended questions

Comparative: None

Outcome: Identify perceptions of work-related stress and burnout

Project Question: What work-related stressors of HCC nurses potentially lead to burnout?

Project Significance: The transition from direct patient care to a HCC casues physical, emotional, and mental fatigue for the nurse. CAS requires the registered nurse to utilize each aspect of the nursing process with heightened awareness as each patient encounter is conducted in a rapid call cycle averaging 10-15 minutes with highly acute and complex patient populations. The RN must determine the appropriateness of care ensuring successful education and teaching with effective resource utilization. Although workplace stressors in healthcare are unavoidable due to taxing workloads, patient acuities, and pandemic challenges, real-time assessment of the environmental temperament is key to facilitate sustainable and supportive interventions to mitigate mental and emotional fatigue of the staff, eventual burnout (Amarneh et al., 2017).

Type of Study: This is a quality improvement project that will run over the summer of 2021. The project will employ a descriptive design that includes the collection of quantitative and qualitative data.

Participant Requirement: A convenience sample of registered nurses who actively work in CAS. Non-licensed personnel and CAS leadership are excluded. An information sheet will be emailed to the RN staff along with verbal communications conducted during the all staff Huddles at 1600 starting on 05/05/2021 through the survey concluding on 05/21/2021. There are no risks to the participant. Participation is voluntary. Participation or non-participation does not affect CAS employment. All information will remain

Appendix O (continued)

confidential. Surveys will be coded without any personal identifiers. Only de-identified aggregate data will be reported in scholarly papers or future publications.

Risks, Cost, and Benefits:

- **Risks include: performance challenges, fear of the unknown, resistance to change, and aggravating environmental factors.**
- **Cost to the organization includes 30-minutes for RN staff (voluntary) to complete the 30-minute survey during their work shift.**
- **Benefits include: increased morale, decreased fatigue, nurse retention (average savings of $45K/RN), decreased sick calls and kin care calls, participation in shared leadership, positive comments in 1:1 with direct supervisors, potential participation in Professional Nurse Development Program career ladder, optimal patient outcomes, and provider satisfaction.**

Project Goals and Objectives:

The main goal of this QI project is to potentially prevent physical, mental, and emotional exhaustion and fatigue of HCC nurses. Information gleaned from this project can assist leadership in developing sustainable measures, which alleviate these stressors respectively and ongoing for sustained performance metrics.

Objectives:

The primary outcome objective is to identify work-related stressors among HCC nurses that could lead to burnout. The Maslach Burnout Inventory™ Human Services Survey for Medical Personnel (MBI-HSSMP) will measure burnout and will be followed by an open-ended questionnaire to gather qualitative data from the nurses' perspective (MindGarden 2019).

Permission is requested to conduct this quality improvement project at Stanford Health Care, Clinical Advice Services, 7600 Gateway Blvd. 2nd Floor, Newark, CA 94560.

I have included a template for the brief site approval letter that is required on letterhead from you.

Thank you for your assistance with completing my DNP Project.

Sincerely,

Eric Lee G. Escobedo-Wu

DNP Student

References

Amarneh, B. H. (2017). Social Support Behaviors and Work Stressors among Nurses: A Comparative Study between Teaching and Non-Teaching Hospitals. *Behavioral Sciences (Basel, Switzerland)*, *7*(1). https://doi.org/10.3390/bs7010005

MindGarden. (2019). *Maslach burnout toolkit for medical personnel*. Retrieved October 20, 2020, from: https://www.mindgarden.com/329-maslach-burnout-toolkit-for-medical-personnel

Appendix P

Site Approval Letter

Stanford HEALTH CARE
STANFORD MEDICINE

Letter of Agreement

April 7, 2021

To Regis University Institutional Review Board (IRB):

I am familiar with Eric Lee G. Escobedo-Wu's quality improvement project entitled, ***Staff Perceptions of the Health Call Center Workplace Environment,*** which will run over the summer of 2021. I understand Stanford Health Care's commitment is to extend a convenience sample of registered nurses, who actively work in Clinical Advice Service (non-licensed personnel and CAS leadership are excluded). An information sheet will be emailed to the RN staff along with verbal communications conducted during the all staff Huddles at 1600 starting on 05/05/2021 through the survey concluding on 05/21/2021. Participation is voluntary. The project will employ a descriptive design that includes the collection of quantitative and qualitative data.

I understand that this quality improvement project will be carried out following sound ethical principles and provides confidentiality of project data, as described in the proposal.

As a representative of Stanford Health Care, I am in full support of the DNP candidate's, Eric Lee G. Escobedo-Wu's quality improvement project undertaken may at our agency/institution.

Sincerely,

Fouzel Dhebar

Fouzel Dhebar
Executive Director, Health Navigation Services
Stanford Health Care
500 Pasteur Drive, Room J355, Stanford, CA 94304
O: 650.725.6032 C: 650.892.0404
Email Address: fdhebar@stanfordhealthcare.org

Appendix Q

IRB Approval

From: Alan Stark <no-reply@irbnet.org>

Date: April 9, 2021 at 11:07:52 MDT

Subject: IRBNet Board Document Published

Reply-To: Alan Stark <astark@regis.edu>

Please note that Regis University Human Subjects IRB has published the following Board Document on IRBNet:

Project Title: [1746112-1] Staff Perceptions of the Health Call Center Workplace Environment

Principal Investigator: Eric Lee Escobedo Wu, MS

Submission Type: New Project

Date Submitted: April 8, 2021

Document Type: Not Research Letter

Document Description: Not Research Letter

Publish Date: April 9, 2021

Should you have any questions you may contact Alan Stark at astark@regis.edu.

Thank you,

The IRBNet Support Team

https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fwww.irbnet.org&c=E,1,Tv7-wWSdFNKn8Ky7SiqXuMA7Vr0DEjAo4neqlQeWRzim4zAf-d0n32ywsxt-m209w1xHHoYcZEPhJHZdESIdZqXJMq7GTJ8ShGAF3YyRnw,,&typo=1

Appendix Q (continued)

From: Alan Stark <no-reply@irbnet.org>
Date: April 9, 2021 at 11:07:52 MDT
Subject: IRBNet Board Document Published
Reply-To: Alan Stark <astark@regis.edu>

Please note that Regis University Human Subjects IRB has published the following Board Document on IRBNet:

Project Title: [1746112-1] Staff Perceptions of the Health Call Center Workplace Environment
Principal Investigator: Eric Lee Escobedo Wu, MS

Submission Type: New Project
Date Submitted: April 8, 2021

Document Type: Not Research Letter
Document Description: Not Research Letter
Publish Date: April 9, 2021

Should you have any questions you may contact Alan Stark at astark@regis.edu.

Thank you,
The IRBNet Support Team

https://linkprotect.cudasvc.com/url?a=https%3a%2f%2fwww.irbnet.org&c=E,1,Tv7-wWSdFNKn8Ky7SiqXuMA7Vr0DEjAo4neqlQeWRzim4zAf-d0n32ywsxt-m209w1xHHoYcZEPhJHZdESIdZqXJMq7GTJ8ShGAF3YyRnw,,&typo=1

Appendix R

Kendall's Tau Correlation (Non-Parametric) Table

variable 1	variable 2	p-value	Correlation Coefficient	Correlation	Direction
q1	q13	0.04	0.492	low	positive
q3	q8	0.012	0.613	moderate	positive
q3	q20	0.012	0.643	moderate	positive
q4	q9	0.006	0.731	high	positive
q4	q10	0.037	-0.524	moderate	negative
q4	q18	0.036	0.521	moderate	positive
q6	q16	0.005	0.683	moderate	positive
q8	q14	0.023	0.538	moderate	positive
q8	q19	0.048	-0.473	low	negative
q9	q17	0.014	0.646	moderate	positive
q9	q18	0.016	0.605	moderate	positive
q10	q11	0.013	0.625	moderate	positive
q12	q17	0.011	0.614	moderate	positive
q12	q22	0.027	0.539	moderate	positive
q13	q14	0.03	0.516	moderate	positive
q13	q15	0.046	0.504	moderate	positive
q14	q20	0.035	0.525	moderate	positive
q19	q21	0.03	0.556	moderate	positive