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**Author**

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Los Angeles

Digital Approach to Resource-sharing and Team-building (DART):

A Healthy Work Environment Initiative for Per Diem Nurse Practitioners in Primary Care

A dissertation submitted in partial satisfaction of the

requirements for the degree

Doctor of Nursing Practice

by

Christine Simbulan-Dizon

2023

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## ABSTRACT OF THE DISSERTATION

Digital Approach to Resource-sharing and Team-building (DART):

A Healthy Work Environment Initiative for Per Diem Nurse Practitioners in Primary Care

by

Christine Simbulan-Dizon

Doctor of Nursing Practice

University of California, Los Angeles, 2023

Professor Nancy T. Blake, Co-Chair

Professor Lauren Clark, Co-Chair

**Background:** Per diem nurse practitioners play a significant role in improving access to primary care services. They often work on an as-needed basis to fill gaps in care, especially in primary care shortage areas. These clinicians often work differing shifts and locations from their peers. Siloed work environments negatively impact communication, collaboration, and social cohesion, putting these providers at risk for burnout and turnover. **Objectives:** This quality improvement initiative provides a strategy to improve job satisfaction and reduce burnout among per diem nurse practitioners in the primary care setting. **Methods:** A quality improvement initiative was employed to assess the feasibility and acceptance of a digital resource tool for collaboration and

communication. A strategic use of Microsoft Teams over a ten-week period was carried out to examine effects on job satisfaction, engagement, and performance. A single cohort, pre- and post-test questionnaire was performed at a single, outpatient, primary care setting. A digital, modified Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) was used to measure mean job satisfaction pre- and post- intervention. A paired t-test was used to analyze outcomes with a p-value of <0.05. **Results:** A 22% increase in mean nurse practitioner job satisfaction was found post-intervention. Engagement fluctuated depending on the timing of posts and content shared. No correlation between years of experience and job satisfaction was noted. No significant difference in perceived performance was identified post-intervention. **Conclusion:** A strategic use of Microsoft Teams provides access to a virtual community for per diem nurse practitioners in the primary care setting, despite their physical work location, and provides the potential to optimize performance, productivity, and the quality of care delivered.

The dissertation of Christine Simbulan-Dizon is approved.

Lee Ann Galuska

Paul Michael Macey

Nancy T. Blake, Committee Co-Chair

Lauren Clark, Committee Co-Chair

University of California, Los Angeles

2023

This dissertation is dedicated to my loving family: My patient husband, Jeffrey, who has taken the best of care of our 3 beautiful daughters, Maddie, Chloe, and Casey and spell-checked all my work since the day we met. To my mother and sister for their support and comfort throughout this journey. And to my father, Charles, whose life-long dream was for his children to obtain a doctoral degree in the discipline of their choice.

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## VITA

### **EDUCATION**

---

Doctor of Nursing Practice [DNP] ( <i>IP</i> )	<b>University of California, Los Angeles</b> Los Angeles, California	Expected June 2023
Master of Science in Nursing [MSN]	<b>University of California, Los Angeles</b> Los Angeles, California	June 2013 <i>Suma cum laude</i>
Bachelor of Science in Nursing [BSN]	<b>Concordia University Irvine</b> Irvine, California	August 2009 <i>Suma cum laude</i>
Bachelor of Science [BS] <i>Chemistry</i>	<b>University of California, Irvine</b> Irvine, California	June 2006

### **PROFESSIONAL EXPERIENCE**

---

Kaiser Permanente <i>Panorama City, CA</i>	Nurse Practitioner <i>Internal Medicine</i>	April 2016 – present
Kaiser Permanente <i>Antelope Valley, CA</i>	Nurse Practitioner <i>Family Practice</i>	Oct 2015 – April 2016
Ventura Medical Center, Moorpark Family Clinic <i>Moorpark, CA</i>	Nurse Practitioner <i>Family Practice</i>	Aug 2013 – May 2018
UCLA Medical Center <i>Los Angeles, CA</i>	Registered Nurse, CN II <i>Acute Pediatrics</i> <i>Resource Team</i>	Aug 2010 – November 2022

### **LICENSURE**

---

#### **CA Board of Registered Nursing**

Family Nurse Practitioner	2013 – 2023
Public Health Nurse	2009 – 2023
Registered Nurse	2009 – 2023

### **CERTIFICATIONS**

---

Certified Family Nurse Practitioner [FNP-C]	American Academy of Nurse Practitioners	2013 – 2013
CITI Certification	CITI Program (Human Subjects Research – National Consortium)	2021 – 2024

**OTHER EDUCATION**

---

IHI Certificate, Quality & Safety	Institute for Healthcare Improvement	Jan 2022
TEAMStepps 2.0 Training and Webinars	Agency for Healthcare Research and Quality [AHRQ]	Jan 2022

**PROFESSIONAL ACTIVITIES**

---

Kaiser Permanente Panorama City, CA	Advanced Practice Provider Committee <i>Internal Medicine Chair</i>	2016 – present
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**HONORS AND SPECIAL AWARDS**

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Concordia University Irvine, CA	Dr. Jean Watson Theory of Caring Award Recipient	2009
Concordia University Irvine, CA	Nursing Academic Achievement Award Recipient	2009
Sigma Theta Tau Induction	Gamma Tau at-Large Chapter	2023

**TEACHING ACTIVITIES**

---

Mattel Children’s Hospital UCLA Los Angeles, CA	New Grad RN Preceptor	Sept 2011 – Dec 2016
California State University Dominguez Hills, CA	Clinical Preceptor (FNP Students)	Sept 2016 – Sept 2017

**COMMUNITY SERVICE**

---

Porter Ranch Community School LA Unified School District	Parent-Teacher Association [PTA] <i>Board Secretary</i>	Sept 2021 – present
Our Lady of Lourdes Catholic Church and Parish	Families in Faith <i>Christmas Program Coordinator</i>	2023

**SCHOLARLY WORK AND PRESENTATIONS**

---

University of California, LA Los Angeles, CA	Healthy Work Environment Initiative for Per Diem Nurse Practitioners in the Primary Care Setting	Sept 2021 – present
UCLA 19 <sup>th</sup> Annual Nursing Science and Innovation Conference	Digital Approach to Resource-sharing and Team-building: A Healthy Work Environment Initiative for Per Diem Nurse Practitioners Presenter: Christine Simbulan-Dizon, NP <i>2<sup>nd</sup> Place, Student Posters</i>	May 2023

## CHAPTER ONE: INTRODUCTION

This quality improvement initiative provides a strategy to improve job satisfaction and reduce burnout among per diem nurse practitioners in the primary care setting. These clinicians often work on an “as needed” basis with variations in work schedules and environments. The literature demonstrates that siloed work environments compromise teamwork, staff communication, and engagement leading to burnout and adverse patient outcomes (Loveday et al., 2020). The use of a cloud-based, digital collaboration tool such as Microsoft Teams provides the potential to bridge gaps in ineffective communication among per diem nurse practitioners who work in varying siloed environments on a day-to-day basis. Microsoft Teams is an application available as part of the Microsoft Office software suite utilized by some health care organizations and includes features such as chat, data sharing, and virtual conference meeting. This strategy enhances social cohesion among this group of practitioners despite their work location, which is important because this impacts performance, job satisfaction, and utilization of resources (Loveday et al., 2020).

### **Problem and Significance**

With an aging patient population and anticipated healthcare worker shortage, nurse practitioners play a significant role in improving access to quality healthcare services through the efficient use of resources. Currently, there are 7,832 designated primary care shortage areas in the United States with a need for 16,015 practitioners to remove designations (Health Resources and Services Administration, 2022). These shortages are projected to worsen with the anticipated “Great Resignation” and future changes to the evolving demands of healthcare delivery (Boston-Fleischhauer, 2022). If burnout and job dissatisfaction among healthcare workers continue, access to much-needed primary care services will be compromised.

Burnout has been historically defined as “emotional exhaustion, depersonalization, and loss of a sense of professional efficacy” that results from the inability to cope with chronic job stressors (Maslach & Leiter, 2016; Rushton & Pappas, 2020, p. 141). The effects of burnout have detrimental consequences on patient health outcomes and negatively impact the wellbeing of the healthcare workforce (Tawfik et al., 2018). Burnout is associated with increased staff turnover, suboptimal delivery of care, and poor health outcomes (Goodhue & Harris, 2019). Therefore, it is important to review the literature to identify barriers to resilience and find opportunities to promote the health and wellbeing of healthcare providers in the primary care setting.

There is a limited body of literature that describes burnout and performance among primary care advanced practice providers when compared to physicians and critical care nurses, and there is even less that examines the impact on per diem nurse practitioners specifically. In one study, Xue and Tuttle (2017) evaluated characteristics associated with productivity in the primary care setting and noted that nurse practitioners with a panel provided a larger range of clinical services to their patients when compared to nurse practitioners without a panel. A panel consists of a group of patients assigned to a specific provider, a common practice in the primary care setting to help enhance continuity of care. The literature suggests that underutilization of resources among per diem staff poses potential risks to the quality of care delivered, negatively impacting both patient and provider satisfaction (Agarwal et al., 2020).

Due to the nature of their position, per diem nurse practitioners often work on an as-needed basis with variations in work environments and scheduled shifts. Loveday et al. (2020) demonstrate how siloed work environments compromise teamwork and a sense of belonging. These components contribute to Healthy Work Environments (HWE) that provide organizations with a valuable return on investment through retention, engagement, and quality care (Ulrich et

al., 2019). This Doctor of Nursing Practice (DNP) project proposal aims to address a clinical question in the Population-Intervention-Comparison-Outcome-Time (PICOT) format: Among per diem nurse practitioners in the primary care setting (P), how does the utilization of a digital, collaboration tool such as Microsoft Teams (I) when compared to communication-as-usual (C) impact job satisfaction (O) in a ten-week period (T)?

## CHAPTER TWO: THEORETICAL FRAMEWORK

Martin Seligman proposed PERMA, a well-being framework that incorporates five elements contributing to human flourishing: positive emotions, engagement, relationships, meaning, and accomplishment (Seligman, 2012). Flourishing is different from survival which leads to presenteeism and burnout (Gray et al., 2019). Presenteeism is a state in which an individual continues to be physically present at work despite ineffective coping with work-related stressors. The decrease in productivity resulting from presenteeism presents a larger economic burden for employers when compared to absenteeism. Flourishing, on the other hand, is associated with thriving in the workplace. Seligman (2012) proposed the PERMA model as a theoretical framework for well-being that contributes to human flourishing. The importance of provider and caregiver well-being has also been recognized as a priority to achieve goals of equitable health outcomes by the Institute for Healthcare Improvement (IHI) in its implementation of the Quadruple Aim (Armstrong & Sables-Baus, 2019). The use of a digital collaboration tool, such as Microsoft Teams, among siloed practitioners provides application of the PERMA elements that contribute to a sense of belonging and, therefore, job satisfaction and flourishing. This strategy provides implications to enhance practice and quality of care.



## **Positive Emotions**

Positive emotions arise from an individual's perception of joy and happiness (Seligman, 2012). Resilience is an important factor in reducing burnout and promoting job satisfaction (Agarwal et al., 2020). Many workplace environments offer mental health resources supporting resilience among healthcare workers. However, these resources are often underutilized due to a lack of awareness or scheduling constraints. The use of a digital collaboration tool allows for resource sharing that brings awareness to such resources and provides opportunities to engage in activities that promote positive emotions. The ability to utilize resources effectively contributes to positive emotions among per diem nurse practitioners because it allows for the optimization of their role, perceived productivity, and the ability to exercise agency (Côté et al., 2019).

## **Engagement**

Engagement in practice is a protective factor against burnout because it promotes resilience and active participation (Agarwal et al., 2020). Unlike presenteeism, engagement in work reflects a sense of value and investment. Microsoft Teams is a digital platform that is accessible to providers despite their work location, allowing per diem nurse practitioners to efficiently collaborate with each other using the chat function and conference meeting feature. Engagement allows for opportunities to contribute and share ideas. This practice promotes well-being and satisfaction in one's work because it focuses on strengths that contribute to teamwork and a sense of purpose (Galuska & Bursch, 2020).

## **Relationships**

Relationships provide a foundation for social cohesion. Just as many nursing conceptual frameworks place value on patient-provider relationships, optimizing the well-being of caregivers should also place value on the relationships that exist in healthy work environments.

A digital platform among per diem nurse practitioners provides a safe space to communicate and collaborate with peers. This platform provides an opportunity to form peer relationships that promote a sense of community. The literature demonstrates that relationships with peers and leadership are indicators of job satisfaction and retention (Haizlip et al., 2020). However, interestingly, peer support was found to have a greater impact when compared to the support of supervisors. Therefore, meaningful relationships developed among peers in the workplace contribute to a sense of belonging and shared goals. These relationships contribute to well-being among per diem nurse practitioners because it provides the social support necessary for flourishing.

### **Meaning**

Seligman describes meaning as an individual's perception of achieving purpose in their work which aligns with a "perceived calling" (Seligman, 2012). The ability to exercise agency is a contributing factor to job satisfaction among nurse practitioners because it allows them to make a difference in their patients' lives (Pasarón, 2013). Galuska and Bursch (2020) discuss meaningful work and its contributions to well-being and resilience. A collaboration platform allows participants to engage in work that aligns with their values and strengths which makes them accountable for their practice. The perception of effectively exercising agency through enhanced training in resource utilization contributes to joy and meaning in an individual's work.

### **Accomplishment**

The Association of Critical Care Nurses (AACN) proposed standards of HWE that promote job satisfaction and reduce the risk of burnout (Ulrich et al. 2019). Among these standards, meaningful recognition aligns with a sense of accomplishment, the fifth element in Seligman's theory of well-being. By cultivating a shared vision, nursing leaders have the

opportunity to engage in daring leadership skills that promote teamwork and resilience (Brown, 2018). Celebrating victories and milestones allows teams to provide meaningful recognition that is necessary for human flourishing. This practice allows individuals to thrive in the workplace. Providing a sense of community among per diem nurse practitioners allows them to share experiences, empathize with struggles, and celebrate triumphs that easily go unnoticed in siloed work environments. Providing meaningful recognition of accomplishments contributes to overall job satisfaction and promotes flourishing among per diem nurse practitioners.

### CHAPTER THREE: REVIEW OF LITERATURE

#### **Literature Search**

The literature is rich with evidence of the effects of burnout among health care workers. However, limited knowledge exists on the phenomena within the context of primary care nurse practitioners who practice on a per diem basis. Multiple searches were performed using three electronic article databases including Cumulative Index to Nursing and Allied Health Literature (CINAHL) Complete, PubMed at the University of Los Angeles, California (UCLA), and Psychological Information (PsycINFO). These databases were searched during the period 2015-2022 and were chosen because of their relevance to nursing practice, medical and life sciences, and the anticipated behavioral health strategies aimed at answering the PICOT question.

An initial search on PubMed was conducted using specific search terms (("Per diem" OR "nurse practitioners" OR "per diem nurs\*") AND (Collaboration OR "team building" OR "healthy work environment" OR "workplace balance" OR "social interaction" OR "peer interaction" OR communication OR mindful\*)) AND (Efficien\* OR "job satisfaction" OR resilien\* OR retention OR burnout OR "compassion fatigue") which yielded 215 results. Boolean terms like OR and AND were used to narrow down the most applicable articles. On the

other hand, truncation of certain terms like nurs\*, mindful\*, efficien\*, and resilien\* were used to prevent the exclusion of articles that may be useful. The same search terms were used on CINAHL which yielded three results. These did not show much applicability and focused on communication with physicians. Therefore, an additional search was conducted using the terms “nurse practitioner” and “engagement” and “collaboration,” which yielded 45 results, some of which overlapped with the PubMed results. A separate search in CINAHL was conducted to investigate specific strategies aimed at nurse practitioner wellbeing and efficiency. Search terms included “burnout” and “efficiency” and “primary care” to broaden results. This yielded 28 results, out of which five showed applicability to the PICOT question. Finally, a search of the literature was conducted using PsycINFO to investigate possible behavioral health strategies aimed at providing answers to the above PICOT. Search terms used included “nurse practitioner” and “engagement” and “job satisfaction” and “resource” which yielded four results. Removing the last term “resource” widened the search to include 11 results.

These results were visually scanned for applicability to the population of nurse practitioners in a primary care setting. Additionally, titles and abstracts were reviewed to gain an understanding of the methodology and results. A lack of literature exists using the term “per diem” in conjunction with “nurse practitioner.” Of note, Xue & Tuttle (2017) studied nurse practitioners “with a panel” and compared that group to nurse practitioners “without a panel.” A panel consists of patients assigned to a specific provider to aid with continuity of care, a common practice seen in the primary care setting among benefitted, career-type employees. Although the specific term “per diem” was not used, this study was found to be useful as its implications include the role and expectations of the per diem nurse practitioner. In addition, the yielded results were scanned for possible interventions aimed at promoting resilience, job satisfaction,

and engagement. Studies that explored a practitioner's perception of work meaning were also considered. From this literature search, seven key studies were critically appraised for validity, reliability, and applicability to this population (see Appendix A). These articles are included in the Table of Evidence. Additional articles were considered for extrapolation of creative strategies; however, they were not included in the Table of Evidence as they did not address the specific population of interest or meet validity requirements.

### **Literature Review**

The concept of job satisfaction has been highly studied by researchers interested in exploring strategies to mitigate burnout. Common themes in the literature include intrinsic and extrinsic factors that affect job satisfaction and dissatisfaction, making strategies aimed at promoting job satisfaction complex and multidimensional. Intrinsic factors include an individual's ability to cope with stressors and engage in activities that promote resilience (Guo et al., 2018). Extrinsic factors include workload, work-type, and built environments which often require organization and leadership support to address change. The seven key articles were reviewed and synthesized according to common themes and findings that address intrinsic or extrinsic factors that affect job satisfaction. These themes are consistent with domains typically analyzed in job satisfaction measurement tools such as the Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS). These factors encompass intra-practice collegiality, challenge and autonomy, social and community interaction, professional growth, time, and benefits (Misener & Cox, 2001). The articles were appraised according to their applicability to the target population.

Healthy relationships are the foundation for intra-practice collegiality and have been shown to affect well-being and flourishing (Seligman, 2012). Effective communication and collaboration among peers positively influence teamwork and social cohesion. Mundt and

Zakletskaia (2019) conducted a survey that studied the effect of professional communication flow in the primary care setting. Researchers analyzed communication that occurred face-to-face and electronically among staff members in five outpatient clinics in Wisconsin. Interestingly, the study noted that face-to-face communication occurred more often among nursing staff (registered nurses, licensed vocational nurses) and medical assistants, while electronic communication was more utilized among physicians and nurse practitioners. Researchers discussed how face-to-face communication might enhance the idea of “team cognition” and improve job satisfaction resulting from constructive working relationships. “Team cognition” is an idea described by the authors as a shared understanding of each team member’s capabilities and is linked to team performance outcomes which is stronger with face-to-face communication. However, face-to-face communication may not be as feasible for certain practitioners whose role expectations and demands differ from other team members. They found that job satisfaction was highest among full-time, benefitted employees and lowest among female physicians despite career-type, which was attributed to dissatisfaction in work-life balance. This study contributes knowledge about extrinsic factors that affect job satisfaction by enhancing communication flow in the primary care setting. It provides implications for structured communication strategies that improve job satisfaction and suggests the need for further exploration of job satisfaction among “peripheral” staff who typically engage less with peers when compared to identified “core” staff. The “core-periphery” network was discussed by the authors to reflect the interconnected relationship that exists between members of a team and mirrors the dynamics of that cohesion as it relates to full-time and per diem staff.

Per diem nurse practitioners face barriers to peer communication because their role presents similar challenges faced by “peripheral” staff explored by Mundt and Zakletskaia

(2019). These challenges further compound elements of burnout through the disproportionate use of resources. Therefore, the concepts of perceived clinical productivity and efficiency were also explored as these factors impact job satisfaction. Xue & Tuttle (2017) conducted a retrospective cross-sectional analysis using the 2012 National Sample Survey of Nurse Practitioners to explore the differences in productivity between nurse practitioners with a panel and without a panel. Although no significant difference was found in the volume or number of patients seen, there was a difference in the range of clinical services utilized, implying areas of improvement for performance and productivity (Xue & Tuttle, 2017). This study was found to be specific in addressing the role of per diem nurse practitioners and productivity. The study provides significant implications for the need to develop strategies that are aimed specifically at per diem nurse practitioners. Creative solutions to bridging the gap between per diem nursing staff and utilization of resources provide opportunities to streamline patient care. Although the study posed some limitations in generalizability, it provides significant insight into underlying factors that may need to be addressed to make sustainable changes that are equitable to per diem nurse practitioners.

Loveday et al. (2020) explored the notion of siloed work environments and their effect on job satisfaction among nurses in an intensive care unit (ICU) in a prospective, cross-sectional study. Decentralized nursing stations in the ICU are associated with better patient care outcomes as it enhances monitoring of patient status and decreases the risk of cross-contamination. However, researchers found that these siloed work environments negatively affected nurses' perception of teamwork and social cohesion, ultimately leading to poorer job satisfaction. Siloed work environments present similar challenges to practitioners outside the ICU setting when variations in scheduling and location among peers exist. Findings from this study provide

significant implications for the need to implement creative strategies to bridge gaps that exist between quality patient care and optimal job experience. Such strategies discussed in the study include communication tools like team huddles, pod coordinators, or other deliberate efforts aimed at improving team cohesiveness. Limitations to this study include a possible inherent bias, a single-center study, and the lack of pre-study data to assess perceptions prior to the changes made to the unit layout, limiting generalizability, and posing potential threats to validity. Despite its limitations, this study provides important insight into internal and external factors that affect team dynamics and job satisfaction.

Social and community interaction impacts team dynamics and presents challenges to clinicians who practice in siloed work environments. If left unaddressed, barriers to engagement can negatively affect an individual's work experience and ultimately impact the quality of patient care. Similar challenges were faced during the COVID-19 pandemic which threatened the coordination of health care delivery. Additionally, these siloed environments posed challenges to resource-sharing, training, and shared decision-making, factors that also promote job satisfaction (Loveday et al., 2020).

Bashir et al. (2021) explored the use of online learning during the COVID-19 pandemic when traditional in-person classroom settings were unavailable. Researchers conducted a retrospective study that analyzed the learning outcomes of a residency training program in December 2019 and compared their results to learning outcomes in July 2020 when online learning was the preferred method of conducting didactic training during the COVID-19 pandemic. Online learning in this study occurred via the Microsoft Teams platform. Researchers analyzed the results using a student t-test to compare the two groups. Researchers found a statistically significant improvement ( $P=0.0003$ ) in multiple-choice question (MCQ) scores



among emergency department (ED) residents after online teaching when compared to traditional face-to-face teaching. However, researchers also noted no statistically significant difference in the residents' objective structured clinical examination (OSCE) scores ( $P=0.3513$ ) between the two methods. It is important to note that these results were found among millennial ED residents. Therefore, the results may not be generalizable to non-millennial providers in different settings. On the other hand, however, these findings provide implications that suggest the need to consider different methods of learning that incorporate the needs of future healthcare workers.

Mehta et al. (2020) also explored a healthcare organization's experience with Microsoft Teams specifically during the COVID-19 pandemic and found it to be an effective method to share data and facilitate large group discussions and meetings virtually. The application was used among physicians and radiologists initially involved with the organization's COVID-19 response teams. Additionally, the authors discuss the use of a virtual journal club and found it to be helpful during a time when evidence was rapidly changing. The concept of virtual data sharing was also noted by Rosen and Ryan (2019) in their discussion of virtual nursing journal clubs (VNJCs). Nursing journal clubs have long been an effective way for nurses to share and engage in up-to-date evidence-based practices (Gardner et al., 2016). Therefore, a virtual platform is an effective method for nursing journal clubs to deliver knowledge about best practices among nurses despite physical location and setting. These findings provide implications for effective strategies that are aimed to enhance communication and data sharing among per diem nurse practitioners who essentially practice in siloed work environments.

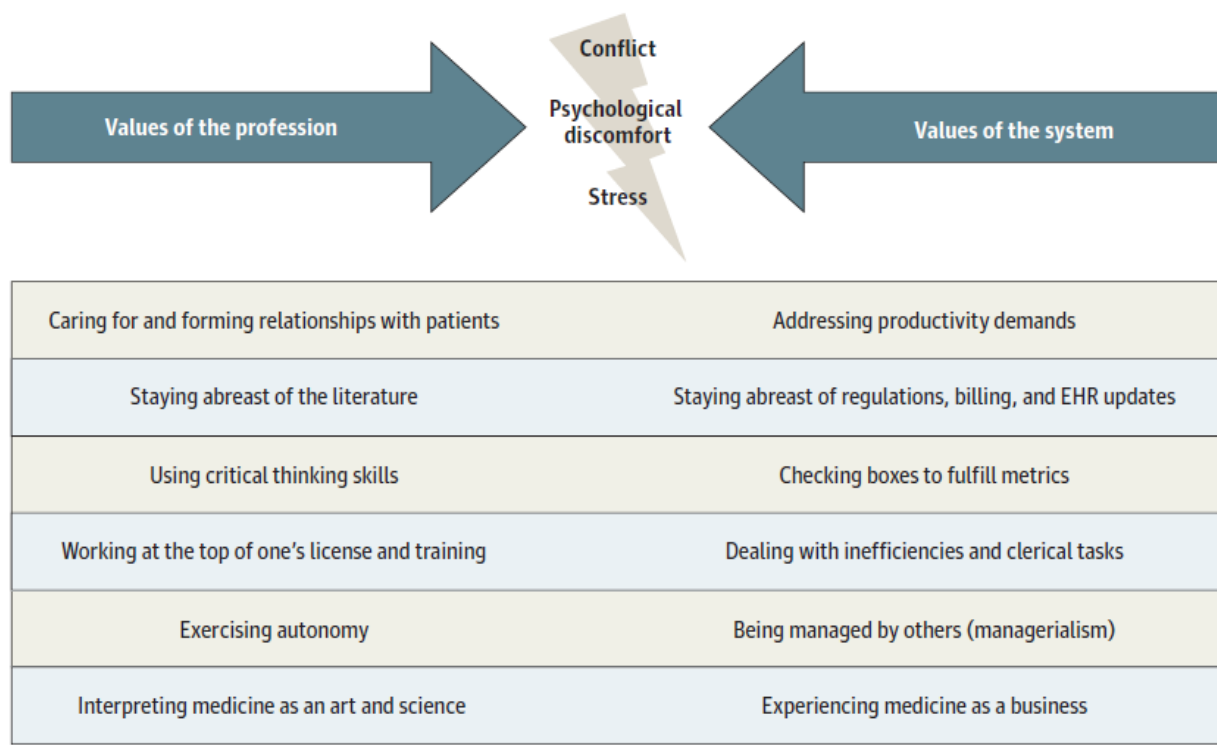
Digital social networks in healthcare provide opportunities for peer support and the development of a virtual community. This concept was examined among midwives who practiced autonomously in rural areas and had limited access to traditional forms of

collaboration. Midwives practicing in rural areas often face similar challenges to per diem nurse practitioners practicing in siloed environments, making collaboration and peer support difficult to accomplish. Gresh et al. (2017) discuss the Global Alliance for Nursing and Midwifery (GANM) as a potential tool to connect practitioners, facilitate knowledge-sharing, and provide a sense of community and belonging. The authors discuss how an online discussion board and access to podcasts through GANM may enhance social cohesion and mattering among this group. Haizlip et al. (2020) conducted a cross-sectional survey that studied the impact of mattering on the incidence of burnout and engagement among nurses and nurse practitioners in the United States. Researchers found a positive correlation between mattering and social support, engagement, and work meaning. Additionally, a strong negative correlation between a sense of mattering and burnout was noted in this study, indicating that a sense of mattering may be a protective factor against burnout. Interestingly, not only did a sense of mattering show a significant positive outcome in a provider's level of job satisfaction and engagement, but the results were higher among those who perceived social support from peers versus supervisors. The results provide implications about the importance of peer relationships in healthy work environments, which in turn, have been crucial in job satisfaction and retention among nurses (Ulrich et al., 2019).

Per diem nurse practitioners are at risk for poorer support systems as their work schedules may vary from those of their peers, making it difficult for them to establish a sense of “mattering” and contribution to the group. Galuska and Bursch (2020) discuss the idea of mattering and the importance of finding meaning and joy in one's work. The authors explored Seligman's PERMA theory of well-being among critical care nurses and proposed team-based and organizational level interventions that align with the AACN's HWE recommendations as

well as the National Academy of Medicine’s goal of prioritizing the wellbeing of health care providers. These intrinsic and extrinsic factors were further explored through a qualitative study conducted by Agarwal et al. (2020). Researchers studied factors that contribute to burnout and serve as barriers to professional fulfillment. Six common themes were identified among primary care physicians and fell under internal or external factors. Internal factors that contributed to job dissatisfaction included feelings of being undervalued, demoralized work conditions, and internal conflict. External factors were consistent with the literature and included workload, work-type, and unreasonable expectations. These factors lead to professional dissonance because a conflict between professional values and the values of systemic organizations occurs (see Figure 1).

**Figure 1: Professional Dissonance**



*Note.* Table showing factors that lead to professional dissonance. From “Professional dissonance and burnout in primary care: A qualitative study,” Agarwal et al., 2020, *JAMA Internal Medicine*, 180(3), 395–401. Copyright 2020 by the Journal of the American Medical Association.

Understanding factors that impact professional dissonance and job satisfaction allows organizations to make effective changes aimed at improving work environments. Côté et al. (2019) conducted a qualitative study that examined factors that influenced the optimization of NP roles and the dynamics between those factors. Researchers aimed to understand NP job experiences and found an association between work meaning, work context and engagement. Furthermore, they discussed a gap between role expectations and reality, suggesting that role optimization is influenced by work environments, engagement in practice, effective collaboration within interprofessional teams, and opportunities to exercise agency. Although this study poses some limitations (small sample size n=41, conducted in Quebec, Canada), it provides insight into effective interventions aimed at improving job satisfaction among NPs in primary care.

### **Literature Synthesis**

This literature search noted robust evidence of qualitative studies addressing the importance of optimizing work environments and the need for future studies exploring potential strategies to prevent burnout and improve access to collaborative approaches (see Table 1).

**Table 1:** *Levels of Evidence Synthesis Table*

Level	1	2	3	4	5	6	7
Level I: Systematic review or meta-analysis							
Level II: Randomized control trial							
Level III: Controlled trial without randomization					+		
Level IV: Case-control or cohort study		+		+		+	+
Level V: Systematic review of qualitative or descriptive studies							
Level VI: Qualitative or descriptive study (includes evidence implementation projects)	+		+				
Level VII: Expert opinion or consensus							

*Note.* 1 - Agarwal et al. (2020) 2 - Bashir et al. (2021) 3 - Côté et al. (2019) 4 - Haizlip et al. (2020) 5- Loveday et al. (2021) 6 - Mundt and Zakletskaia (2019) 7 - Xue and Tuttle (2017)

Researchers have explored intrinsic and extrinsic factors that affect job satisfaction, and the impact clinician wellbeing has on patient outcomes (Agarwal et al., 2020; Côté et al., 2019; Kapu et al., 2019). Common themes in the literature include job satisfaction, burnout, communication, social cohesion, engagement, and the effects on the quality of patient care delivered (see Table 2). The findings by Mundt and Zakletskaia (2019) were consistent with the clinical implications noted in the Loveday et al. (2021) study which demonstrates how siloed work environments negatively impact communication, a significant component that contributes to job satisfaction. These findings indicate a need to explore strategies that are aimed at enhancing communication between team members who practice in siloed-type environments (see Table 3).

**Table 2: Literature Synthesis Matrix – Change in Outcome Measures Discussed in Literature**

Outcome Measure	1	2	3	4	5	6	7
Job Satisfaction	↑		↑	↑	↓	↑	
Burnout	↓		↓	↓	↑		
Communication		↑			↓	↑	
Social/peer cohesion				↑	↓		
Engagement	↑		↑	↑		↑	↓
Quality of Patient Care Delivered			↑		↑		↓

Note. 1 - Agarwal et al. (2020) 2 - Bashir et al. (2021) 3 - Côté et al. (2019) 4 - Haizlip et al. (2020) 5- Loveday et al. (2021) 6 - Mundt and Zakletskaia (2019) 7 - Xue and Tuttle (2017)

↑ Denotes an increase in outcome measure noted by the literature.

↓ Denotes a decrease in outcome measure noted by the literature.

**Table 3: Literature Synthesis Matrix – Interventions**

Intervention	1	2	3	4	5	6	7
Communication tool	+	+			+	+	
Resource-sharing		+			+	+	
Professional mattering	+		+	+	+		
Relationships	+		+	+	+	+	
Virtual Platform		+				+	

Note. 1 - Agarwal et al. (2020) 2 - Bashir et al. (2021) 3 - Côté et al. (2019) 4 - Haizlip et al. (2020) 5- Loveday et al. (2021) 6 - Mundt and Zakletskaia (2019) 7 - Xue and Tuttle (2017)

+ Denotes type of intervention discussed in the literature.

The literature demonstrates virtual platforms to be effective tools to enhance communication and a sense of belonging within teams, ultimately enhancing clinician job satisfaction (Haizlip et al., 2020; Rosen & Ryan, 2019). Additionally, the use of digital platforms as a communication tool for per diem nurse practitioners is a specific strategy to consider when aiming to improve collaboration and resource sharing among siloed health care providers (Bashir et al., 2021; Gresh et al., 2017; Loveday et al., 2020). It is important to note, however, that Mundt and Zaketskaia (2019) discuss the concept of team cognition which is stronger with face-to-communication than with virtual forms of communication. Team cognition is purported to create a better understanding of a shared vision and appreciation of individual strengths that contribute to the overall goal of the team. Additionally, team cognition is linked to better performance, enhancing perceptions of job satisfaction. However, although face-to-face interactions may be ideal for establishing healthy relationships through team cognition, it is also important to note that this form of communication may not be feasible for specific target populations such as per diem practitioners. The study posed some limitations in that it did not explore reasons for using face-to-face or electronic forms of communication. Additionally, the study did not measure communication content, potentially limiting generalizability and posing threats to validity. Therefore, the DNP leader plays an important role in understanding the complexities of specific populations in the context of a multidimensional phenomenon, ensuring that quality improvement strategies are tailored to meet specific needs.

There is a lack of literature that uses the term per diem specifically. Xue and Tuttle (2017) describe the difference in performance and productivity of nurse practitioners with and without panels which implies a need for future research that explores factors associated with per diem nurse practitioners. The literature is consistent with the Quadruple Aim goals that recognize

the importance of clinician wellbeing in achieving equitable health outcomes among populations. These findings further emphasize the significant role of the DNP-prepared provider in studying the literature, disseminating best practices, and contributing to the body of nursing knowledge by addressing these gaps (Roberts, 2013). By implementing sustainable changes aimed at improving job satisfaction, healthcare systems can address barriers to efficiency and promote healthy work environments for per diem nurse practitioners.

### **DNP Essentials: Leadership and Interdisciplinary Practice**

The role of the DNP leader is valuable in the translation of empiric research into evidence-based practices and quality improvement (QI) initiatives that improve health outcomes for target populations (Roberts, 2013). DNP-prepared leaders provide a unique perspective that allows for optimal team functioning through the engagement of key stakeholders, enhancing a sense of belonging and mattering for all team members. The foundation for the clinical scholarship of this DNP project is guided by the American Association of Colleges of Nursing (AACN, 2006) eight essentials for practice: (1) scientific underpinnings for practice; (2) organizational and systems leadership; (3) analytical methods for evidence-based practice; (4) technology/information systems; (5) health care policy; (6) interprofessional collaboration; (7) clinical prevention and population health; and (8) advanced nursing practice. The AACN recently updated these essentials to include domains, competencies, and sub-competencies that exemplify the uniqueness of nursing, demonstrating the continued advancement of the profession and the evolution of leadership roles to meet current demands of health care delivery and practice (AACN, 2021). DNP leaders incorporate these essentials in their project initiatives, making their practice distinct and unique. These practices are grounded in evidence and reflect core values



that make nursing a distinct discipline, allowing the profession of nursing to contribute a unique perspective in interdisciplinary practices (Butts & Rich, 2017).

Although DNP leaders facilitate change through the utilization of these essentials, the depth and focus of these essentials vary depending on the type of QI initiative. This QI project incorporates the AACN core essentials for practice, but has a deeper focus on Essentials II, III, IV, VI, and VIII. The use of a digital platform and informatics allows the DNP leader to focus on change utilizing an innovative approach that anticipates the needs of future health care delivery and interprofessional collaboration. Successful implementation of this project requires transformational leadership skills that engage stakeholders in a shared vision that aligns with the organization's mission, vision, and goals; this practice allows the DNP leader to utilize core competencies as defined in Essentials II and III. Additionally, a deep understanding of the impacts of social determinants and differences in health literacy that exist between disciplines provides the DNP leader with a unique perspective acquired through expert knowledge as a nurse scientist, educator, and patient/population advocate.

#### CHAPTER FOUR: METHODS

This quality improvement (QI) project explored effective strategies that promote job satisfaction and communication among per diem nurse practitioners in the primary care setting. An exploratory QI initiative was conducted as a preliminary approach to examine the acceptance of an intervention program among this target population (Morrison-Beedy & Melnyk, 2019). At the time of intervention, the organization did not utilize a formal, standardized, unit-specific method for per diem nurse practitioners to communicate, share resources, and collaborate on case studies or shared decision-making. Therefore, this QI project was employed to assess the acceptance and utilization of such resources (Morrison-Beedy & Melnyk, 2019). The outcomes

of this initiative provide potential contributions to the nursing body of knowledge that aims to understand factors associated with job satisfaction, performance, and engagement, crucial elements in the development of healthy work environments (Côté et al., 2019).

### **Ethical Considerations**

Internal Review Board (IRB) consultation was obtained through the University of California, Los Angeles (UCLA) prior to the initiation of this DNP QI project. However, because this project was a QI initiative that did not involve patient identifiers (PI) or the use of any patient information, this project was deemed non-human subjects research and IRB approval was not necessary (see Appendix B). The IRB determination form facilitates the implementation process at the organization and ensures the ethical consideration of the participants.

Participants were informed that their participation was voluntary and unpaid. Additionally, participants were informed that responses were confidential and did not contain any identifying information in accordance with the Health Insurance Portability and Accountability Act (HIPAA). Informed consent was obtained prior to the start of the QI project and the opportunity for questions and clarification of expectations was provided. Participants were given the opportunity to withdraw from the project at any time. The use of Microsoft Teams via the organization's secure network did not impose any additional breach of confidentiality regarding patient cases used for collaboration and decision-making as it followed the same manner that is conducted with the current standard of practice. The project did not collect or use any data involving patients at any point.

### **Timeline**

A Deming framework was utilized to guide the implementation of this QI project, whereas the Seligman conceptual model served as the underpinning for the significance of

conducting the project. The Deming framework focuses on a continuous QI model based on four stages per cycle: Plan-Do-Check-Act (PDCA) cycle (Butts & Rich, 2017). A GANTT chart was organized using the first PDCA cycle to guide the process timeline of this project (see Appendix G). The analytics function on Microsoft Teams was monitored after the weekly posts and based on the engagement, subsequent sub-PDCA cycles were initiated to accommodate modifications for the enhanced use of the tool and provided guidance for future posts. Options included adopting the program as-is; adapting the program to accommodate suggestions and modifications; or abandoning the program if it was determined to be unsuccessful at achieving the goal.

The Plan phase (Phase 1) began in August 2022 and included content creation for initial resource sharing and digitizing of the modified MNPJSS using Google Forms. Other tasks for the Plan phase included seeking IRB consultation for approval; meeting with the organization mentor and academic liaison to discuss facility clinical requirements; meetings with the committee chairs to finalize committee members; and multiple, peer and faculty-reviewed edits and revisions of the Written Qualifying Exam (WQE). The planning phase concluded once a passing grade on the WQE was obtained. The pre-intervention survey and demographic data collection began one week prior to the Do Phase of this PDCA cycle (implementation).

Phase 2, or the Do Phase, commenced in November and consisted of a welcome email and introduction to the project. The intervention was conducted over a 10-week period utilizing the weekly huddle posts described above. This phase concluded with a post-intervention survey including the MNPJSS survey and three open-ended, descriptive questions to obtain feedback about the intervention. Phase 3 (Check Phase) ran during the months of February and March and consisted of data analysis using IBM SPSS software. Finally, the Act Phase took place between

April and May of 2023 and included tasks such as meeting with the committee chair and clinical stakeholders to discuss outcomes and implications for future practice. A thank-you email was sent to the participants. Modifications and changes to the project were discussed with stakeholders and nursing leadership to promote sustainability of the QI initiative.

### Cost Analysis, Budget, and Business Plan

Cost consideration for this project included space, participant time, and materials (see Table 6).

**Table 4: Pro-forma Budget Analysis for Implementation of Microsoft Teams Project**

Expense	Unit	Cost
Space	None (digital tool, no physical space needed)	\$0
Material	None (KP already has an existing license/subscription to Microsoft Teams)	\$0
Content Creation (NP time)	4hrs NP time/month (4hrs x \$100/hr) x 3 months = \$1,200	\$0
	<i>*done by DNP student, therefore no cost</i>	<i>*done by DNP student, therefore no cost</i>
Productivity (Participant time)	Participation voluntary (unpaid)	
	Leadership-sponsored lunch: \$20/person x 8 ppl = \$160	\$160
Participation Raffle	\$50 Starbucks gift card x1	\$50
Total		\$210

The organization had an existing subscription to Microsoft Office at the time of intervention which included the Teams function; therefore, no additional costs for material were incurred. The use of this digital platform was accessible despite work location and did not require physical space or materials. Content creation for weekly posts was provided by the doctoral student, and therefore did not incur any cost for the organization. Participant time and

loss of productivity were also considered as potential costs. Because participation in the QI project was voluntary, the organization did not reimburse for participant time. Participants were given a \$10 coffee gift card for participation which was funded by the doctoral student. This QI project yields a valuable return on investment through anticipated future engagement, decreased staff turnover, and increased productivity. Additionally, projects aimed at enhancing job satisfaction and performance provide support for clinician wellbeing and flourishing, elements that align with the organization's mission, vision, and commitment to quality.

### **Project Design**

The project design was a QI initiative that was conducted at a single outpatient center. All participants received the same intervention. There was no control group, and the participants were not randomized. The same group of participants was assessed pre- and post-intervention. This QI project examined the effect of Microsoft Teams as a communication and collaboration tool on job satisfaction among per diem nurse practitioners as a primary outcome. Secondary outcomes explored engagement using the analytics function on Microsoft Teams, as well as perceived individual performance using an organization-specific, patient satisfaction score called MAPPS (Member Appraisal Patient Provider Satisfaction).

### **Population Sample and Setting**

The QI project was piloted in an ambulatory, outpatient setting at a large Health Maintenance Organization (HMO) in Southern California. The participant sample included per diem nurse practitioners providing primary care services in internal medicine or family practice. Although primary care services are also provided by other departments, such as pediatrics and women's health, the project intervention was limited to internal medicine or family practice to minimize variation in workflow practices. Per diem nurse practitioners were defined as

practitioners without benefits who work on an as-needed basis regardless of hours worked per week. All nurse practitioners in the primary care setting (family practice and internal medicine) at this facility were hired as per diem employees during the time of the intervention.

Inclusion criteria included nurse practitioners with an advanced practice certification in any specialty and providing primary care services in either family practice or internal medicine at this organization. Additional inclusion criteria included at least one year of experience as a nurse practitioner and employment at this organization for six months or more. Exclusion criteria included new graduate nurse practitioners with less than one year of experience, inpatient practice only, or practitioners who provided primary care services strictly in pediatrics or women's health. Although nurse practitioners in pediatrics and women's health may also provide primary care services, the populations served present specific needs and milestone assessments that may not be applicable to many other departments, and therefore, were excluded from the project.

Convenience sampling was utilized to maximize the number of participants; although a small sample size may threaten internal validity, the QI project focused on a specific population that was limited in this setting (Heavey, 2018). Therefore, the sample size was an accurate representation of the population at the organization. Seven participants met the inclusion criteria and were recruited to participate in the QI initiative; none were excluded from the study.

### **Intervention**

A team was created on Microsoft Teams using the participants who met inclusion criteria (n=7). A structured and non-structured approach was utilized during the duration of the project. The structured portion of the intervention included weekly posts initiated by the project lead in a huddle format. The literature demonstrates that unit huddles are effective in knowledge sharing

and enhancing social cohesion (Hermanson et al., 2020). These posts included updates to workflow, resource tools, evidence-based practice initiatives, continuing education opportunities, and special events such as birthdays, milestones, and team achievements. These huddle posts were limited to once weekly to avoid confounding factors like alert fatigue (Blake, 2014). Blake (2014) discusses the negative impact alarm fatigue presents on the healing environments of patients and the detriments it causes to healthy work environments by increasing stress on staff. Therefore, to minimize these negative sequelae, organizers were considerate with the number and content of the posts. The non-structured portion of the intervention included the ability of participants to engage in informal chats and discussions with peers to increase participation and team-problem solving. The chosen design for this intervention considered strategies discussed in the literature to enhance engagement and prevent attrition and loss of interest by involving team members in shared visions and goals.

### **Instrumentation**

The Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) is the only validated, nurse practitioner-specific tool identified in the literature to measure nurse practitioner job satisfaction in the primary care setting since its publication in 2001 (see Appendix C). It is a self-administered questionnaire consisting of 44 items, each measured using a 6-point Likert scale ranging from “very satisfied” =6 to “very dissatisfied” =1 with a maximum possible score of 264. Internal consistency for this tool utilizes a Cronbach’s alpha entire scale of 0.96, with subscales alpha ranging from 0.79 to 0.94 (Misener & Cox, 2001). This instrument was developed based on literature review that covered six factors determined by factor analysis including intra-practice partnership, challenge/autonomy, community/social interaction, professional growth, time, and benefits. The authors granted the project facilitator permission to

use and modify the tool for applicability to the target population being studied (see Appendix D). The average MNPJSS was measured pre- and post-intervention.

### **Data Collection**

A digital link to the modified MNPJSS was provided to the participants one week prior to the start of the Microsoft Teams project implementation to obtain baseline values of job satisfaction (Appendix E). A Google format was chosen for convenience given the variation in provider scheduling, making paper surveys and responses difficult to provide and obtain in a timely manner. Other digital survey platforms such as Qualtrics and Survey Monkey were also considered, but a pre-intervention needs assessment reflected that most participants were more familiar and comfortable with the Google format. The tool was modified to exclude questions 1, 2, 3, 9, 15, 21, 22, 23, 41, and 42 because they pertained to benefits, retirement, and administrative tasks that are not applicable to per diem employment.

Demographic information was collected including years of experience as a nurse practitioner, years of employment at the current organization, the number of days/hours worked per week, and current Member Appraisal Patient Provider Satisfaction (MAPPS) score. MAPPS scores are organization-specific scores generated quarterly for providers; a minimum of four patient satisfaction surveys must be completed per quarter to generate a MAPPS score. This score gives individual provider feedback about their performance and patient experience. The main objective of the QI project was to measure job satisfaction pre- and post-intervention; secondary outcomes such as MAPPS scores and engagement were also noted. Engagement was monitored using the analytics function on Microsoft Teams. The number of responses and chat engagement was documented after each post to gain an understanding of content topics that were considered relevant for this group of practitioners.



At the conclusion of the intervention, a link to a post-intervention survey using the same Google format was provided to all the participants. The post-intervention survey included the same digital, modified MNPJSS and three additional, open-ended questions to gain a qualitative understanding of factors that impact job satisfaction (Appendix F). The open-ended questions provided additional feedback regarding satisfaction with the intervention, challenges encountered, and suggestions for opportunities and areas for improvement.

### **Analysis**

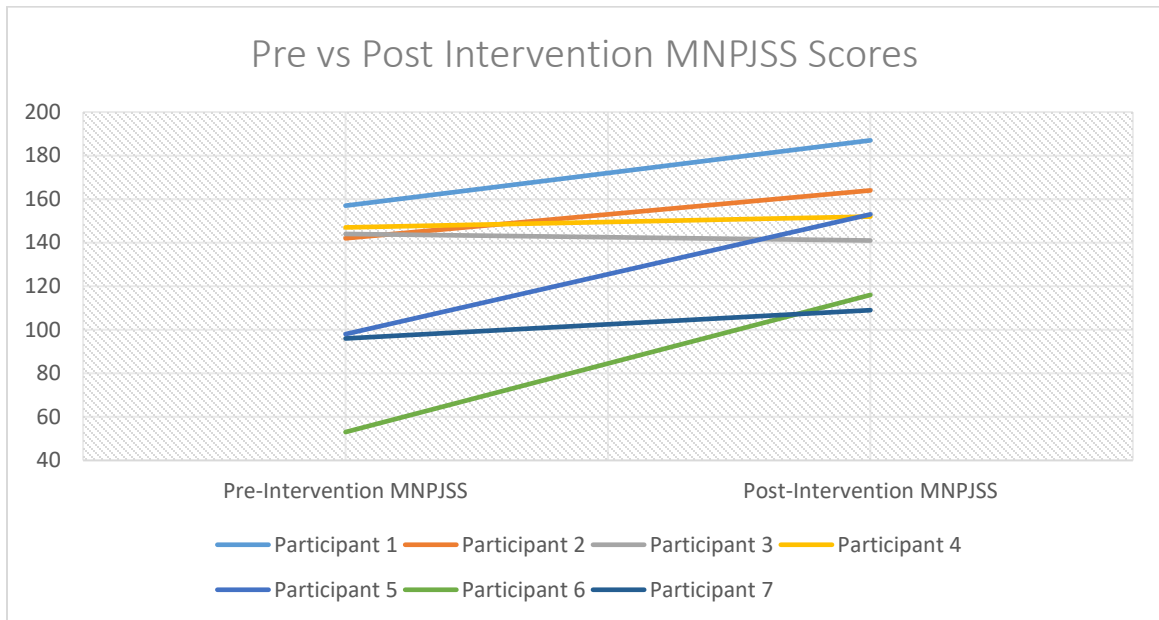
The QI project examined the difference in mean job satisfaction pre- and post-intervention; this was reflected as the mean MNPJSS score post-intervention minus the mean MNPJSS score pre-intervention. A paired t-test was used for the analysis of data. The structured use of Microsoft Teams over a ten-week period was the intervention used to measure NP job satisfaction. The scores were obtained from the use of Microsoft Teams which was defined as NP job satisfaction which was measured pre- and post-intervention. The data was analyzed using a software program called International Business Machines Corporation Statistical Package for Social Sciences (IBM SPSS). A p-value of less than 0.05 was considered statistically significant. This project was a quality improvement initiative, and a stronger focus was placed on clinical significance rather than statistical significance. A power analysis was not necessary because obtaining 100% participation of providers who met the inclusion criteria accurately reflected the target population at this organization, limiting threats to validity due to the project's sample size.

## **CHAPTER FIVE: RESULTS**

A total of seven participants met the inclusion criteria and participated in the QI initiative (n=7). The average level of NP job satisfaction increased from 119.57 (SD=38.09) pre-

intervention to 146 (SD=27.03) post-intervention (paired t-test = -2.82, df=6, p<0.05) as seen in Figure 2 below.

**Figure 2:** NP Job Satisfaction Pre- and Post-Implementation of Microsoft Teams Project

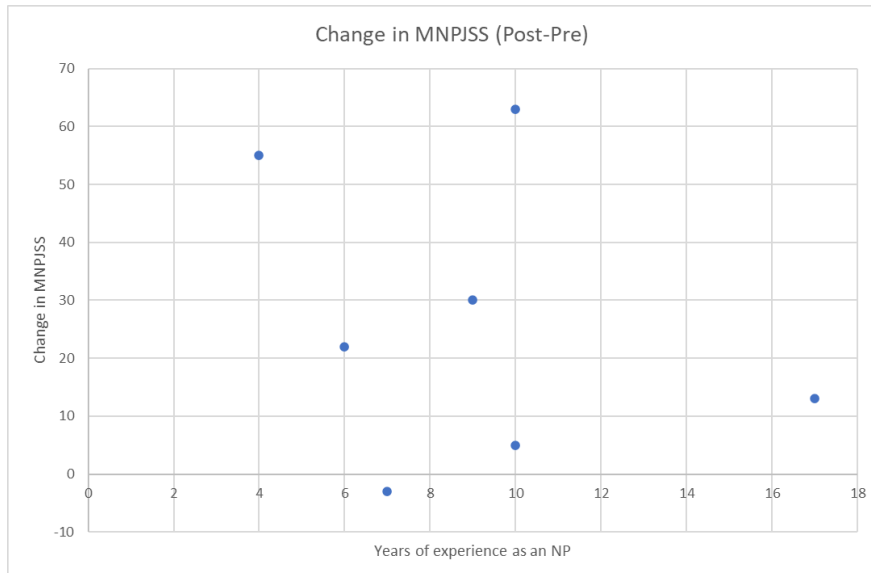


The main goal of this DNP project was to assess the effect of Microsoft Teams on NP job satisfaction, however correlations between demographic information and job satisfaction were also noted. Table 4 depicts demographic information collected and the change in MNPJSS. Figure 3 shows no correlation between years of experience and job satisfaction (Pearson's correlation coefficient  $r=-0.263061$ ,  $p=.568797$ ).

**Table 5: Correlation Between Experience and Change in MNPJSS**

Participant	Years of Experience as an NP	Years Employed at Organization as an NP	Pre-Intervention MNPJSS	Post-Intervention MNPJSS	Change in MNPJSS (Post-MNPJSS – Pre-MNPJSS)
1	9	4	157	187	30
2	6	4	142	164	22
3	7	5	144	141	-3
4	10	5	147	152	5
5	4	0.5	98	153	55
6	10	8	53	116	63
7	17	23	96	109	13

**Figure 3: Correlation Between Years of Experience as an NP and Job Satisfaction**



*Note.* Average years of experience as an NP=9. Average years of experience as an NP at the organization=4.42. Pearson’s correlation coefficient  $r=-0.263061$  ( $p=.568797$ ).

Engagement was monitored using the analytics function on Microsoft Teams and was noted to fluctuate depending on the timing of posts and content shared; there was higher

engagement via replies to posts and tags on Tuesdays and Thursdays when compared to any other day of the week. Five out of the seven participants were noted to be scheduled on Tuesdays, and four out of the seven participants were noted to be scheduled on Thursdays. Posts containing resources and peer recognition received more tags and likes when compared to posts involving updates and reminders. There was no significant difference in the provider MAPPS scores over the 10-week interval for those who provided responses to the MAPPS scores assessments in the questionnaires as seen in Table 5.

**Table 6:** *Change in MAPPS Score Post-Intervention*

Participant	MAPPS Score Known	MAPPS Score Pre-Intervention	MAPPS Score Post-Intervention
1	Y	-	-
2	N	-	-
3	Y	90.2	-
4	N	-	-
5	N	-	-
6	Y	91	90
7	N	-	-

Although the organization does not track nurse practitioner job satisfaction specifically, components of job satisfaction are reflected in the biannual staff engagement survey (Kaiser Permanente, 2022). The results of this survey are available to unit managers but are broadly discussed in companywide newsletters. The results of this survey provide managers with valuable staff insight and opportunities for improving practice and workplace environments. Recent organizational trends demonstrate that “Culture of Health” remains the lowest-ranking index with an average benchmark of 70% in the local healthcare industry. Because the Culture of Health index encompasses well-being, results from this index was referenced to reflect an

anticipated baseline, pre-intervention score of 190 on the MNPJSS scale which is comparable to the current 70% local healthcare industry benchmark. A goal MNPJSS post-intervention score was set at 210 to reflect the national findings that are suggestive of job satisfaction indicators based on the U.S. News and World Report (2022) rankings. The role of nurse practitioners was fourth in the nation, giving the position a score of 8 out of 10 after considering job demand and salary when compared to other national occupations (U.S. News & World Report, 2022). Therefore, an increase in the MNPJSS score greater than 10.5% was considered successful. The QI project reflected a 22% increase in mean nurse practitioner job satisfaction post-intervention.

## CHAPTER SIX: DISCUSSION

The main outcome from the QI initiative was an increase from an average MNPJSS score of 119.57 pre-intervention to an average of 146 post-intervention. A paired t-test = -2.82 indicated that the implementation of Microsoft Teams was effective at increasing job satisfaction ( $p < 0.05$ ). Secondary outcomes noted no significant correlation between years of experience and the average increase in job satisfaction. One of the largest increases in job satisfaction was noted among the participant with the least experience as an NP at the organization as seen in Table 4 above; this is consistent with findings in the literature that reflect greater satisfaction among nurse practitioners in the first year of practice with a plateau between eight and eleven years of practice (Steinke et al., 2017). One participant reported a decrease in job satisfaction but was noted to have resigned from the organization during the implementation of this project, which may have negatively impacted the outcome by imposing an additional task of participation in the post-intervention survey. Participants employed longer at the organization showed similar changes in their MNPJSS scores, indicating that they may have already been satisfied with their current role and workflow, except for one outlier who experienced the greatest change in job

satisfaction. This participant was found to be employed at the organization as an NP the longest when compared to the other participants. Participant seven's reported length of experience as an NP at the organization exceeded their reported length of experience total as an NP; this finding was excluded from the analysis of correlation between years of experience and impact on job satisfaction out of possible error in reporting this value but was included in the overall average of job satisfaction means pre- and post-intervention.

MAPPS scores were assessed to provide insight on the impact of the QI project on patient satisfaction. The MAPPS scores were self-provided in a questionnaire; some participants did not provide an answer, indicating the possibility that their score was unknown, they did not know where to locate/access the score, or they did not feel comfortable providing the value. No significant difference was noted between the two participants who provided their scores. This indicates the possibility that the intervention may not have been conducted long enough to have a significant impact on patient perception of care. The outcomes of the QI project provide potential implications for future studies that examine work-life balance and its effects on job satisfaction and productivity. There is a clinical implication to further assess the lack of MAPPS scores reporting among this group of providers.

The outcomes of this QI project were consistent with the findings in the literature that suggest a sense of mattering and social support contribute to job satisfaction (Côté et al., 2019; Haizlip et al., 2020). Providing a virtual community for per diem nurse practitioners may contribute to a sense of mattering and enhance communication, collaboration, and social cohesion (Haizlip et al., 2020; Mundt & Zakletskaia, 2019; Rosen & Ryan, 2019). Therefore, it is difficult to assess if the increase in job satisfaction noted from the project outcomes can be attributed to the use of the tool alone or if mere involvement in the project was enough to

contribute to a sense of mattering and belonging. The use of Seligman's theoretical framework of wellbeing provided a structure for this QI project and highlighted essential components to flourishing in the workplace including positive emotions, engagement, relationships, meaning, and accomplishment (Seligman, 2012). The outcomes of this QI project provide context to these components of PERMA as described in Seligman's theoretical framework.

A major strength of the project is that 100% participation was obtained from providers who met inclusion criteria, and the project did not experience any participant attrition. This allowed for an accurate reflection of the target population in this setting during the time of the intervention.

### **Limitations**

The QI project presented some limitations such as a small sample size, convenience sampling, and the single facility setting. Although these limitations may limit the generalizability of the outcomes, implications for QI projects targeting specific populations should be considered. The limited number of participants who met the inclusion criteria at this facility accurately reflected the target population it aimed to address. Additionally, the original MNPJSS tool was modified to better reflect factors applicable to the per diem role, which excludes questions on benefits and retirement. The MNPJSS is a validated tool widely used in literature, therefore the threat of modification was minimal. The effect of confounding variables was also considered which included possible alert fatigue, busy schedules, and baseline comfort with digital platforms.

Another limitation considered included participants not originally engaged with Microsoft Teams because they were accustomed to using alternate platforms for communication or experienced constraints in schedules. To minimize this limitation, reminders were made to

regularly check updates within Microsoft Teams during weekly participant check-ins. Additionally, participants were encouraged to use Microsoft Teams for non-urgent communication, providing participants an opportunity to be more engaged with the application. Incentivizing participants with shared resources allowed for opportunities to engage in content that was perceived relatable and provided value to their practice.

### **Implications for Clinical Practice and Research**

Despite the limitations of this project, the potential optimization in practitioner performance and job satisfaction provides major benefits in improving health outcomes for both patients and providers. The use of Microsoft Teams is a simple and cost-effective method to enhance communication, collaboration, social support, and access to resources (Mehta et al., 2020). Because the organization currently has access to this software application, maximizing its utilization provides the potential for healthy work environments. These attributes promote job satisfaction and enhance performance in the primary care setting which helps to prevent burnout among nurse practitioners (Kapu et al., 2019).

Future recommendations include implementing strategies that align with the other standards of HWE as proposed by the AACN, which include meaningful recognition, authentic leadership, effective decision-making, and staffing (Ulrich et al., 2019). In addition, Microsoft Teams can be implemented on a larger scale system-wide to enhance communication and collaboration among different specialty practices. The approach will streamline health services and address issues of fragmentation of care, especially at this organization. There are clinical implications for further studies that explore the relationship of job satisfaction and performance, perceived and actual. Additionally, future research is indicated to examine the effects of possible confounds including the impact of job satisfaction on other quality indicators such as patient



satisfaction. Nursing leaders will gain valuable insight on how communication and collaboration tools influence job satisfaction and these quality indicators.

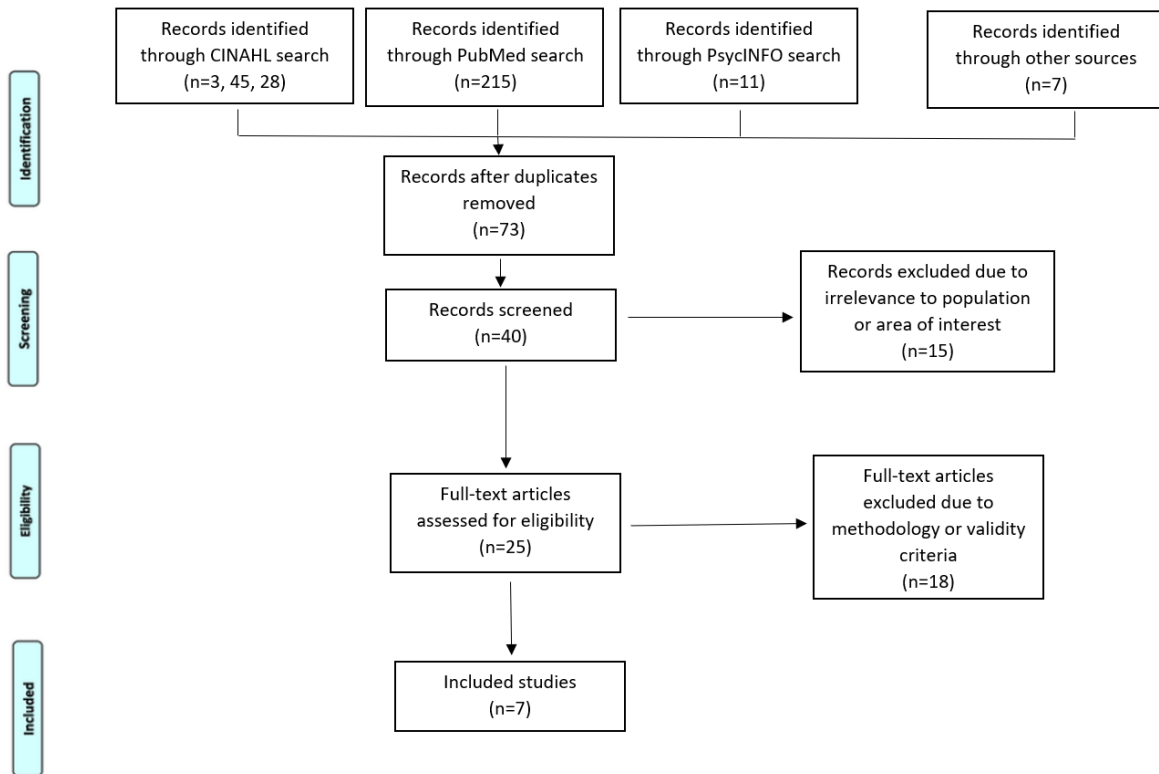
## CONCLUSION

Prioritizing the health and performance of nurse practitioners benefits work environments that contributes to provider well-being and job satisfaction. The quality indicators will minimize the effects of burnout and improve the quality of care delivered to patients and populations (Kapu et al., 2019). Doctors of Nursing Practice (DNP) leaders have a unique role in implementing evidence-based practice into creative strategies that bridge gaps in inequitable health care. The National Academy of Medicine has recognized the Future of Nursing to be essential in increasing access to primary care services that will fill voids in designated provider shortage areas (National Academy of Medicine, 2021). The strategic use of Microsoft Teams at this facility is the first step in finding solutions that may enhance provider performance and wellbeing. The outcomes of this project provide significant clinical implications to explore factors that contribute to job satisfaction and prevent burnout. This initial step allows both clinicians and researchers to better understand factors that impact retention, engagement, and utilization of resources. Additionally, it may also provide insight on factors that hinder performance and pose barriers to wellbeing. The outcomes provide the nursing body of knowledge with valuable information to address future implications needed for practice changes on a larger scale.

## APPENDICES

# Appendix A

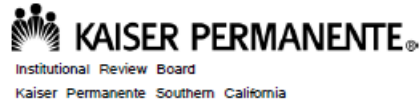
## PRISMA Diagram



## Appendix B

### Institutional Review Board (IRB) Exemption

InterOffice Memorandum



October 6, 2022

To: **Christine Simbulan-Dizon**  
[Redacted]  
[Redacted]

Re: **Microsoft Teams Project called DART (Digital Approach to Resource-sharing and Team Building: A Healthy Work Environment Initiative for Per Diem Nurse Practitioners in the Primary Care Setting)**

Dear Ms. Simbulan-Dizon,

A designated reviewer on the Kaiser Permanente Southern California (KPSC) Institutional Review Board (IRB) reviewed your submission and determined that this is not human subjects research as defined by 45 CFR 46.102 (e)(1) and (l). Therefore, IRB review of this project is not necessary.

Sincerely,

A handwritten signature in black ink that reads "Armida Ayala".

---

Armida Ayala, MHA, PhD  
Director of Human Research Subjects Protection  
Office/Institutional Review Board (IRB)

## Appendix C

### Original Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS)

#### Misener Nurse Practitioner Job Satisfaction Scale ©

**Instructions:**

The following is a list of items known to have varying levels of satisfaction among NPs. There may be items that do not pertain to you, however please answer it if you are able to assess your satisfaction with the item based on the employer's policy, i.e., if you needed it would it be there?

**HOW SATISFIED ARE YOU IN YOUR CURRENT JOB AS A NURSE PRACTITIONER WITH RESPECT TO THE FOLLOWING FACTORS?**

V.S. = Very Satisfied  
 S. = Satisfied  
 M.S. = Minimally Satisfied

M.D. = Minimally Dissatisfied  
 D. = Dissatisfied  
 V.D. = Very Dissatisfied

	V.S.	S.	MS.	M.D.	D.	V.D.
1. Vacation/Leave policy	6	5	4	3	2	1
2. Benefit package	6	5	4	3	2	1
3. Retirement plan	6	5	4	3	2	1
4. Time allotted for answering messages	6	5	4	3	2	1
5. Time allotted for review of lab and other test results	6	5	4	3	2	1
6. Your immediate supervisor	6	5	4	3	2	1
7. Percentage of time spent in direct patient care	6	5	4	3	2	1
8. Time allocation for seeing patient(s)	6	5	4	3	2	1
9. Amount of administrative support	6	5	4	3	2	1
10. Quality of assistive personnel	6	5	4	3	2	1
11. Patient scheduling policies and practices	6	5	4	3	2	1
12. Patient mix	6	5	4	3	2	1
13. Sense of accomplishment	6	5	4	3	2	1
14. Social contact at work	6	5	4	3	2	1
15. Status in the community	6	5	4	3	2	1
16. Social contact with your colleagues after work	6	5	4	3	2	1
17. Professional interaction with other disciplines	6	5	4	3	2	1

**HOW SATISFIED ARE YOU IN YOUR CURRENT JOB AS A NURSE PRACTITIONER WITH:**

V.S. = Very Satisfied

S. = Satisfied

M.S. = Minimally Satisfied

M.D. = Minimally Dissatisfied

D. = Dissatisfied




V.D. = Very Dissatisfied






	V.S.	S.	M.S.	M.D.	D.	V.D.
18. Support for continuing education (time and \$\$)	6	5	4	3	2	1
19. Opportunity for professional growth	6	5	4	3	2	1
20. Time off to serve on professional committees	6	5	4	3	2	1
21. Amount of involvement in research	6	5	4	3	2	1
22. Opportunity to expand your scope of practice	6	5	4	3	2	1
23. Interaction with other NPs including faculty	6	5	4	3	2	1
24. Consideration given to your opinion and suggestions for change in the work setting or office practice	6	5	4	3	2	1
25. Input into organizational policy	6	5	4	3	2	1
26. Freedom to question decisions and practices	6	5	4	3	2	1
27. Expanding skill level/procedures within your scope of practice	6	5	4	3	2	1
28. Ability to deliver quality care	6	5	4	3	2	1
29. Opportunities to expand your scope of practice and time to seek advanced education.	6	5	4	3	2	1
30. Recognition for your work from superiors	6	5	4	3	2	1
31. Recognition of your work from peers	6	5	4	3	2	1
32. Level of autonomy	6	5	4	3	2	1
33. Evaluation process and policy	6	5	4	3	2	1
34. Reward distribution	6	5	4	3	2	1
35. Sense of value for what you do	6	5	4	3	2	1
36. Challenge in work	6	5	4	3	2	1
37. Opportunity to develop and implement ideas.	6	5	4	3	2	1
38. Process used in conflict resolution	6	5	4	3	2	1
39. Amount of consideration given to your personal needs	6	5	4	3	2	1
40. Flexibility in practice protocols.	6	5	4	3	2	1
41. Monetary bonuses that are available in addition to your salary	6	5	4	3	2	1
42. Opportunity to receive compensation for services performed outside of your normal duties.	6	5	4	3	2	1
43. Respect for your opinion	6	5	4	3	2	1
44. Acceptance and attitudes of physicians outside of your practice (such as specialist you refer patients to)	6	5	4	3	2	1

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## Appendix D

### Email communication from Dr. Cox regarding permission to use and modify MNPJSS

Misener Nurse Practitioner Job Satisfaction Tool   






 **Christine Simbulan-Dizon**  Fri, Aug 12, 1:03 PM (8 days ago)   

Hello,

I am a Doctor of Nursing Practice (DNP) student at the University of California, Los Angeles (UCLA), and I am currently working on a Quality Improvement (QI) initiative aimed at exploring factors that affect job satisfaction among per diem nurse practitioners in the primary care setting. I came across the MNPJSS tool many times during my literature review and was hoping I could use the tool to measure job satisfaction in my target population (n=8). Additionally, I was hoping to modify the tool to exclude questions that do not apply to my population (benefits, PTO, retirement, etc). Please let me know how I go about getting permission to do this. Thank you so much for your time and help.




Sincerely,  
Christine Simbulan-Dizon, MSN, RN, FNP-C  
Family Nurse Practitioner  
UCLA DNP Student - 2nd year

---

 **Cox, De'Anna**  Mon, Aug 15, 4:33 AM (5 days ago)   

Christine,  
I would be happy to grant you permission to use the instrument developed by Dr. Misner and myself in your study.  
Please accept this as permission to use. Thank you for your interest!

Sincerely,  
Dr. Cox

De Anna L. Cox, DNP, APRN, FNP-BC  
Associate Professor  
University of South Carolina  
  
  


# Appendix E

## Digital, Modified MNPJSS via Google Forms (Pre-test)

### DART NP Job Satisfaction (Pre-Intervention Survey)

Nurse Practitioners play a vital role in increasing access to primary care services. With an aging population and the exacerbation of moral injury experienced by healthcare professionals after the COVID-19 pandemic, it is more important now than ever to prioritize the health and wellbeing of our nurse practitioners to ensure professional fulfillment and the delivery of high quality care. Please help us to explore factors that contribute to job satisfaction and resiliency with a goal to reduce burnout in an anticipated much-needed work force. Your participation is valuable and contributes to future implications to enhance practice and work environments, allowing you to THRIVE at work.

Your responses are completely confidential and will not be used for any purpose other than to gain an average mean response in understanding job satisfaction among nurse practitioners. Demographic information will not contain any identifying information and are for the sole purpose of understanding factors that contribute to professional fulfillment and resiliency. Your participation is unpaid and completely voluntary. By completing the survey you are consenting to participate in this Quality Improvement Initiative. Thank you for your valuable feedback and continued support.

If you would like to be entered in a raffle for a coffee cart gift card, please enter your email address at the end of the survey :)

---

Years experience working as a nurse practitioner:

Your answer \_\_\_\_\_

---

How long have you been employed at Kaiser Permanente as a nurse practitioner?

Your answer \_\_\_\_\_

---

Number of hours worked per week at Kaiser Permanente (typical week):

Your answer \_\_\_\_\_

---

Do you know what a MAPPS score is and where to locate yours?

Yes

No

If answered yes to the previous question, what is your current MAPPS score?

Your answer \_\_\_\_\_

For the following questions, please rate your current job satisfaction.

How satisfied are you in your current job as a nurse practitioner with respect to the following factors:  
(on a scale from 1-6; 1 being very dissatisfied and 6 being very satisfied)

Time allotted for answering messages

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Time allotted for review of lab and other test results

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Your immediate supervisor

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Percentage of time spent in direct patient care

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Time allocation for seeing patient(s)

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied



Quality of assistive personnel

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Support for continuing education (time and \$\$)

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Patient scheduling policies and practices

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Opportunity for professional growth

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Patient mix

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Time off to serve on professional committees

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Sense of accomplishment

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Consideration given to your opinion and suggestions for change in the work setting or office practice

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Social contact at work

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Input into organizational policy

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Social contact with your colleagues after work

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Freedom to question decisions and practices

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Professional interaction with other disciplines

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Expanding skill level/procedures within your scope of practice

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Ability to deliver quality care

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Opportunities to expand your scope of practice and time to seek advanced education.

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Recognition for your work from superiors

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Recognition of your work from peers

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Level of autonomy

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Evaluation process and policy

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Reward distribution

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Sense of value for what you do

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Challenge in work

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Opportunity to develop and implement ideas

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Process used in conflict resolution

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Amount of consideration given to your personal needs

1 2 3 4 5 6  
Very Dissatisfied       Very Satisfied

Flexibility in practice protocols

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Respect for your opinion

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

Acceptance and attitudes of physicians outside of your practice (such as specialist you refer patients to)

1 2 3 4 5 6

Very Dissatisfied       Very Satisfied

If you would like to be entered into a raffle for a Kaiser coffee cart gift card, please enter your email address below:

Your answer

Submit

Clear form

Never submit passwords through Google Forms.

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Google Forms



# Appendix G

## Gantt Chart Timeline

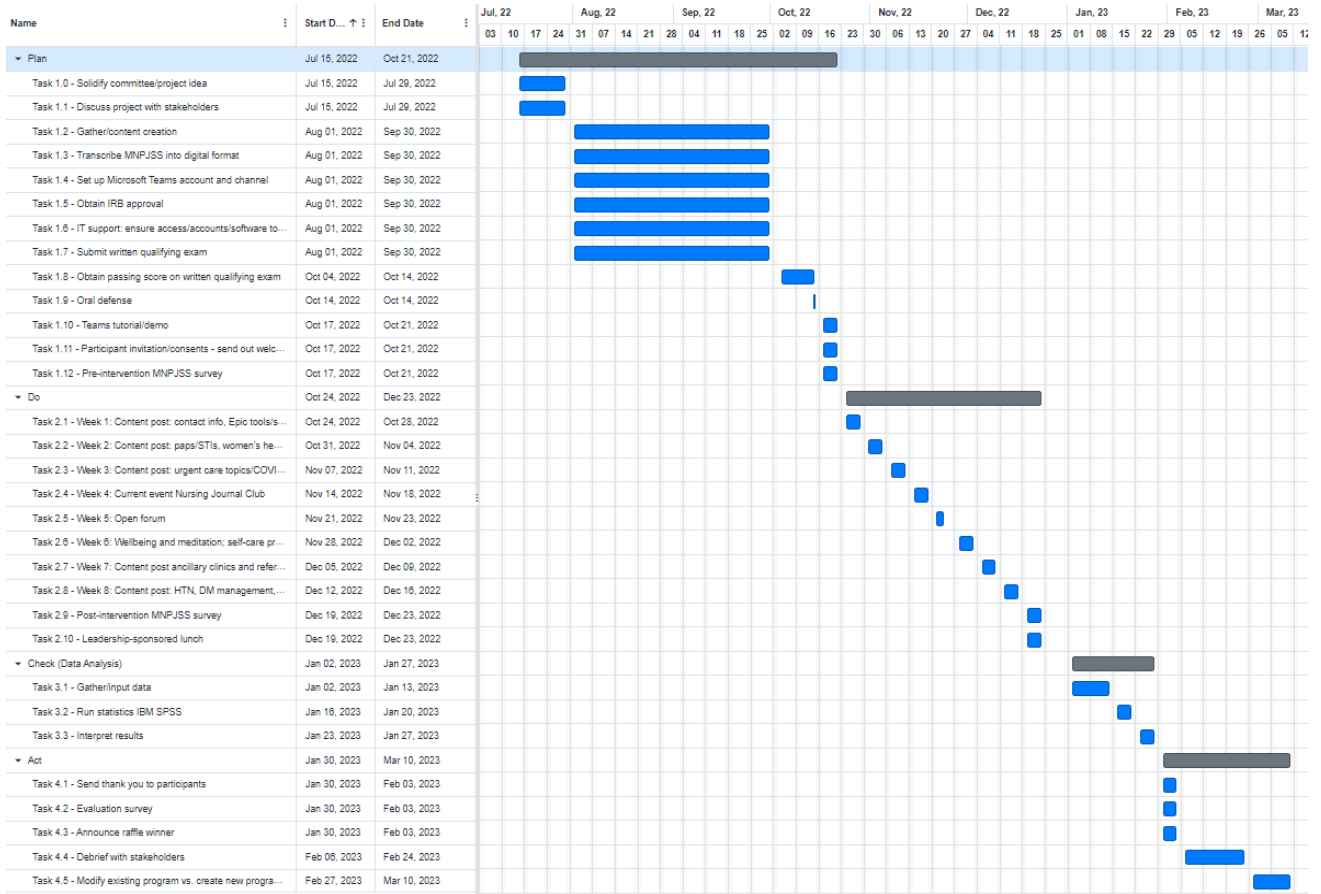


TABLE OF EVIDENCE

CITATION	PURPOSE	SAMPLE/ SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
<p>Agarwal, S. D., Pabo, E., Rozenblum, R., &amp; Sherritt, K. M. (2020). Professional dissonance and burnout in primary care: A qualitative study. <i>JAMA Internal Medicine</i>, 180(3), 395–401.  <a href="https://doi.org/10.1001/jamainternmed.2019.6326">https://doi.org/10.1001/jamainternmed.2019.6326</a></p>	<p>To explore clinician perspectives on burnout and professional fulfillment in the primary care setting</p>	<p>n=26  * includes NPs, PAs, and physicians  Network of 15 primary care clinics under an academic medical center in Massachusetts (Brighman Health)</p>	<p>Qualitative  Focus groups and discussions (semi-structured)  Open-ended questions to examine causes of burnout, barriers/challenges to professional fulfillment, possible solutions  Transcripts were reviewed and a list of themes were produced utilizing a grounded theory approach.</p>	<p>All participants experienced some degree of burnout. Sense of professional dissonance; conflict between professional goals and organizational goals.  6 themes identified r/t burnout: Internal: (1) demoralization - more about money than people - need more support - punitive rules to meet metrics (2) undervaluation (3) internal conflict - ex: complete one’s charting during a visit to prevent overtime later vs looking at patient during the clinic visit External: (4) workload unrealistic &amp; overwhelming (5) work mismatch - more “office” work than actual “doctor” work (6) system “dumped on” - everything falls on the PCPs (boundaries)</p>	<p>Study identifies contributors to burnout and decreased professional fulfillment  Suggests potential solutions: - managing workload - prioritize wellbeing of clinicians - disconnect from work - recalibrate expectations and reimbursement - advocate for the PCP’s “voice” - support professionalism - foster community - advocacy beyond institutional boundaries  Implications for organizations to prioritize job satisfaction  Aligns with Quadruple Aim to prioritize health and wellbeing of providers</p>

CITATION	PURPOSE	SAMPLE/ SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
<p>Bashir, K., Anjum, S., Dewji, M., Khuda Bakhsh, Z., Said Wali, H., &amp; Azad, A. (2021). Impact of online knowledge and skills learning on millennial learners within emergency medicine: A retrospective data review. <i>Cureus</i>. <a href="https://doi.org/10.7759/cureus.20626">https://doi.org/10.7759/cureus.20626</a></p>	<p>To evaluate the impact of online learning in ED residents during the COVID-19 pandemic</p>	<p>n=49 * participants belonged to millennial generation  Emergency Department residents</p>	<p>Retrospective study over 10-months  Examined didactic learning (F2F and use of Microsoft Teams)  Measured MCQ (multiple choice question) scores and OSCE (objective structured clinical exam)  Student t-test used to compare groups CI=95% P=0.05</p>	<p>Statistically significant improvement was found in MCQ scores after online teaching when compared to F2F teaching (P=0.0003)  No difference in OSCE scores between online and F2F teaching methods (P=0.3513)</p>	<p>Online learning is more effective in millennial learners; implications to consider alternative methods and approaches to data/knowledge sharing with newer generations in the future healthcare workforce</p> <p>Limitations: Assumes that millennial healthcare workers are digitally competent; discuss possible paradox of “digital natives lacking digital literacy”</p> <p>Although study contributes valuable insight on ways to accommodate needs of future workforce, findings may not be generalizable to practitioners outside of sample characteristics</p>

CITATION	PURPOSE	SAMPLE/ SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
<p>Côté, N., Freeman, A., Jean, E., &amp; Denis, J.-L. (2019). New understanding of primary health care nurse practitioner role optimisation: the dynamic relationship between the context and work meaning. BMC Health Serv Res, 19(882). <a href="https://doi.org/10.1186/s12913-019-4731-8">https://doi.org/10.1186/s12913-019-4731-8</a></p>	<p>To understand factors that facilitate or hinder optimal use of primary care NPs</p> <p>Explored factors that influence primary care NP role optimization &amp; dynamics</p> <ul style="list-style-type: none"> <li>- Motivations</li> <li>- Resources</li> </ul> <p>Looked at subjective experiences for:</p> <ol style="list-style-type: none"> <li>(1) integration and deployment of their role,</li> <li>(2) optimization of teamwork,</li> <li>(3) work meaning.</li> </ol>	<p>n=41</p> <p>* primary care NPs</p> <p>Among 3 healthcare regions in Quebec, Canada during 2016-2017</p> <p>Inclusion criteria:</p> <p>Minimum of 6mo experience at facility</p>	<p>Qualitative descriptive study</p> <p>Maximum variation sampling approach</p> <p>Semi-structured group interviews (individual and focus group) guided by Giddens's theory (conducted face-to-face or via Skype depending on participant preference)</p> <p>Data was prepared into summaries and categorized by theme; coded through NVivo software for greater interrater reliability</p>	<p>Study found an association between work meaning, work context and engagement</p> <p>Subjective work experience fell into 2 categories:</p> <ol style="list-style-type: none"> <li>(1) Perceptions of understanding and value of role (dissatisfaction with autonomy restrictions)</li> <li>(2) Sense of engagement in work</li> </ol> <p>Role optimization at patient care level appears to be influenced by organizational and health system context levels:</p> <ul style="list-style-type: none"> <li>- Work environments</li> <li>- Implementation/disposition of new roles</li> <li>- Engagement in work</li> <li>- Effective collaboration among interprofessional teams</li> <li>- Ability to exercise agency</li> </ul> <p>Engagement was found to be tied to provider's hopes regarding work and profession</p>	<p>Overarching theme between work meaning and engagement; ideas of <b>fragility</b> and <b>agency</b> emerged from this study – gap between expectations of role and reality</p> <p>To optimize NP role in primary care, providing opportunities to exercise agency at different levels is important. Focusing only on individual competencies/attributes may not be enough. A better approach may include <u>implementation of appropriate work environments</u>/structures across organizational/system levels</p> <p>Further research is needed to explore initiatives that address objectives found.</p> <p>Limitations:</p> <ul style="list-style-type: none"> <li>- Conducted in Quebec, Canada</li> <li>- Small sample size</li> </ul>



CITATION	PURPOSE	SAMPLE/ SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
<p>Haizlip, J., McCluney, C., Hernandez, M., Quatrara, B., &amp; Brashers, V. (2020). Mattering: How organizations, patients, and peers can affect nurse burnout and engagement. <i>JONA: The Journal of Nursing Administration</i>, 50(5), 267–273. <a href="https://doi.org/10.1097/nna.0000000000000882">https://doi.org/10.1097/nna.0000000000000882</a></p>	<p>To study the relationship between professional mattering and burnout among nurses</p> <p>To investigate measures of engagement, social support, and meaning in work</p>	<p>n=324</p> <p>Nurses and NPs (full-time and part-time)</p> <p>United States (across different geographical locations)</p>	<p>Cross-sectional survey</p> <p>Tools:</p> <ul style="list-style-type: none"> <li>- Mattering at Work scale</li> <li>- Work and Meaning Inventory</li> <li>- Eisenberger Social Support Scale</li> <li>- Burnout in the Professional Quality of Life scale</li> <li>- Job Engagement</li> <li>- 2 open ended questions</li> </ul> <p>Pearson r utilized to assess correlation between mattering, social support, meaning, burnout, and engagement</p>	<p>Demographics of patients who participated included &gt;12years in current position, full-time, white/female, average age 39 years old; working in adult medical specialty</p> <ul style="list-style-type: none"> <li>- High levels of engagement at work</li> <li>- Reported moderately high levels of mattering at work and social support from peers</li> </ul> <p>Correlational analysis shows that mattering is positively correlated with meaning, social support, and engagement</p> <p>Strong NEGATIVE correlation b/t mattering and burnout</p>	<p>A sense of professional mattering is strongly correlated to factors that positively influence job satisfaction</p> <p>Higher correlation between mattering and peer support when compared to supervisory support; provides implications for further studies that explore nurse-to-nurse relationships and their impacts on work environments</p>

CITATION	PURPOSE	SAMPLE/ SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
<p>Loveday, C., Lord, H., Ellwood, L., Bonnici, K., Decker, V., &amp; Fernandez, R. (2021). Teamwork and social cohesion are key: Nurses' perceptions and experiences of working in a new decentralised intensive care unit. <i>Australian Critical Care</i>, 34(3), 263–268. <a href="https://doi.org/10.1016/j.aucc.2020.07.009">https://doi.org/10.1016/j.aucc.2020.07.009</a></p>	<p>To explore siloed work environments by studying the perceptions of nurses that transitioned to decentralized nursing stations</p>	<p>n=128  Registered nurses in an ICU at a large, tertiary teaching hospital in Sydney, Australia</p>	<p>Prospective, cross-sectional study over 12months</p> <p>Looked at job satisfaction, teamwork, social cohesion, and patient care (continuity/quality)</p> <p>Tool: ICU Nurse Survey (56-item questionnaire)</p>	<p>Job satisfaction - satisfaction as a nurse overall was higher than satisfaction of current job</p> <p>Teamwork - design of decentralized units leads to poorer teamwork - concerns with staffing, skills mix</p> <p>Social cohesion - difficult to be included - difficult to precept junior staff - leads to feeling of isolation</p> <p>Patient care quality/continuity - difference in responses among nurses with &lt;10yr experience compared to those with &gt;10 yr experience - good continuity of care, however disruption of staff skill mix and patient acuity</p>	<p>Implications to bridge gap b/t quality patient care &amp; optimal work environment for staff</p> <p>Implies high demand roles w/ low control can also contribute to burnout and job dissatisfaction.</p> <p>Isolation is common theme in decentralized work environments; applicable to other nursing specialties outside of the ICU.</p> <p>Decentralization leads to barriers in communication and poorer teamwork.</p> <p>Limitations - possible inherent bias resulting from participants who decided to complete questionnaire - no pre-study data that assesses perceptions prior to change in unit layout - single center setting</p>

CITATION	PURPOSE	SAMPLE/ SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
<p>Mundt, M. P., &amp; Zakletskaia, L. I. (2019). Professional communication networks and job satisfaction in primary care clinics. <i>The Annals of Family Medicine</i>, 17(5), 428–435. <a href="https://doi.org/10.1370/afm.2442">https://doi.org/10.1370/afm.2442</a></p>	<p>To explore how communication flow in the primary care setting affects job satisfaction among clinic staff</p>	<p>n=143</p> <p>Primary care staff (MDs, NPs, PAs, DOs, LVNs, RNs, MAs, lab/radiology techs, managers)</p> <p>Eligibility criteria:</p> <ul style="list-style-type: none"> <li>- 18 yrs old and older</li> <li>- able to read/understand English</li> <li>- employment at site in patient care or patient interaction</li> </ul> <p>5 clinics in Wisconsin (within same academic organization)</p>	<p>Survey conducted among staff (communication forms studied: F2F and electronic); explored differences among core and periphery staff</p> <p>Tool: Warr-Cook-Wall (WCW) job satisfaction survey</p> <p>Multivariate analysis using generalized linear mixed modeling; assessed association between core-periphery position in regards to F2F or electronic communication and impact on job satisfaction</p>	<p>F2F communication primarily between core staff (RNs, MAs, receptionists)</p> <p>Electronic communication used among physicians and NPs</p> <p>Job satisfaction differed among position type, demographics, FTE</p> <p>Highest job satisfaction: radiology techs and full-time employees</p> <p>Lowest job satisfaction: Female physicians</p>	<p>+ association b/t communication &amp; job satisfaction</p> <ul style="list-style-type: none"> <li>- better team dynamics</li> <li>- shared understanding of goals and decision making</li> </ul> <p>F2F communication utilized by core staff (connectedness &amp; overall job satisfaction)</p> <ul style="list-style-type: none"> <li>- team cognition = shared understanding of each team members' capabilities; "more than just a sum of its parts"</li> <li>- Better relationships = better performance &amp; job satisfaction</li> </ul> <p>* Job satisfaction lower in female physicians despite F2F communication; may consider authority gradient with F2F</p> <p>* Implications to support daily communication among teams</p> <p>Limitations:</p> <ul style="list-style-type: none"> <li>- Generalizability</li> <li>- No communication content.</li> <li>- Did not explore reasons for choosing F2F vs electronic communication forms</li> </ul>

CITATION	PURPOSE	SAMPLE/ SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
<p>Xue, Y. &amp; Tuttle, J. (2017). Clinical productivity of primary care nurse practitioners in ambulatory settings. <i>Nursing Outlook</i>, 65(2), 162–171. <a href="https://doi.org/10.1016/j.outlook.2016.09.005">https://doi.org/10.1016/j.outlook.2016.09.005</a></p>	<p>To understand NP clinical productivity in full-time primary care NPs (as examined by number of patients seen and size of provider panel). In addition, the study aims to explore characteristics that are associated with NP clinical productivity.</p>	<p>Weighted n=19,467 (using sample weights from NSSNP to estimate population)</p> <p>Inclusion Criteria: Full-time (at least 35hrs/wk) Primary care specialties (family practice, internal medicine, peds, geriatrics, adolescent medicine, OB/gyn women’s health, school health)</p> <p>Outpatient, ambulatory primary care setting</p>	<p>Retrospective, cross-sectional study utilizing the 2012 National Sample Survey of Nurse Practitioners (NSSNP)</p> <p>Survey regression &amp; survey chi-square tests were used to make comparisons b/t time spent during visits, provided services, and other practice characteristics.</p> <p>A multivariable survey linear regression analysis was used to analyze the relationship b/t # of pts seen and characteristics in practice. Patient panel size was also considered. Statistical tests were two sided with a significance level of 0.05. Authors used SAS version 9.4 to perform analysis</p>	<p>NPs had avg 80 patients/week, median of 76 (95% CI: 79-82)</p> <p>64% of NPs had own patient panel; avg panel size=567, median=299 (95% CI: 522-612)</p> <p>No statistically significant difference in the # of patients seen/week b/t NPs with a panel (81, 95% CI: 79-83) and NPs without a panel (79, 95% CI: 76-81; p=0.18)</p> <p>NPs w/ assigned panel provided larger range of clinical services compared to NPs w/o panel (diagnosis, tx, &amp; management of acute illness similar b/t the two groups, p=0.07).</p> <p>Modifiable practice characteristics included:</p> <ul style="list-style-type: none"> <li>● Years of experience</li> <li>● Practice in rural areas</li> <li>● Has NPI vs billing under physician</li> <li>● Payment method compared to salary</li> </ul> <p>Perception of practicing to extent of full capacity</p>	<p>No statistical difference in # of patients seen/week b/t NPs with a panel and NPs without a panel (in ambulatory settings)</p> <p>NP productivity associated with modifiable practice characteristics like autonomy in practice and policies on billing/payment.</p> <p>Improving NP clinical productivity has potential to improve/enhance the capacity of primary care</p> <p>Limitations:</p> <ul style="list-style-type: none"> <li>- No patient data regarding acuity (could play a factor in # of patients seen)</li> <li>- Did not discuss differences of state NP scope-of-practice legislations</li> </ul> <p>Some ambulatory settings not conducive to patient panels (retail clinic, etc); limited scope of services</p>

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