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CARDIOVASCULAR SURGERY PRACTICE REMODEL: INCREASING JOB SATISFACTION AND REDUCING TURNOVER OF ADVANCED PRACTICE PROVIDERS

A Research Problem Submitted to the Graduate School
In Partial Fulfillment of the Requirements
for the Degree of Doctor of Nursing Practice

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April 2020

CARDIOVASCULAR SURGERY PRACTICE REMODEL:
INCREASING JOB SATISFACTION AND REDUCING TURNOVER OF ADVANCED PRACTICE PROVIDERS

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ACKNOWLEDGEMENTS

The completion of this research project would not have been possible without the support and encouragement from a number of individuals. To Dr. Amy Hite, my project chairperson, thank you for guiding and encouraging me through this process. To my other committee members, Dr. Barbara McCaskey, Dr Pawan Kahal., and Dr. Marci Newcome, thank you for the time you spent reviewing this paper and meeting with me individually. Your time is greatly appreciated. The input I received from each of you helped make this project a success. Thank you!

I could not have made it this far without the love and support from my family. They were there for me during the good times, stuck by me during the hard times, and encouraged me to continue and to do everything to the best of my ability. To my husband, Josh, thank you for your encouragement to continue my education even though I thought I was done when I completed my Master of Science in Nursing. We have done a lot since I started the DNP program, we bought and remodeled a house, got married, and had a beautiful son. I do not know what I would do without you in my life. You are my better half and make me a better version of myself. Roman, you came into the world at the end of this project, but my life has been enriched with you in it. Mom, you inspire me with your love for learning. Dad, thank you for being there for me and loving me. Pop, thank you for teaching me from a young age that “can’t” is not a word. You have been my source of inspiration and I could not have come this far without your love and encouragement. Gramma, you have two generations of nurses following your example, thank you for showing us that healing is not just though medicine but also through love and compassion. My siblings, I do not know what I would do without each of you-Keira,

Sarah, Joshua, Autumn, and Caleb. Thank you for the phone calls, texts, and the encouraging words of “you can do this.”

CARDIOVASCULAR SURGERY PRACTICE REMODEL:
INCREASING JOB SATISFACTION AND REDUCING TURNOVER OF ADVANCED PRACTICE PROVIDERS

An Abstract of the Scholarly Project by
Christian J. Brooks

Background: The CVS practice in a Midwestern state had a shift in morale and job satisfaction in their advanced practice providers (APPs). This shift lead to the high turnover rate of 35% in 2018. In an effort to bring a halt to the high turnover rate, and to continue the excellent patient care for which the hospital is known, hospital administration became involved and set up a committee to guide the development of a new CVS APP practice model. The goal was to develop a practice model that allowed the continuation of excellent patient care, with APP job satisfaction and role clarity, and lower the turnover in the department of CVS.

Purpose: APP's turnover rates are at a record high not only for the CVS department, but they are also high across the nation. The goal of this research study is to assess the job satisfaction and turnover rate of CVS APPs before and after the implementation of the new practice model. The goal of the new practice model would be improved job satisfaction and low to no turnover after its implementation.

Methods: The APP job satisfaction and retention rates were compared before and after the implementation of the new practice model. All CVS APP staff members were included in the study by default as all staff members were sent the Sirota survey and all staff was included in the retention and turnover rates. Turnover rates and job satisfaction were analyzed using a paired sample comparison.

Discussion: Suggestions would be to send more specific surveys to the APPs to determine more specifically if the satisfaction was due to the practice model change or the difference in year to year satisfaction. The data collection will continue every 3-6 months after this scholarly project completion to continue workflow adjustments as necessary.

Limitations: The study and data collection are lacking as it was limited to only nine months after the implementation of the new practice model. The inpatient APPs also worked understaffed throughout the study and still had seven APP openings at the end of 2019. There were two unexpected interdepartmental transfers when new positions in the hospital opened that held special interest to some of the APP staff. The inpatient APPs did not have an opportunity within this study timeframe to work in fully staffed conditions and this may have contributed to APP burnout and frustration.

Results: The turnover rates decreased from 35% to 8% in one year and the job satisfaction rates increased from 83% to 94% for the inpatient providers and from 83% to 100% for in outpatient providers. The work culture also increased for both groups with the inpatient providers work culture increasing from 68% to 84% and increasing in the outpatient providers from 50% to 89%. These increases are significant and demonstrate the positive impact of the practice remodel revision.

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Chapter I

INTRODUCTION

Hospitals report that patient needs are the main vision in their organizations. One academic medical center demonstrated this vision in 2018 and 2019 when their cardiovascular surgery (CVS) department was experiencing a staffing crisis. The staffing crisis among advanced practice providers (APPs), which includes nurse practitioners (NPs) and physician assistants (PAs), was due to abnormally high turnover rates related to job dissatisfaction. The hospital administration and CVS leadership team united in order to transform their CVS department from one of poor morale and high turnover rates into a positive work environment that allowed for continued high quality care for patients in one of the top CVS departments in the nation (US News and World Report, 2019). APPs play a vital role in inpatient and outpatient healthcare settings.

The APPs role in acute care settings has evolved, especially, since limits were placed on work hours for medical residents and fellows (Sauto Arce, De Ormijana, Orueta, Gagnon, & Nuño-Solinís, 2014). The national decrease in medical residents' hours led to APPs fulfilling the role the medical residents had previously held in caring for inpatient or acute care patients (Brom, 2016). The transition from residents and fellows occurred quickly and not all facilities were able to adjust fast enough to develop the role of acute care APPs (Kacel, Miller, & Norris, 2005; Rejtar, Ranstrom, & Allcox,

2017). This rapid transition led to ambiguity in some APP roles. Nationally, the increase in number of APPs managing acute care patients led to greater patient satisfaction and improved patient outcomes along with decreased hospital readmissions. (Kacel, Miller, & Norris, 2005; Rejtar, Ranstrom, & Allcox, 2017).

The CVS practice at the Midwestern academic medical center in review for this scholarly project as it is in its second APP practice model revision and its third APP practice model since this transition. The practice revision places emphasis on patient care, provider job satisfaction, and APP retention as retention rates are linked to APPs job satisfaction (Sauto Arce, 2014).

Statement of Research Problem

The CVS practice at the Midwestern academic medical center is a nonprofit academic medical center that had a shift in morale and job satisfaction leading to a turnover rate for their APPs of 35% in the year 2018. The primary value of the Midwestern academic medical center in review is "The needs of the patient come first" (Mayo Clinic, n.d.). In efforts to reduce the turnover of APPs and maintain their primary focus on the patient, hospital administration sought to raise employee morale and improve job satisfaction for the CVS APPs. It was evident to the APP staff and administration, that in order to retain staff to care for their patients' needs, there would need to be an increase in job satisfaction for the APPs, which would only come from a change in the practice model of the APPs. In June 2018, the CV NPPA Practice Model Assessment Core Team (core team) began to plan for the second work model revision for the CVS department. The first work model that incorporated APPs began in 1980's and had 24-hour shifts for the APPs. Then in the early 2000's, with the goal to distribute the

APP workload, the APP group was split into two groups-the day team which worked Monday to Friday 8 am to 5pm and the hospitalist team which continued to work 24 hour shifts covering days, nights, weekends, and holidays. In 2012, the hospital administration thought the APPs would be better utilized in a zone or geographic-based model. The main focus of the hospitalist was to care for the patients while having the inpatient APPs work 13 hour shifts covering days, nights, weekends, and holidays, while the day team supported the surgeons and the outpatient clinic.

The two CVS APP groups worked together, but had overlapping care, ambiguity of responsibility, and a decrease in the scope of practice (SOP) for the APPs. The aforementioned issues brought a decrease in job satisfaction within the hospitalist group that was noticed in 2016. Workgroups came together in attempts to bring cohesion to the group, but by June 2018, 14 APPs had left the CVS department. A staffing crisis was identified as this was 28% turnover rate from January 2018 to June 2018. The turnover steadily increased to a rate of 35% by November 2018. There was a change in CVS APP leadership in March 2018 which increased the dissatisfaction in the APPs. The dissatisfaction and high turnover among the hospitalist group made staffing difficult and brought the morale of the entire CVS practice down. In an effort to bring a halt to the high turnover rate, and to continue the excellent patient care for which the hospital is known, the hospital administration became involved and set up the core team which was equipped with CVS leadership, surgeons, the nursing administration, critical care consultants, APPs, a health systems engineer, and practice model experts to guide the revision of the CVS APP practice model. The goal was to develop a new practice model

that allowed the continuation of excellent patient care, with APP job satisfaction and role clarity, and for a decrease in the turnover rates of the CVS practice.

Statement of Purpose

APP turnover rates are at a record high for this CVS practice. The goal of this scholarly project was to assess the effectiveness of the new practice model by comparing job satisfaction and turnover rates of CVS APPs before and after the implementation of the new practice model.

Definition of Terms

Advanced Practice Provider (APP). A healthcare provider with an education at the masters or doctoral level; they can be either a nurse practitioner or a physician assistant. They prescribe medications, interpret X-rays and lab results, and provide health teaching and counseling to support their patients overall wellness. APPs provide high-quality, individualized, and cost-effective care to patients (Mayo Clinic College of Medicine & Science, n.d.).

Burnout. Physical, emotional, or mental breakdown related to the stresses of being overworked or when one is not in control of their job (Merriam-Webster, 2019).

Day Team. The team of CVS APPs who worked directly with the surgeons providing outpatient and inpatient support (Appendix B).

Hospitalist. A group of APPs who provide inpatient care on the Progressive Care Units (PCUs), the heart and lung transplant unit, and the adult and pediatric intensive care units (ICUs) (Appendix B).

Intensive Care Unit (ICU). The hospital unit that provides care to the most seriously injured or critically ill patients (Mayo Clinic, 2018).

Nurse Practitioner. A nurse with advanced education and licensure who is educated in a patient-centered practice. They diagnose illnesses, create treatment plans, prescribe medications, and is specialized according to Adult-gerontology acute care nurse practitioner, Adult-gerontology primary care nurse practitioner, Family nurse practitioner, Neonatal nurse practitioner, Pediatric acute care nurse practitioner, Pediatric primary care nurse practitioner, Psychiatric-mental health nurse practitioner, or Women's health nurse practitioner (Mayo Clinic College of Medicine & Science, n.d.).

Physician Assistant. A master's level prepared licensed medical provider which uses a disease-centered model of education and practice. PAs diagnoses illnesses, creates treatment plans, prescribes medications. They are educated in general medicine and are surgically trained to assist surgeons in the operating room. They are able to specialize in a variety of medical fields once they obtain their degree (Mayo Clinic College of Medicine & Science, n.d.).

Progressive Care Unit (PCU). Also known as a step-down unit and is the level of care between the ICU and either a medical/surgical units (Stacy, 2011).

Turnover. The rate at which employees either quit or are replaced in their workplace (Merriam-Webster, 2019).

Significance of the Study

The dissatisfaction of APPs with the practice model resulted in a high staff turnover rate of 35% in the year 2018. The high turnover negatively affected APP staffing, patient care, and continuity of patient care. This negative impact on patient care was noticed by the administration of the hospital who then sent a specialized team to assess the workflow of the APPs in the CVS practice. It was determined that the provider

burnout resulted from role ambiguity and APPs not working to their full SOP. High turnover rates among the APPs was a direct effect of provider burnout. In efforts to increase APP job satisfaction, and decrease turnover, it was necessary to make a practice that was new and fresh to the APPs. This new model provided role clarity and allowed the APPs to practice to their full SOP both of which led to an increase in job satisfaction. The lowered turnover rates would allow the practice to retain its providers and to continue to provide excellent patient care. This study is significant as it yields data on the effectiveness of a new practice model and its effects on the retention and satisfaction of APPs.

Theoretical Framework

The Theory of Goal Attainment, developed by Imogene King, describes the factors that hinder goal attainment. These include roles, stress, space, and time. There are three systems identified in this model: the personal, interpersonal, and social. Systems are subdivided into concepts. The personal concepts are perception, growth and development, self, body image, time, and space; interpersonal concepts are communication, interaction, role, transaction, and stress (Petiprin, 2016). The social system is described as an interaction between the nurse and the patient; whereby, they set and achieve their goals through means of good communication. It also demonstrates an interpersonal relationship between a patient and their nurse (Petiprin, 2016). The patient in this theory is able to achieve their goals through their relationship with their nurse (Caceres, 2015; Leon-Demare, MacDonald, Gregory, Katz, & Halas 2015). This author believes the Theory of Goal Attainment applies to this project because the assumptions are similar. Role ambiguity and stress from high APP to patient ratios hindered the

attainment of retention and job satisfaction among this group of APPs. It was through good communication between the core team and the APPs that a new practice model was designed and implemented.

The goal of this project was to set up a new practice model for the APPs. This project assumes that the core team and the APPs communicate and set goals together and then work for goal attainment. Factors that hinder goal attainment are stress and lack of space and time. As the core team worked with the APP group, there was hope for the goal attainment of increased job satisfaction for APPs in CVS and increased provider efficiency.

Hypothesis

To allow for proper analysis the following hypothesis was proposed: The practice model revision that was implemented in March 2019 would lead to improved APP job satisfaction and decreased APP turnover rates in the year 2019 compared to those rates noted in 2017 and 2018. The utilized hypothesis compares the turnover rates and APP job satisfaction both before and after the implementation of the workplace remodel that occurred in March 2019.

Summary

A decrease in APP job satisfaction led to high turnover rates of APPs in the Midwestern academic medical center's CVS practice in the year 2018. Research supports that high job satisfaction leads to low turnover rates for employees (DePalma, Alexander, & Matthews, 2019; Shea, 2015). The CVS workflow remodel implemented in March 2019 will directly affect APP job satisfaction and turnover rates. The scholarly project

hypothesized that with a system remodel there would be an increase in APP job satisfaction and a reduced turnover rate in the CVS practice.

Chapter II

REVIEW OF THE LITERATURE

This review, summarized into 13 detailed sections, defines staff turnover while stressing the effects on both the individual employees and organization as a whole. It highlights previous studies detailing the effects of provider burnout and turnover rates. This description of the negative effects of staff turnover was completed to state the importance of staff retention and to detail the practice model revision. A professional librarian was used for article collection and the databases CINAHL, Scopus, and Medline were used for reference collection. The question utilized for reference association was "APPs practice satisfaction and turnover rates as related to patient to provider ratios and patient satisfaction." Keywords used in research include the following: nurse practitioner, physician assistant, employee retention, patient safety in relation to provider to patient ratio, and practice model revision. English, full-text peer-reviewed journal articles less than five years were included in the research results. There were no articles found on APP practice model revisions after the initiation of APPs into the practice. There were sufficient articles on the implementation of APPs into the workforce, but it was difficult to find information on a practice model change.

Nurse Practitioner

The role of the NP was developed in 1965 in efforts to increase the number of advanced health care providers and to expand the nursing role (Lyden, Sekula, Higgins, & Zoucha, 2018). NPs entered private practice in the 1970s and the number of NPs has grown to 270,000 licensed NPs in the United States in 2019 {American Association of Nurse Practitioners (AANP), 2019}; Lyden, et al., (2018). Implementation of NPs for inpatient care began in the 1990s and since that time, multidisciplinary teams agree that NPs provide necessary and safe care while meeting patient needs and reducing treatment delays (Han et al., 2018; Wong, 2017). A recent survey conducted by the AANP states that approximately 72.6% of acute care NPs practice in an inpatient setting and are consistent in delivering high-quality and cost-effective patient care in critical care, emergency departments, hospital settings while maintaining high patient satisfaction rates (AANP, 2019; Han et al., 2018). NPs in the inpatient setting provide efficient resource utilization and have proven to reduce patient length of stay, improve discharged times, and reduce readmission rates (Hagan & Curtis, 2018). A study by Rejtar, Ranstron, & Allcox (2017), shows that after the institution of a 24/7 NP hospital coverage model, the rate of unplanned patient transfers to a higher level of care after ICU activations decreased from a 100% transfer rate to approximately 55% transfer rate. Adult critical care NP studies demonstrate reductions in hospital costs; investigations; length of stay; patient complications, infections and morbidity and mortality, rates; and hospital readmission rates (Fry, 2011). Research shows that through their unique role, which combines both nursing and medical roles, NPs are able to blend indirect nursing patient

cares, such as consulting with physicians, discharge planning, and case management activities; with medical management from medical roles (Hagan & Curtis, 2018).

NPs are highly educated, with 99.1% having completed graduate degrees in an NP specialty (AANP, 2019). The majority of NPs are certified in primary care (87.1%), and 72.6% of these NPs practice in the outpatient setting. Nurse practitioners can specialize in many different areas which included Family (66.9%), Adult (12%), Adult-Gerontology Primary Care (6%), Acute Care (4.8%), Pediatrics-Primary Care (4%), Adult-Gerontology Acute Care (3.1%), Women's Health (2.7%), Psychiatric/Mental Health-Family (2.1%), Psychiatric-Mental Health (2%), or Gerontology (1.8%) and practice in both inpatient and outpatient settings (AANP, 2019). Adult Critical Care Nurse Practitioners are known to investigate patients (investigations, prescriptions and referral) at rates similar to a medical staff, but they often have higher patient/family satisfaction rankings than the medical staff (Fry, 2011). Inpatient NPs manage the care of complex medical conditions, educational and psychosocial patient needs. NPs are able to increase reimbursement as they are trained to be key leaders in areas of evidence-based practice, quality improvement, and in improving patient outcomes (Athey et al., 2016).

Each state establishes its own licensure and regulatory requirements for NPs. The AANP categorizes NP practice into the following three groups: full practice, reduced practice, or restricted practice. Twenty-three states and the District of Columbia regulate full practice which allows NPs to evaluate patients, order and interpret diagnostic tests, diagnose, prescribe medications, and initiate and manage patient treatments (AANP, 2019). Fourteen states regulate reduced practice states and require NPs to have a collaborative agreement with a physician in order to provide patient care (AANP, 2019).

Thirteen states regulate restricted practice, and these states are the least autonomous and require supervision, delegation, or team management in order for an NP to provide patient care (AANP, 2019). Nurse practitioner autonomy is also related to the setting in which they practice. Those who practice in ambulatory care settings have more autonomy than NPs who practice in hospitals (Athey et al., 2016). When surveyed, 59% of ambulatory primary care NPs agreed they were able to practice to the full extent of their skills; whereas, 40% of medical specialty NPs, and only 29% of hospital-based surgical specialty NPs stated full utilization of their skill set (Athey et al., 2016). NPs with previous experience typically have greater autonomy than newly graduated NPs and autonomy increases with efficient teamwork with the collaborating physician in the more restricted states (Choi & De Gagne, 2018). Teamwork with the collaborating physician is found to be a key in strengthening NPs' position in health care, maximizing the potential of the NP, and making a difference in the lives of patients (Choi and De Gagne, 2018).

Physician Assistant

PAs provide high quality patient services, are trusted medical providers, and have high patient satisfaction rates (DePalma et al., 2019). In the past 60 years, the number of PA programs grew from only a few to almost 200 programs by 2015 (DePalma et al., 2019). Currently, there are over 115,000 certified PAs, and they represent approximately 10% of the clinicians who provide advanced medical care in the United States (DePalma et al., 2019). When added to health care practices, PAs increase patient access, decrease wait times to appointments, and increase volume and revenue. Theys deliver equivalent care compared with physicians in terms of patient safety, quality, health care outcomes,

and mortality. Research demonstrates that PAs are trusted, provide excellent patient service, and have high rates of patient satisfaction (DePalma et al., 2019).

PAs SOP is regulated and the level of autonomy is state-dependent and under the board of healing arts. When surveyed, what brought about the greatest job satisfiers among PAs was autonomy in their practice (DePalma et al., 2019). Physician assistants who practice in rural settings report higher levels of autonomy. Job satisfiers to PAs included the feeling of altruism, security in their employment, maintaining moral and ethical principles, independence, and challenges in their practice (Hooker, Kuilman, & Everett, 2015). Determinants of job satisfaction were salary issues, lack of career advancement, autonomy, and institutional issues (Hooker, Kuilman, & Everett, 2015).

Advanced Practice Providers

The implementation of the Affordable Care Act has led to an increased need for healthcare providers. The Affordable Care Act allowed for greater insurance coverage for the US population and an increased need for healthcare providers. The baby-boomer population is also aging and beginning to retire. This has led to an increased need for advanced medical providers, which includes physician and APPs. By 2025, the combination of greater health insurance coverage and the growing aging population will lead to an increase in the workload of adult primary care practitioners by 29%, thus creating a need for an additional 52,000 providers (Poghosyan et al., 2017). Following trends, the US may have a shortage of 45,000 primary care providers and 46,100 medical specialists by 2020 (Poghosyan et al., 2017). Healthcare involving APPs is one way to improve access to quality care despite the increased demand for physicians (Everett, Morgan, & Jackson, 2016). The NP workforce will increase by 130% during this

timeframe but, this is not a solution to the growing problem because APPs are frequently not optimally utilized (Choi & De Gagne, 2016). There are variations from state-to-state in the SOP that regulate APP practice. Some states allow full SOP for NPs, which allows NPs to evaluate, diagnose, prescribe medications, and treat patients without the need for a collaborating physician, while some states severely limit the SOP of NPs (Poghosyan et al., 2017). Many APPs see their relationship with collaborating physician as supervisory instead of collaborative, which brings about dissatisfaction in the workplace. Adding to the lapse in care and dissatisfaction of APPs, often they do not receive the same ancillary support as physicians. Physicians are more frequently given dedicated staff support, but the APPs may not be given the same support. This leads to suboptimal APP practice environments, which prevents APPs from utilizing the skill and knowledge they have and which is required to provide quality patient care. Job dissatisfaction among APPs and can result in APP turnover, thereby contributing to the increased need for primary care providers (Benson et al., 2016; Poghosyan et al., 2017).

Mid-level Provider

Advanced practice providers have proven to provide quality patient care, but many NPs struggle for acceptance from their collaborating physician and from other physicians. The term “mid-level provider” is often perceived by APPs as a negative term for their profession. The term “mid-level” indicates they are simply an extension of the physician’s services and gives APPs the feeling of being undervalued by the employing organization and physicians themselves. Many APPs feel the term “mid-level” implies APPs should treat only when under physician supervision and are not qualified to treat patients independently (Shea, 2015).

Job Satisfaction

Satisfaction is the fulfillment of a want or need. According to studies by Ryan and Whitaker (2013) and Steinke, Rogers, Lehwaldt, and Lamarche (2018), job satisfaction of NPs is highest in the first year of practice and then declines annually until years eight to eleven where job satisfaction plateaus. Globally, job satisfaction scores for APPs are low (Ryan & Whitaker, 2013). Job satisfaction for NPs is found in intrinsic factors that stimulate and fulfill growth and self-actualization needs such as recognition, achievement, advancement, and responsibility (Sullivan, 2009). In the study completed by Shea (2015), all NPs stated the factor that most influenced job satisfaction was therapeutic relationships with patients for a goal to provide optimum healthcare through the establishment of therapeutic patient relationships. A fulfilling work environment for NPs has respect from coworkers and patients, autonomy, sense of accomplishment, work challenges, increased time with direct patient care, and the ability to deliver quality care to their patients (Hooker, Kuilman, & Everett, 2015; Kacel et al., 2005; Ryan & Whitaker, 2013). The greatest satisfaction markers among those surveyed was the level of autonomy and level of responsibility; high autonomy was directly related to higher job satisfaction rates (DePalma et al., 2019; Hooker et al., 2015). Nurse practitioners identified the two most common factors to have a negative effect on job satisfaction were a lack of relationship with physicians and a perceived lack of value for their profession (Shea, 2015).

It is important to identify and address barriers to satisfaction and career fulfillment to allow for workplace contentment and longevity within an organization or department. Job satisfaction is important to understand as it affects productivity and job

performance (Lyden, Sekula, Higgins, & Zoucha, 2018). Personality traits also affect job satisfaction. Those who tend to view life's situations, themselves, and others positively are more likely to have higher job satisfaction than those who focus more on the negative aspects (Sullivan, 2009). Another psychosocial predictor of job satisfaction is quality leadership in an organization; good leaders have employees with higher satisfaction rates (Goetz et al., 2015). Maintaining job satisfaction for employees is important for hospital organizations because burnout, stress, and the personal well-being of individuals have the potential to affect the quality of care given patients (Coplan, 2018). Health care providers with job satisfaction deliver higher quality health care and have decreased health care costs, higher patient compliance and adherence, increased patient satisfaction, and improved provider retention (DePalma, Alexander, & Matthews, 2019). Job satisfaction plays an important role as it has the ability to reduce organizational costs while improving access and quality healthcare in a time of physician shortages (Hooker et al., 2015).

Autonomy

Autonomy is the feeling that one's skills are being fully utilized (Athley, 2016). It is often related to the level of independence in which the APP practices and can be measured in the following three ways: a) billing opportunities, b) skill utilization, and c) relationship with a collaborating physician or independent (Athley, 2016). The relationship between an APP and their collaborating physician is unique, and the autonomy of the APP is related to this relationship (Choi and De Gagne, 2018). APPs who practice in primary care settings have the highest level of autonomy, while those employed in hospital surgical settings often exhibit the lowest levels of autonomy (Athey,

2016). A survey of skill utilization showed 59% of ambulatory primary care NPs "strongly agreed" their skills were utilized and only 29% of hospital-based surgical specialty "strongly agreed" their skills were utilized (Athey, 2016). Autonomy is a significant predictor of job satisfaction as there is a direct relationship noted between level of autonomy and job satisfaction. APPs who are able to perform at their fullest potential and exhibit full autonomy are seen as vital members of the team. These APPs are able to control their own practice which leads to greater job satisfaction and retention (Sung-Heui Bae, 2016). When APPs are limited in their autonomy it gives the perception that they are not valuable to the team and job satisfaction and retention rates decrease (Han et al., 2018).

Mentoring

Pairing a new APP employee with a seasoned employee for the first year in the practice in a mentor relationship increases job satisfaction and retention of new APPs (Horner, 2017). The need for APPs will continue to increase, but over a quarter of new graduates will resign from their first position within the first year because of job dissatisfaction (Horner, 2017). Studies show that new APPs with a mentor will have increased productivity and job satisfaction (Faraz, 2016; Horner, 2017). Novice APPs have pointed out the importance of this mentoring as it allowed immediate networking opportunities with APP peers, which in turn brings job satisfaction (Faraz, 2016). The mentor relationship brings satisfaction to the new employees, which has a direct relationship with departmental retention. Intent to leave and job turnover have a negative impact on healthcare organizations. Specialized NPs such as those in surgical

departments of intensive care units are expensive to replace as many months are required for orientation. Mentoring is an easy way to bring job satisfaction and retention.

Retention

Retention of APPs is important to organizations not only for continuity and full staffing, but because recruiting and training new APPs can be 1-1.5 times the annual salary of the position being filled (Hagan & Curtis, 2018; Han et al., 2018). Turnover of staff often leaves a shortage of providers and can lead to patient care being compromised. Employee retention is influenced by job satisfaction (DePalma et al., 2019; Horner, 2017). Job satisfaction is directly related to NPs' desire to practice and provide the quality health care in that organization (Shea, 2015). According to Steinke et al., (2018), NPs become dissatisfied with their jobs when patient care is compromised, which often leads to further turnover of staff. This snowball effect demonstrates the importance of job satisfaction and staff retention.

Autonomy is another important aspect of retention for APPs. Autonomy enables APPs to function at their fullest potential, empowers them in their clinical practice, and leads to retention (Bae, 2016). Hooker, Kuilman, and Everett (2015) completed a study with findings that link autonomy to job satisfaction and contribute to staff retention. Proper staffing leads to quality patient care, which increases APP satisfaction and retention. Practicing at full potential and autonomy leads to APP satisfaction and retention.

Job Dissatisfaction

Dissatisfaction results in burnout and turnover of employees within an organization. Job dissatisfaction is caused by extrinsic factors such as low pay, poor

working conditions, limited security, difficult colleagues, staff, or employers, and low status within the organization or department (Choi & De Gagne, 2018; Coplan et. al, 2018). Many NPs report job dissatisfaction when patient care is compromised (Steinke, Rogers, Lehwaldt, & Lamarche, 2018). Sources of greatest job dissatisfaction were lack of autonomy, salary issues, lack of opportunities for advancement in one's career, too many hours spent at work, high patient to provider ratios, and institutional policy issues (Coplan et al., 2018; Hooker, Kuilman, & Everett, 2015).

Burnout

Burnout is a poor physical or mental state and can be expressed through lack of motivation to work, decreased sense of accomplishment, depersonalization, and emotional exhaustion (Benson, et al., 2016). It is similar to, but not interchangeable with job dissatisfaction, which is measured by salary, supervision, relationships with colleagues, promotions, and the career choice in general (Coplan, McCall, Smith, Gellert; & Essary, 2018). Burnout may be caused by a multitude of things, including electronic health records, increased workload, increased patient acuity, poor work-life balance, organizational leadership, poor relationship with collaborating physicians, change in daily workflow, practice change incentives, and deficiency in teamwork (Edwards, 2018; Tetzlaff, Hylton, DeMora, Ruth, & Wong, 2017). Burnout is associated with a decrease in patient safety, quality of care, and patient satisfaction, and an increase in absenteeism, staff turnover, conflicts, substance abuse, and suicidal ideation (Coplan, et al., 2016; Edwards, 2018; Waddimba, et al., 2016). One study polled APPs regarding job satisfaction, 32.8% of participants rated themselves as burning out or burned out, 41.3% felt satisfied with their practice ≥75 percent of the time, while, 47.1% felt dissatisfied

≥25% of the time (Waddimba et al., 2016). Burnout is more common in females and in specialties such as family medicine, oncology, critical care, and emergency medicine (Coplan, et al., 2016). Burnout also affects the number of future providers, as those who are burned out are less likely to advise others to go into medicine: when asked, only 45% of US physicians say they would choose their specialty again as a career (Coplan, et al., 2016). Protectors against burnout include a strong team culture, good supervision, high job satisfaction, fair salary compensation, and more direct patient interaction (Coplan, et al., 2016).

Stress

Every workplace has stressors associated with it. APPs who can identify and learn to cope with the stressors in their workplace will grow and thrive instead of crumble from the stressors (Waddimba et al., 2016). If these stressors are not identified by the APP, the stressors can cause compassion fatigue, emotional exhaustion, trauma, and burnout, leading to an increase in errors and patient and provider satisfaction (Chen, et al., 2016; Goetz et al., 2015; McCall, et al., 2018). Stressors include high patient numbers, malpractice concerns, working with insurance companies, student loan debt, physical and emotional stress, low income, work-life imbalance, and a poor relationship with collaborating physician (Corbridge & Melander, 2019). Among all the stressors, an income that is not high enough and poor work-life balance were the highest job stressors identified by McCall, et al., (2018). It would be prudent of NP supervisors to assess role perception, satisfaction, and stressors among their APPs in order to establish a satisfied, stable, and productive workforce (Brom et al., 2015).

Turnover

Turnover is identified by the number of employees leaving or coming into a workforce. High turnover rates from burnout among APPs leads to increased costs, decreased productivity, low staff morale, and decreased quality of care (Benson, et al., 2016; Corbridge & Melander, 2019). Turnover within an organization can be the result of role ambiguity and decreased professional autonomy, stressful working conditions, long shifts, and high patient to provider ratio (Bergerl, Gavartinal, & Zarotil, 2015) and (Faraz, 2016). Staff turnover is costly for an organization as turnover costs the organization 1.5-2 times the salary of the provider leaving. Turnover costs can cost up to 5% of the annual operating budget of a medical center (Han, Carter, & Champion, 2018).

Intent to Leave

An APP's decision to leave their current position is an important topic for which organizations should be aware. Job turnover can be stopped, and APPs can be retained with changes to the current position and improved job satisfaction. Intent to stay is associated with job satisfaction, according to Brom et al., (2015). Twenty-seven percent of NPs surveyed by Han et al., (2018) indicated they had an intent to leave their current position. The reasons most frequently mentioned were lack of independence, little control in their practice, feelings of powerlessness, limited opportunity for career advancement, and a belief they are not viewed as a valuable member of the team (Han et al., 2018; Poghosyan et al., 2017; Trautmann et al., 2015). NPs who were less likely to state intent to leave reported positive relationships with physicians, support for independent NP practice, clear role designation, and were most likely satisfied with their jobs (Poghosyan et al., 2017).

Summary

APPs provide cost-effective, high-quality, and individualized care for their patients and communities. Research indicates that job satisfaction is directly related to the amount of autonomy and how the APP experiences it in their career. Along with autonomy, mentoring in the workplace connects employees and brings job satisfaction to the workplace. APPs who experience limited autonomy tend to have lower job satisfaction rates, stress, and eventually, begin to experience burnout in their career. Once experiencing burnout, APPs are more likely to search for employment elsewhere and resign from their current position. Retention of employees is important for an organization as this decreases cost for the organization and stress for both the individual and by the employer. Staff retention is an effect of autonomy, relationships with colleagues, and job satisfaction.

Chapter III

METHODOLOGY

The scholarly project was designed to compare the turnover rates of APPs before and after the March 2019 practice remodel of the CVS department. This was accomplished through comparing the turnover rate noted before the practice model revision to the turnover rate after the practice model revision. The findings in this research may help to determine whether the practice model revision decreased the turnover of APPs and increased their job satisfaction or if the revision had no effect on turnover rates and APP job satisfaction

Research Design

The *Cardiovascular Surgery Practice Remodel: Increasing Job Satisfaction and Reducing Turnover Rates of Advanced Practice Providers* scholarly project is a paired sample comparison study of the turnover rates and job satisfaction of a CVS APPs group before and after a practice remodel. The turnover rates in 2017 and 2018 were compared to the turnover rates in 2019 after a practice model revision was completed. In order to determine job satisfaction the organization's annual Sirota employee satisfaction surveys (Sirota survey) was reviewed in a paired comparison study. In November 2017, 2018, and 2019 all of the CVS APPs were sent a link to anonymously complete the Sirota survey. The Sirota survey includes information on the Midwestern academic medical center's

culture, commitment to the Midwestern academic medical center, work area culture, individual engagement of employees, and the overall satisfaction of employees. The independent variable in this study is the practice model revision, while turnover rates and job satisfaction are the dependent variables.

Protection of Human Subjects

Prior to the initiation of research, an application for approval of investigation involving the use of human subjects was sent to Pittsburg State University's Institutional Review Board and the the Midwestern academic medical center's Institutional Review Board for permission to collect data. Study participants were APPs in the CVS practice at the Midwestern academic medical center. All data collected was through the organization's annual Sirota survey. Survey data, department turnover and hire rates, and department demographics were obtained through human resources. Permission from the APPs to be used in the study was not requested as the information collection was standard collection for the organization. Confidentiality and anonymity were maintained throughout the study process. All surveys were sent and received anonymously through the hospital's secure email. Names of those who completed the annual surveys were not collected and were not given in the survey results.

Sample and Recruitment

Participant inclusion was being an APP in the Midwestern academic medical center's CVS practice from November 2017-2019. Exclusion criteria would be those who were not APPs at the Midwestern academic medical center's CVS practice during the time of the annual Sirota survey data collection. All employees were encouraged to participate in the Sirota survey in order to decrease biased survey results.

The aim of this study was to review the turnover rates and job satisfaction of APPs in the CVS practice at the Midwestern academic medical center by comparing the survey results that were obtained in November 2017 and 2018 to the survey results being completed in November 2019, which was completed after the implementation of a new practice model. Survey bias is possibly present in the study as this researcher and other APPs assisting with the practice model revision filled out the annual survey in 2018 and will complete the 2019 organization survey. Those who were willing to take the time to fill out surveys may have been those most disgruntled or most satisfied with the practice model revision. This could lead to biased results as this is not a true representation of all the APPs in this CVS department. All APPs were encouraged to complete the annual Sirota survey in order to decrease selection bias in the study results.

Instrumentation

The All Staff Pulse Report was used to analyze the job satisfaction of APPs. Standard processes to determine the percentage of turnover rates were evaluated by HR personnel and were relayed to the research team. A mean score pre- and post-practice revision will be calculated and compared to determine the change in turnover rates.

Limitations to the annual organization study were noted, but they are minimal limitations, most often with the questionnaires, which have been noted. The limitations include the APPs filling out the questionnaire in their practice environment and possible distractions by their daily workflow while completing the survey. Participants were not required, but were asked to complete the annual Sirota survey in November 2017, 2018, and 2019. The data will be compiled, and a paired sample comparison study of job satisfaction and turnover rates was completed. Survey error was possible due to a robust

job dissatisfaction among a large group of the APPs, but there was a smaller group of APPs who were satisfied with the work flow in 2018. Study participants were encouraged to complete the survey after work hours to minimize these errors. The All Staff Pulse Report survey response rates correlated with the job satisfaction rates of the APPs. In November 2017, the Hospitalist group had a 76% response rate and the Day Team had a 91% response rate. In November 2018, the staff responses declined with the Hospitalist group having only a 47% response rate while the Day team was not much better with only a 55% response rate. As in years past the Sirota survey will be completed in November 2019 and all staff will be encouraged to complete the survey. The results will be collected and compared to determine if there was a decrease in the turnover and an increase in job satisfaction among the APPs.

Procedure

1. High turnover rates in 2018 along with concerns expressed by APPs concerning their ability to safely care for patients prompted CVS leadership to request assistance from the Management, Engineering and Internal Consulting in examining the APP organizational practice model (see Appendix A).
2. Emails were sent in June 2018 to all APPs through the organization's email system notifying them of the Management, Engineering and Internal Consulting assessment.
3. The CVS Practice assessment was approved by upper management.
4. In June 2018, emails were sent to the APPs requesting volunteers to assist with the practice assessment.
5. The core team was created by volunteers in June 2018, which included CVS leadership (Operations Manager and CVS APP Supervisor), a health system

engineer, two CVS surgeons, nursing administration, two critical care physicians, and four CVS APPs; HR personnel were invited to the meetings when applicable.

6. The current practice model was examined, the scope of the practice remodel was reviewed, and a stakeholder analysis was completed in June 2018. (Appendix B).
7. June 2018 a charter was completed and submitted to upper management (see Appendix C).
8. The health system engineer shadowed the APPs in July 2018 to map workflow of the inpatient and outpatient teams.
9. List of questions was prepared for internal and external benchmarking (see Appendix D).
10. A benchmarking email was sent internally and externally (see Appendix E).
11. Internal and external benchmarking of both inpatient and clinic practice was completed by the core team in July 2018.
12. An email was sent in September 2018 to CVS APPs for sample practice model ideas. A pros and cons list was then completed by members of the core team in order to narrow down models with which to review for the practice model revision (see Appendix F).
13. In November 2018, the CVS annual APP/Surgeon retreat facilitated brainstorming ideas for a new practice model.
14. A level of importance survey was sent to the APP and surgeons to determine the viewed importance of duties and skills of the team in November 2018 (see Appendix G).

15. The core team attended a retreat in December 2018 to review the practice models that were presented by staff. A plan was created for the new practice model (see Appendices H and I).
16. Additional APP staff positions were requested to bring the APP workgroup to 62 APPs from the previous model which utilized 53 APPs.
17. The CVS outpatient and inpatient practices were developed in December 2018 and January 2019.
18. The practice model was presented to the APPs and surgeons in December 2018 (see Appendix J).
19. The CVS APP workflow was changed from a two-team to a one-team mindset. There were two sections, one inpatient and the other outpatient, that were created in order to achieve efficient and safe patient care while reducing costs where applicable. The outpatient section worked only with outpatients and was divided into two teams. Each outpatient team had designated surgeons who they would assist by examining patients for pre-operative care, consults, post-op video visits, and follow-up appointments. The outpatient group also completed record reviews, follow-up phone calls, and answered patient portal messages. The inpatient group was divided into two groups with set providers for the intensive care unit patients and the progressive care unit patients. The intensive care unit APPs continued practicing with their same workflow and managed the care of the intensive care unit patients alongside the critical care service physicians. There were increases in APP providers in the extracorporeal membrane oxygenation and pediatric intensive care unit. The progressive care unit APPs witnessed the most change with their practice. The

progressive care unit would have a net gain of four APPs each day. It was divided into six different teams, with designated surgeons for each section. There were discussions on the naming of these sections and it was decided on team 1-5 and a transplant team. There were APPs designated to each progressive care unit "team" which was comprised of 2-3 surgeons based on the average census of surgeons over the past year. There was a decreased patient to provider ratio, the addition of daily progress notes, complete inpatient patient care, the addition of the team lead role, and desk operation specialists were added to the practice.

20. The desk operations specialist was utilized throughout the hospital, but this was a new addition to the CVS department. The desk operations specialist assisted the APP with inpatient and outpatient scheduling, coordinated discharge testing, lead rounds and updated the information board in patient rooms, and assisted with in-basket messaging.

21. The practice model was reevaluated in June 2019, three months into the change, and it was determined that the progressive care unit teams required adjustments. An additional pediatric surgeon was added to the surgeon group and there were two teams that were consistently higher census than the other teams causing an unbalanced practice. The progressive care unit teams were split up on a daily basis in order to even the practice and provide safe and efficient patient care. This manual splitting of the progressive care unit teams did not create the consistency that was desired from the practice model revision and a shuffling of the progressive care unit teams was completed.

22. Five months into the practice model evaluation, August 2019, the CVS APPs an additional team was created for inpatient care of patients with ventricular assistive devices.

Assumptions

Assumptions made during this study include the following: CVS APPs answered the annual survey truthfully, and those who completed the survey are a large enough group to represent the entire team of CVS APPs.

Strengths, Limitations, Delimitations

This section will describe the strengths, limitations, and delimitations as were observed by this researcher.

Strengths

The following are strengths of the study:

1. It was completed by the APPs for their own practice area.
2. It was an annual survey that the APPs have taken in years past.
3. The results of the survey replicated the practice environment in the department of CVSband were reviewed by the organization's upper management.
4. All staff were encouraged to take the survey in order to obtain the most accurate results possible.
5. In November 2018 was a 47% response rate which is considered an appropriate sample size for statistical analysis of results.
6. Human resources calculated the turnover rates for the years 2017 to 2019 giving credibility and non-bias with obtaining statistics.

7. Quality improvements (QI) were conducted quarterly and adjustments were made as needed for the CVS department in continue to improve.

Limitations

The following are limitations of the study:

1. There was a limited amount of time to continue with QI for this report as there was a timeline of nine months. The QI for the CVS department continued past the presentation of this report.
2. There was some turnover that was not documented as some employees changed from full time to per diem status during the study.
3. The multiple changes to the practice model groupings may have made it difficult for the CVS APPs to determine their satisfaction with the change.
4. The department remained short-staffed throughout the duration of the study. This made it difficult to determine if the model change was effective in evening out APP workload, and providing a safe and efficient practice model.

Delimitations

The following are delimitations of the study:

1. Quality improvements should continue after completion of this project as the study was on a one-year time frame.
2. The practice model could be put into place with a fully staffed department as this would give a better representation of the quality of the model for efficiency and accurate satisfaction rates.

Summary

The *Cardiovascular Surgery Practice Remodel: Increasing Job Satisfaction and Reducing Turnover Rates of Advanced Practice Providers* scholarly project is a paired sample comparison study of the turnover rates and job satisfaction of a CVS APPs group before and after a practice remodel. It was approved by the Institutional Review Board at the Midwestern academic medical center to be used in a research project and was completed using annual survey and reviewing the turnover rates for the CVS practice. The survey was taken the year prior to the practice model change and also at the end of the year after the practice model change. Surveys were completed anonymously and all staff was encouraged to complete the annual survey. The turnover rates and staff satisfaction rates from November 2017 and November 2018 were compared to those which will be obtained in November 2019.

Chapter IV

EVALUATION RESULTS

The focus of this scholarly project was to compare APP job satisfaction and turnover rates in the year 2019 compared to those rates identified in 2017 and 2018. The hypothesis projected was that the turnover rates would decrease after the implementation of the workplace remodel that occurred in March 2019. The decreased turnover would be a direct result of the improved workplace culture that it would indicate an increased in APP job satisfaction.

Demographic Characteristics

All of the APPs included in the study were employed in the CVS department in either the inpatient or outpatient setting and were encouraged to participate in the annual Sirota survey. The participants are all masters or doctoral prepared NPs or PAs with an employment status from part-time to full-time status. The number of female APPs was greater than that of male APPs all three years, but it can be noted that the number of male APPs doubled from 2017 to 2019.

The participants ranged in age from 23 years old to 60 years old. The majority of APPs were non-minority; there was an increase in staff from 38 to 50, but the number of minority APPs remained the same. The APPs longevity in the CVS department ranged

from less than one year to thirty-eight years and indicated a large range of experience and organizational longevity.

Table 1
Gender and Ethnicity

	2017	2018	2019
Gender			
Male	6	10	12
Female	32	38	38
Race			
Non-minority	36	46	48
Minority	2	2	2

Table 2
Age and Organization Employment

	2017	2018	2019
Average Age	35.44	38.28	37.9
Average Mayo Service	7.81	10.56	9.71
Average Unit Service	4.03	3.53	2.84
Organization Longevity	36	37	38
Unit Longevity	36	37	38

Table 3
Educational Background

Educational Background	2019
Nurse Practitioner	36
Physician Assistant	29

The turnover and retention rates were obtained from human resources and provided an unbiased opinion of the APP turnover. It is important to note that the overall turnover rates obtained from HR include the percentage of turnover from the entire year and calculations are computed from the total number of employees from the department. The APP turnover rates from January to July 2018 were 35%, but the turnover for the entire year is averaged to 29.2% when including all the staff who were employed in 2018.

When determining APP job satisfaction rates the 2019 annual Sirota survey results were compared to the previous two years results. The Sirota survey was an anonymous survey and did not capture the educational background of the employees completing the survey.

Variables

Independent Variable

The independent variable is the practice model revision that was completed in March 2019. There were minimal changes completed in the ICUs, but there was a significant change in the PCU practice model. The ICU model revision added one APP in each of the two higher acuity ICUs. The PCU APP to patient ratio changed from a geographical zone system with a 1:18 APP to patient ratio to a surgeon team approach with an average of 1:8 APP to patient ratio.

Dependent Variable

The dependent variables include the APP turnover rate and their overall job satisfaction. The APP turnover rate for 2018 was 35% and was decreased to 8% in 2019 after the practice model revision. The turnover of the APPs was related to geographical moves by the APPs and also inter-department transfers within Mayo.

Table 4
APP Turnover

	Organization Termination	**Interdepartmental Transfer**	**Turnover Percentage**
2017	6	1	18.4%
2018	7	7	29.2%
2019	2	2	8%

Job satisfaction increased in both in the inpatient and outpatient APP group. The inpatient satisfaction scores or work area culture increased 18% from 2017 to 2019 and

the outpatient satisfaction scores increased 16% from 2017-2019. The feeling of burnout did increase 18 points with 89% feeling burned out from their work for the inpatient group. The hospitalist group continued to remain understaffed during the year 2019 and many APPs worked overtime or did not have the ideal staffing ratios. In January 2020 hospitalist group was hired to full staff with their last APP coming off of orientation this April. The outpatient group feeling of burnout decreased 19 points during these years; 71% felt burned out from their work. The outpatient group was fully staffed for the year 2019. The fully staffed APP group totals 67.9 full-time status employees and it is considered acceptable to have a 10% turnover rate with this large of a staff.

Analysis Findings

Data Analysis

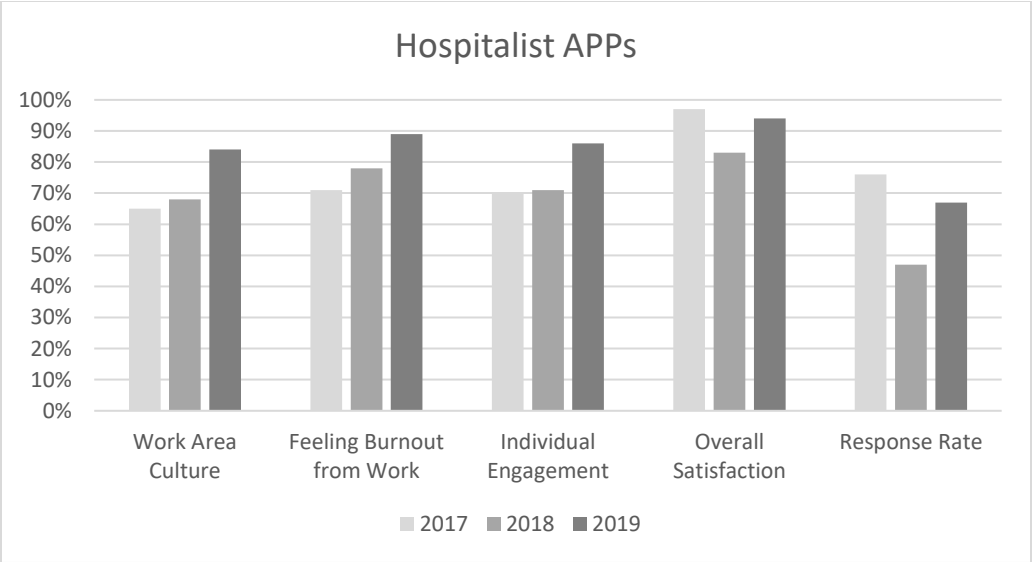
"The *Cardiovascular Surgery Practice Remodel* scholarly project is a paired sample comparison study of the turnover rates and job satisfaction of a CVS APPs group before and after a practice remodel. The turnover rates in 2017 and 2018 were compared to the turnover rates in 2019 after the completion of a practice model revision. The organization's annual Sirota survey was reviewed in a paired comparison study to determine job satisfaction. A link to the Sirota survey was sent to in November 2017 and 2018 for all of the CVS APPs to complete anonymously. In November 2019, the Sirota survey was again sent for APPs to complete. The Sirota survey included information on the Midwestern academic medical center's culture, commitment to the Midwestern academic medical center, work area culture, individual engagement of employees, and the overall satisfaction of employee.

Findings Related to the Hypothesis

Hypothesis: There will be improved APP job satisfaction and a decreased APP turnover rate in the year 2019 compared to those rates noted in 2017 and 2018.

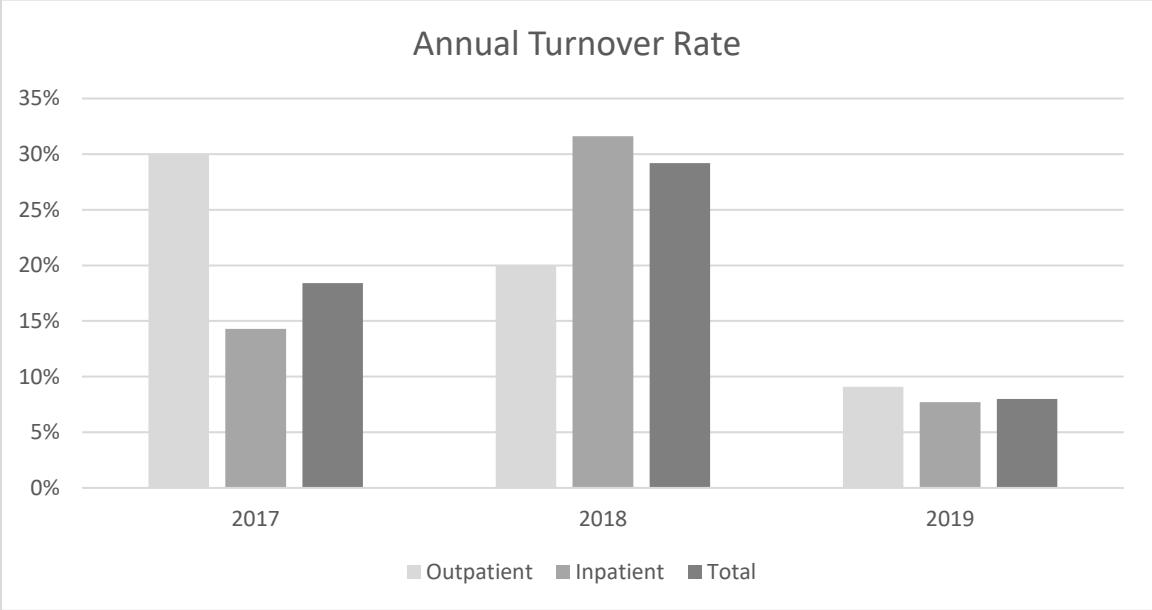
Figure1

Hospitalist Sirota Survey



The hypothesis was tested by use of a paired sample comparison study. The job satisfaction after the implementation of the workplace remodel that occurred in March 2019 is identified not only by the improved Sirota survey results (Figures 1 and 3) but is also evident by the decrease in APP turnover from 35 % turnover to an 8% turnover (Figure 2). The hypothesis that the job satisfaction of the CVS APPs would be improved and that there would be decreased APP turnover rates in the year 2019 compared to those rates noted in 2017 and 2018 was accepted.

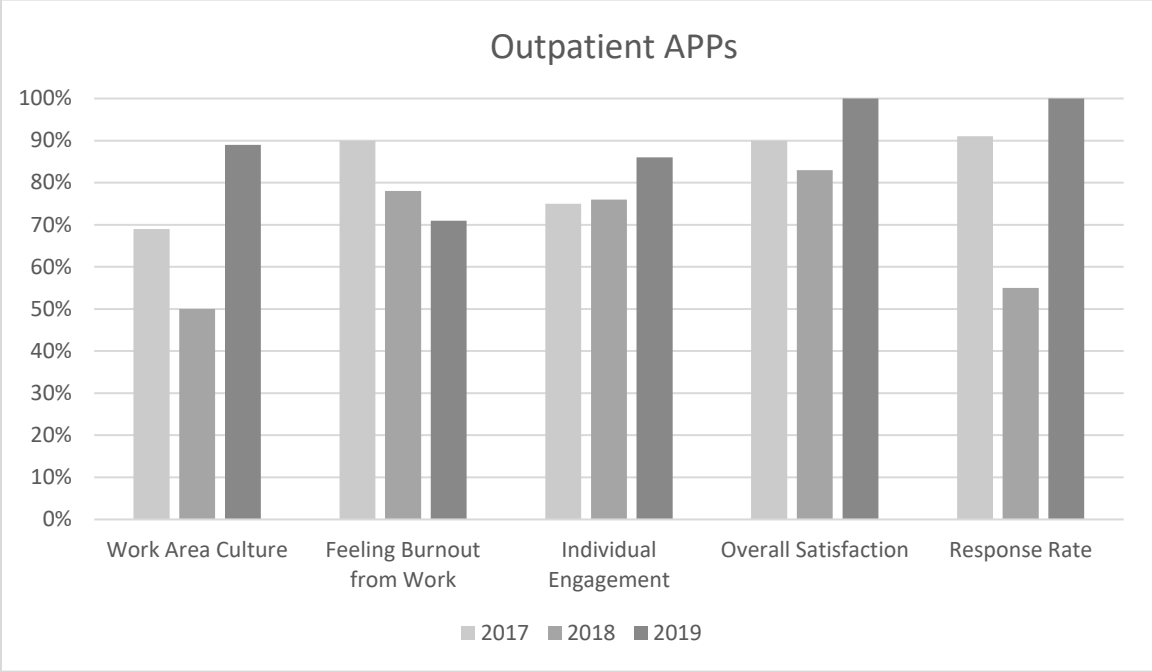
Figure 2
Annual Turnover Rate



Unexpected Findings

The effects of the practice remodel made positive impacts not only with the APPs but also affected the culture and dynamics of the floor nurses. Unintentional effects on nursing have been positive and are evidenced through positive feedback received from the nursing administration. Nursing has given feedback such as the new model decreases confusion by allowing the nurses to have one point of contact for the nurses instead of two. This leads to better and more efficient patient care as the nurses know who to contact if there is a question or problem with patients. The model change also decreased the number of providers reviewing patient charts and writing orders which decreased confusion and duplication of orders for the patients and nurses. Nursing administration also stated that with the APPs writing daily progress notes nursing staff is able to understand the plan of care for the day and that this gives guidance for the nursing staff.

Figure 3
Outpatient Sirota Survey



Discussion

These results suggest that there was a significant difference in turnover rates and job satisfaction of a CVS APPs group before and after a practice remodel. The analysis leads to the conclusion that the practice remodel led to an increase in job satisfaction and in turn there was noted to be a decrease in provider turnover rates.

Chapter V

DISCUSSION

This paired sample comparison study compared APP job satisfaction and turnover rates for 2019 to those for 2017 and 2018. In order to look for an effect on turnover rates and job satisfaction of implementation of a workplace remodel that occurred in March 2019. This study found a significant decrease in turnover rates and increase in job satisfaction of a CVS APPs group before and after a practice remodel.

Summary of the Method Utilized

The study group consisted of inpatient (hospitalists) and outpatient APP in the Midwestern academic medical center's CVS practice during the years 2017-2019. All CVS APP staff members were included in the study by default as all staff members were sent the Sirota survey and all staff was included in the retention and turnover rates. Turnover rates and job satisfaction were analyzed using a paired sample comparison.

Summary of Findings

Analysis of the data showed significant differences in APP job satisfaction, as measured using the Sirota survey results, and turnover rates before and after the practice model revision. The mean scores were analyzed and there was observed to be an increase in job satisfaction and a decrease in turnover rates after the implementation of the practice remodel in March 2019.

Observations

Prior to the practice remodel, turnover rates were extremely high and morale of the CVS department was very low. The turnover rate decreased from 35% to 8% in one year and the morale of the department has also increased in the same amount of time. Burnout is still notable with the inpatient providers on the Sirota survey, but it should be noted that they were working understaffed the entire year of 2019. It is interesting to note that one of the APPs who transferred to a different department in 2018 transferred back to the CVS department in 2019 after the model redesign. The implemented practice model was designed to be flexible and meet the needs of the patients, APPs, and surgeons and has shown to be a successful practice model. This project demonstrates that through role clarity, APPs working to their full SOP, and careful planning and consideration reduced turnover and job satisfaction within a department can be attained.

Theoretical Framework Evaluation

The project results support the Theory of Goal Attainment in which Imogen King theorized factors that hinder goal attainment and goal achievement through relationships (Petiprin, 2016). This project assumed that a relationship and clear communication between the core team and the APPs would result in the APP goal of job satisfaction. The increase in job satisfaction would, in turn, lead to a decreased department turnover. The relationship between the APPs and the core team would lead to goal achievement.

Limitations

The study and data collection are lacking as it was limited to only nine months after the implementation of the new practice model. The inpatient APPs also worked understaffed throughout the study and still had seven APP openings at the end of 2019.

There were two unexpected interdepartmental transfers when new positions in the hospital opened that held special interest to some of the APP staff. The inpatient APPs did not have an opportunity within this study timeframe to work in fully staffed conditions and this may have contributed to burnout and frustration within the staff.

The practice model was designed to provide flexibility and adjust to the daily needs of the department, but with this fluidity came constant change for the department. The continued understaffing led to APPs being moved day to day and sometimes working in different settings than they had originally been scheduled. APPs who were trained in both the ICU and PCU were moved around to fill in the areas that were understaffed for that day. This practice fluidity ensured for the highest level of patient care indicated, but at times caused dissatisfaction among the APPs as they were not always updated on the staffing changes prior to arriving for their shift each day. Throughout the year 2019 the opportunities arose for APPs to work in the OR alongside the surgeons and also for the transplant APPs to cross train in an outpatient transplant setting. These two opportunities added satisfaction to APPs, surgeons, and grew the department, but it also caused an unexpected need to increase the number of full-time employees and added to the stress of working in understaffed conditions and continued openings in the CVS department. The constant change and the continued understaffing made it difficult to obtain good data on the effectiveness of the model on APP job satisfaction.

Implications for Future Projects

Research on this practice remodel is continuing on this CVS department. Monthly meetings are held by the core team and changes to the department workflow continue. Evidence of the need for continued evaluation of the practice is observed as the PCU

teams have already been rearranged since the implementation of the new practice model. The team realignment was indicated by patient census and uneven patient-to-provider loads. New surgeons will be hired and as each surgeon's practice grows there will be a need to again adjust the PCU teams. The CVS practice will continue to grow and with this growth change may be necessary.

Future research could include practice remodels being implemented with a fully staffed unit. Starting a new practice model fully staffed would decrease dissatisfaction and frustrations among APPs from working understaffed. It could also be encouraged to not add new roles to a department during the implementation process. This CVS department identified areas in which patients and the hospital would benefit and grew their practice to include OR positions and outpatient transplant opportunities in the middle of the practice remodel. This was seen to be beneficial to patients and the CVS department, but also made it difficult by increasing the length of time the inpatient APPs practiced while being understaffed. Future studies could also include a specific satisfaction survey for the APPs to fill out both before and after the practice remodel. In efforts to limit survey fatigue among the APPs this additional survey was not added to this scholarly project. As is indicated in the literature review, job satisfaction of APPs plateaus around eight years. In order to gauge the job satisfaction related to a practice remodel that includes novice to experienced providers it would be beneficial for surveys to include the length of time the APP has been practicing in their role as an APP and also as an APP in the department being studied.

Implications for Practice

The results of the practice remodel revision for this CVS department gives evidence that positive outcomes can come from change. As practices change and departments grow there may be a need for altering the practice model with which the department functions. This CVS department noticed the need for change related to a turnover of 35% in 2018. In order to stop the high rate of turnover CVS administration petitioned upper management to make a change to the way the CVS APPs practiced. Through benchmarking by the core team and from polling ideas from the staff in the CVS department a practice model was tailored for this specific CVS department. The turnover decreased from 35% in 2018 to 8% in 2019 which is less than the 10% accepted turnover for a department. Medicine is an ever-changing field and those practicing in medicine need to be willing to change as well. It should be noted that along with the changing field of medicine the practice models with which departments function can and should be adjusted if needed. This project demonstrates how important it is to be willing to change a practice model if necessary. Practice models that have worked in the past may not always work and it is prudent for healthcare workers to be willing to change. It takes time and dedication but with continued efforts job satisfaction and retention can occur if a department and administration is willing to make the necessary changes.

Conclusions

The CVS practice remodel focused on the turnover rates and satisfaction of APPs before and after the implementation of a new practice model. Turnover rates from 2017-2019 were compared and the job satisfaction of the APPs was reviewed through the organization's annual job satisfaction survey. The decrease in APP turnover demonstrated that the 2019 practice model change made a significant impact on the CVS

APPs. The turnover rates decreased from 35% to 8% in one year and the job satisfaction rates increased from 83% to 94% for the inpatient providers and from 83% to 100% for in outpatient providers. The work culture also increased for both groups with the inpatient providers work culture increasing from 68% to 84% and increasing in the outpatient providers from 50% to 89%. These increases are significant and demonstrate the positive impact of the practice remodel revision.

This study demonstrates that through role clarity, hard work, determination, and relationships positive change can occur. The CVS practice remodel results are due to the fact that the core team worked with the CVS APPs and developed a practice model that was flexible and would work with the organization and the department's specific needs.

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APPENDIX

Appendix A

Redcap Survey Questions

Note to accompany survey:

Colleagues,

As has been shared, the Rochester Department of Cardiovascular Surgery in partnership with *Management, Engineering and Internal Consulting* is in the process of conducting a formal assessment of the NPPA practice model of Cardiovascular Surgery in Rochester. Your feedback is a critical aspect of this assessment.

The only identification associated with the survey results will be the role (surgeon or NPPA). Aside from this, your feedback is anonymous. Our ME&IC consultant will aggregate themes from this feedback to be shared with and analyzed by the project Core Team.

In addition to this survey, staff will also have the opportunity to share feedback in small focus group sessions which are in the process of being scheduled.

Thank you for taking the time to complete this survey.

Questions:

1. What is your role in Rochester Cardiovascular Surgery? (Surgeon or NPPA)
2. What are the best aspects of the NPPA current practice model?
3. What are the greatest stressors related to the current NPPA practice model?
4. What primary goals would the optimal NPPA practice model accomplish?
5. What barriers exist to the optimal NPPA practice model?
6. What are the best aspects of surgeon-NPPA communication and collaboration?

7. What barriers exist to optimal surgeon-NPPA communication and collaboration?

8. What are the best aspects of Day Team –Hospitalist communication and collaboration?

9. What barriers exist to optimal Day Team-Hospitalist communication and collaboration?

10. Are the *Five Safe Behaviors (Pay attention to detail, Communicate clearly, Have a questioning and receptive attitude, Handoff effectively, and Support each other)* exhibited in the department? If so, in what way?

11. If you answered no to the previous question, what barriers exist that prevent the five safe behaviors *(Pay attention to detail, Communicate clearly, Have a questioning and receptive attitude, Handoff effectively, and Support each other)* from being exhibited in the department?

12. What do you like best about working in the Rochester Cardiovascular Surgery department?

13. What additional feedback would you like to share?

Appendix B

Stakeholders (Individuals / Groups / Departments)	ARCIVD Role	Key Interests & Issues	Assessment of Impact (H,M,L)	Current Status (advocate, supporter, neutral, critic, blocker)
Day Team	A, R, D	1. Scope of role: Potential structure changes (RN, CA, NPPA) 2. Work-life balance/integration (hours) 3. Achievable/clear expectations of NPPA role 4. Turnover 5. Increase in volumes	H	Advocate
Hospitalists	A, R, D	1. Patient load 2. Role clarification (3) work life balance/integration (hours) (4) Satisfaction with role (5) Relationships with cardiac surgeons (6) Turnover (7)Increase in volumes	H	Advocate
Direct Clinic	A, R, D	1. Role clarification 2. work life balance/integration 3. Administrative prep for consults 4. Turnover 5. Increase in volumes	H	Advocate
VAD Coordinators	R, C, D			
Surgeons	A, R, D	1. Rounding workflow 2. Team structure/relationships with Hospitalists 3. Who's accountable for my patients 4. Quick point of contact to check on patients 5. Flexibility, Scheduling process (the right case mix) (6) Turnover (7) Increase in volumes	H	Advocate, critic, blocker
Nursing (ICU)	I, C, D			
Nursing (PCU)	I, C, D			
Critical Care (Adult)	A, R, D	1. NPPA Continuity in the ICU 2. Turnover, Staff consistency (trust and experience) 3. Increase in volumes 4. Patient ownership / collaboration /respect of various perspectives (Surgeon or CCS?) 5. Relationships (NPPAs and Surgeons)	H	Advocate, critic, blocker
Critical Care (Ped)	A, R, D	1. NPPA Continuity in the ICU 2. Turnover, Staff consistency (trust and experience) 3. Increase in peds volumes 4. Patient ownership / collaboration /respect of various perspectives (Surgeon or CCS?) 5. Relationships (NPPAs and Surgeons)	H	Advocate, critic, blocker
Residents/Fellows	I			
Cardiology	I			

Pulmonology (Transplant)	I			
Office (Secretary, Scheduling)	I			
Respiratory Therapy	I			
Social Services	I			
PT/OT	I			
Palliative Care	I			
HR	C, V			
Perfusion	I			
ECMO Team	I			
AM Admit	I			
Hospital Leadership	C, V			

Appendix C

MAYO CLINIC

Project Charter

Project Name:	CV Surgery NPPA Practice Model		
ⓘ Primary Executive Portfolio	Choose an item.		
Ⓟ Primary Program			
Ⓟ Governance Level	Choose an item.	ⓘ Project Size	Choose an item.
ⓘ Approved Stage	Choose an item.	IT Expertise Required (Y/N)	Choose an item.
ⓘ Description *(255 Character Limit)*	The Rochester Department of Cardiovascular Surgery would like to assess and improve its NPPA staffing and practice model for optimal efficiency, patient care and staff satisfaction. The current model is causing significant strain from a clinical and team dynamics standpoint		
ⓘ Primary Operating Objective	P06. Improve productivity, effectiveness and efficiency, and reduce costs		
ⓘ Secondary Operating Objective	T01. People – strengthen our values-based culture and position each member of the staff for excellence and success		

Schedule			
ⓘ Start Date	06/06/2018	ⓘ Finish Date	Q3 2019

ⓘ Milestones

Date	Name
06/06/2018	Engagement Meeting
06/22/2018	Core Team Kick Off
Q3 2018	Data Gathering and Analysis
Q3-4	Three additional surgeons (Two in Aug, one in Oct)
Q4 2018	Develop Proposal, Route for appropriate approvals
Q1-2 2019	Communication and Implementation
Q2-3 2019	Success Analysis

Business Need (SBAR)	
ⓘ Situation *(2,000 Character Limit)*	The Rochester Department of Cardiovascular Surgery (CVS) NPPA team has experienced a high level of attrition over the last six to nine months (approximately 28%). Some of the reasons given for departure have been relocation or for family/personal reasons; however, many staff have cited workplace culture and NPPA organizational structure as drivers for leaving the work unit. The NPPA group comprises two teams: the hospitalist team caring for patients in the hospital and the "Day Team" supporting patients in the clinic and in the hospital. The Day Team members are primarily assigned to one surgeon, however, they work in teams to manage this aspect of the practice.
ⓘ Background *(2,000 Character Limit)*	In 2012 as part of the *CV 20* Manage to Reimbursement project, the CVS NPPA staffing model transitioned from a service-based model to a zone/ geographic-based model. This change was designed to more evenly distribute workload among NPPA providers, offer clear points of contact for nursing staff, and supplement patient care duties of Residents and Fellows due to adjustments in Trainee work-hour regulations. From 2012 to 2018, the practice added X incremental NPPA staff to support increasing volumes. In 2015, Critical Care agreed to support the cost of X number of NPPA staff caring for patients in the intensive care unit. In 2015, the surgeons expressed concerns about the efficiency and efficacy of the structure of the

ⓘ	Required for Approval to Initiate	Ⓟ	Recommended for Approval to Plan	Completed Charter for Approval to Execute

	zone model. At that time, after discussions with both NPPA and surgeon leadership it was determined to maintain the zone model with some enhancements to communication. By mid-2017, breakdowns in communication began to arise with increasing frequency despite numerous projects and attempts to improve. In February 2018, NPPA leadership shared with practice leadership that NPPA staff, particularly Hospitalist, were dissatisfied with the organizational model and many staff were seeking alternative positions as a result. By June 2018, 14 NPPA providers had resigned their positions in the practice resulting in a staffing crisis.
ⓘ **Assessment** *(2,000 Character Limit)*	The level of attrition along with concerns expressed by NPPA staff about their ability to care for patients safely prompted CVS Leadership to request a formal ME&IC assessment of the NPPA organizational model.
ⓘ **Recommendation** *(2,000 Character Limit)*	The Core Team recommends that a formal assessment be conducted of the NPPA organizational model, including internal and external benchmarking. This assessment should include both inpatient and clinic practice. Based on the outcome of this assessment, a proposal will be made to the appropriate leadership groups and committees to make any resulting changes. A transition and change management plan should be developed in accordance with the scope of recommended changes.

Scope	
Ⓟ **In Scope Description**	Through entire course of patient care: (Clinic, OR, ICU, PCU) Role and expectations of NPPA throughout care continuum NPPA Staffing/organizational model supporting CV Surgery including heart & lung transplant, MCSD NPPA (Hospitalist/Day Team/Surgeon) workflow NPPA (Hospitalist/Day Team/Surgeon) work environment and culture Process for when there is disagreement (TEM) Multidisciplinary team interactions
Ⓟ **Out of Scope Description**	Clinical protocols Other Multidisciplinary team organizational structures (i.e. Nursing, CCS, lab, etc.) Epic, documentation Residents and Fellows
Assumptions and Constraints *(2,000 Character Limit)*	Residents/Fellows variability will not impact NPPA practice model
Interdependencies *(2,000 Character Limit)*	

Metrics		
Ⓟ **Description**	Ⓟ **Baseline**	Ⓟ **Target**

Project Team			
Ⓟ **Resource**	Ⓟ **Project Role**	Ⓟ **Resource**	Ⓟ **Project Role**
Renee Jones	Leadership	Barrett Fellows	Hospitalist

Last updated: 6/24/202

ⓘ	Required for Approval to Initiate	Ⓟ	Recommended for Approval to Plan	Completed Charter for Approval to Execute

Marci Newcome	Leadership	Anita Wilson	Hospitalist
Anna Shanedling	Sr. Health Systems Engr	Marcus Jacobson	Day Team
Richard Daly, M.D.	Surgeon	Lucinda Stroetz	Day Team
Alberto Pochettino, M.D.	Surgeon	John Hui, M.D.	Critical Care
Christian Bedore	Hospitalist	Erica Wittwer, M.D.	Critical Care
Sharon Prinsen	Nursing		

ⓘ	Required for Approval to Initiate	Ⓟ	Recommended for Approval to Plan	Completed Charter for Approval to Execute

Appendix D

Cardiovascular Surgery APP Structure Survey – Internal Benchmarking

Mayo Clinic Cardiovascular Surgery is conducting a survey of various specialties' Advanced Practice Provider (APP) practice. Thank you for your time and insights.

Administrator Questions

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1. Please describe your practice.
   a. Inpatient
   b. Outpatient
   c. Procedural / Surgical

2. How many of the following does your center have?
   a. Consultants
      i. Inpatient
      ii. Outpatient
   b. Trainees (residents and fellows)
   c. APPs
      i. Of the total number of APPs, how many are assigned to the clinic?
      ii. Of the total number of APPs, how many are assigned to the hospital?
   d. Operating/Procedural rooms
   e. ICU beds
   f. Step-down (PCU) unit beds
   g. Clinic appointments (daily, weekly, monthly, annually)

Administrator & APP Questions

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3. How does your center utilize APPs in:
   a. OR
   b. ICU
   c. Step-down
   d. Clinic

4. How does your center utilize residents and fellows in the:
   a. OR
   b. ICU
   c. Step-down
   d. Clinic

5. How is your clinic structured?
   a. What type of roles support the clinic (APPs, RNs., unlicensed staff, etc.?)

b. (How often do you see patients in clinic?)

6. What is your reporting/organizational structure for APPs?
   a. Pros?
   b. Cons?
   c. Turnover/Satisfaction *APP*
7. What is your patient care assignment structure for APPs? (i.e., Do APPs follow individual patients, are they assigned based on a clinic, consultant service, patient care unit, or sub-specialty?)

8. In your center, what are APPs responsible for in the:
   a. OR
   b. ICU
   c. Step-down
   d. Clinic

9. What are your APP schedules (3-twelves/5-eights, etc.) in the:
   a. OR
   b. ICU
   c. Step-down
   d. Clinic

10. Would you be willing to provide your department's APP job description?

11. How is APP performance evaluated and measured? (What are the standards to which they are held accountable?)

Cardiovascular Surgery APP Structure Survey – External Benchmarking

Mayo Clinic Cardiovascular Surgery is conducting a survey of similar institutions' Advanced Practice Provider (APP) practice. Thank you for your time and insights.

Administrator Questions

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12. What is your center's annual cardiac surgical volume? *Note: please clarify how volume is calculated (i.e. Trips to OR or unique patients)*

a. Adult
b. Peds

13. How many of the following does your center have?

a. Cardiac surgeons
b. Trainees (residents and fellows)
c. APPs

i. Of the total number of APPs, how many are assigned to the clinic?
ii. Of the total number of APPs, how many are assigned to the hospital?

d. Cardiac operating rooms
e. Cardiac surgery ICU beds
f. Cardiac surgery step-down (PCU) unit beds
g. Cardiac surgery clinic appointments (daily, weekly, monthly, annually)

Administrator & APP Questions

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14. How does your center utilize APPs in:

e. OR
f. ICU
g. Step-down
h. Clinic

15. How does your center utilize residents and fellows in the:

a. OR
b. ICU
c. Step-down
d. Clinic

16. How is your cardiac surgery clinic structured?

a. What type of roles support the clinic (APPs, RNs., unlicensed staff, etc.?)
b. (How often do you see patients in clinic?)

17. What service is responsible for Transplant and VAD readmissions (CVD, CVS, Transplant)

18. What is your reporting/organizational structure for APPs in cardiac surgery?Hi
    a. Pros?
    b. Cons?
    c. Turnover/Satisfaction *APP*
19. What is your patient care assignment structure for APPs? (i.e., Do APPs follow individual patients, are they assigned based on a clinic, surgeon service, patient care unit, or sub-specialty?)

20. In your center, what are APPs responsible for in the:
    a. OR
    b. ICU
    c. Step-down
    d. Clinic

21. What are your APP schedules (3-twelves/5-eights, etc.) in the:
    a. OR
    b. ICU
    c. Step-down
    d. Clinic

22. Would you be willing to provide your center's APP job description?

23. How is APP performance evaluated and measured? (What are the standards to which they are held accountable?)

Appendix E
Benchmarking Emails:

Internal Email Template

Hello,

As part of an Advanced Practice Provider model assessment and redesign project for Rochester's Cardiovascular Surgery Department, we are looking to benchmark internally to learn about different APP models within our organization.

Who would be the correct person for us to connect with to have this conversation? We are hoping to set up a 30 minute conversation in the upcoming week or two. Also, is there someone we should work with to get this meeting scheduled?

I look forward to hearing from you and sincerely appreciate your time.

Best Regards,

External Email Template

Hello,

As part of an Advanced Practice Provider model assessment and redesign project for Mayo Clinic's Cardiovascular Surgery Department, we are looking to connect with other major Cardiovascular Surgery Departments and Divisions to learn different models and best practices in the industry. We would value your input as it relates to the structure, successes, and challenges of your APP model.

If I may, I would like to set up a 30 minute conversation with you in the near future regarding the attached list of questions. Please feel free to email me to schedule a time to connect or please send the contact information of another colleague. I look forward to hearing from you and sincerely appreciate your time.

Best Regards,

Appendix F
Benchmarking

External:

1. Emory
2. Cleveland Clinic
3. Columbia
4. Mass General
5. University of Michigan
6. University of Pennsylvania
7. UCLA
8. Cedar Sinai
9. Kaiser Perm
10. Case West. Cleveland.
11. Duke
12. Barnes Jewish
13. Baylor/St. Lukes
14. Mt. Sinai NY
15. University of Maryland
16. Vanderbilt

Internal:

1. Florida
2. Arizona C
3. Rochester

a. Thoracic Surgery
b. General Surgery
c. Neurosurgical Practice
d. OB Practice

Appendix G

Model	pro	con	Net
1	18	14	4
2	12	12	0
3	15	11	4
4	20	6	14
5	20	4	16
6	25	14	11
7	23	10	13
8	10	10	0
9	15	8	7
10	21	7	14
11	20	2	18
12	12	3	9

Appendix H

Overall Ratings - Factors	Categories			
	Quality of **Outcomes**	*Degree of* **Safety**	*Quality of* **Service**	*Total* **Cost of Care**
Patient to provider ratios	6.3	6.8	7.3	-2.8
Quality of hand-offs	5.3	6.5	4.5	0.4
Continuity of care (clinic to discharge)	5.7	5.0	7.1	-0.9
Service specialization	4.4	4.6	3.7	-0.4
NPPA professional satisfaction	4.3	3.6	5.9	0.4
NPPA outside of work satisfaction	2.2	2.5	3.5	0.0
Physician needs met (rounding, communication, etc)	5.1	5.2	4.9	0.0
Patient follow-up (timely, appropriate content, etc...)	4.6	4.8	5.8	-0.4
Defined role responsibilities	4.7	6.1	4.8	0.8
Patient focus / Service recovery	4.7	4.2	4.9	0.2
Provider team trust (CTS)	4.9	5.1	5.8	0.0
Multidisciplinary model trust (CTS)	4.5	5.4	5.9	0.0
NPPAs Working to top of license	4.2	3.0	4.8	1.6
Waste reduction (comm, order duplication, etc)	5.1	5.7	5.5	2.9

MD Ratings - Factors	Categories			
	Quality of **Outcomes**	*Degree of* **Safety**	*Quality of* **Service**	*Total* **Cost of Care**
Patient to provider ratios	4.0	4.0	4.0	-6.5
Quality of hand-offs	9.0	9.0	6.5	2.0
Continuity of care (clinic to discharge)	6.5	4.0	9.0	0.0
Service specialization	4.0	4.0	2.0	0.0
NPPA professional satisfaction	4.0	6.5	9.0	2.0
NPPA outside of work satisfaction	0.0	2.0	4.5	0.0
Physician needs met (rounding, communication, etc)	6.5	4.0	4.0	2.0
Patient follow-up (timely, appropriate content, etc...)	4.0	4.0	6.5	0.0
Defined role responsibilities	2.0	4.0	0.0	2.0
Patient focus / Service recovery	4.0	4.0	4.0	4.0
Provider team trust (CTS)	2.0	4.0	4.0	2.0
Multidisciplinary model trust (CTS)	2.0	4.0	4.0	-2.0
NPPAs Working to top of license	0.0	0.0	0.0	0.0
Waste reduction (comm, order duplication, etc)	2.0	4.0	4.0	4.0

Appendix I

Cardiovascular Surgery NPPA Practice Model Core Team Retreat

December 17, 2018

12:00 p.m. – 5:00 p.m.

Francis GT 4

Agenda

Topic	Presenter(s)	Purpose
Goals for the day	Marci, Renee, Jeff	
Endorsement Updates	Marci, Renee	
Finalize Inpatient Model	All	
1. Confirm FTE needed 2. Consider cutoff for volumes (use lead role) 3. Build *Lead* role to help on inpatient and outpatient ● Discussed DOS roles ● Reviewed inpatient model and discussed how to adjust shifts to accommodate every 3rd weekend: ○ Reduce ICU coverage on the weekends ○ Adjust weekend from Fri, Sat night to Sat/Sun night. (Fri becomes like weeknight) ○ Create model schedule for pattern. (Jeff will do.) ○ Consider shift differential and pay rules 4. Team Lead Responsibilities ● Interval H&Ps will be covered by clinic team ● 8:00 nursing meeting – send info email to team ● Run transplant rounds (8:30-10:00) ● Ancillary to team for remainder of a.m. ● Help land post-ops in ICU ● Dismissal support ● Outpatient support (add-ons, etc.) ● Built-in call-in coverage ● Assignments for the day based on census. ● Census cap: (when do patients get offloaded?) 5. Each group has its own pager. 6. Design hand-off.		
Outpatient Model Design	All	
See Elissa's model		

Group discussed the need for an RN in the clinic

- Here-nows
- Pre-op education should be a provider?
- Follow-up phone calls
- Med recs

Free up time for conferences?

Follow-ups?

Patient Tracer Activity	All	

Activity	*Completed by Whom*
Record (red box) review	Clinic NPPA – consider subspecialty SMEs
Surgeon note/Consult	Surgeon
Surgical Consult: If outside cardiologist referred: 1. Surgical Consult (DCON) 2. No surgery (Surgeon only) 3. Surgery offered: Pre-op H&P/Here-now 4. Pre-op (H&P), consent If Mayo Cardiologist referred: 1. Surgery offered (here-now) 2. Cath (H&P), consent 3. Interval H&P	 1. Clinic NPPA 2. Surgeon 3. Clinic NPPA and RN 4. Clinic NPPA and RN 1. Surgeon and RN (tee up to Clinic NPPA) 2. Clinic NPPA (RN for education) 3. Inpatient Team Lead
OR	
ICU	

Consider Hand-offs, communication with CCS Consultant 1. 5B/G 2. 7G Question for CCS: Progress notes involvement?	1. 2 providers; patients assigned by Team Lead based on volume and acuity. 2. 1 provider
PCU F2F Handoff between ICU and PCU provider; update hand-off tool. All shift changes will have F2F handoff.	

Side notes:

- Include team photos/bios in pre-op education
- Hire RNs with CVS experience for clinic
- Hand-off from OP to IP:
  - Dot-phrases at bottom of OR note
  - For further discussion please call Clinic NPPA Name
- Team Conferences:
- Consider developing Service Inboxes for consult services – DOSs will triage
- Template and smart-phrase notes to simplify

Implementation steps and timeline	All	

Implement March 20, 2019 (Wednesday) 1. Team meetings on Wednesday 2. Consider Outpatient template builds – can we build calendars by March 20th 3. Communication with PASS office 4. How to allocation new positions? a. Ask for preference i. Determine options ii. Ask: What can you do now? What do you want to do in the future? iii. Interest in job sharing? Part time? ICU? PCU? Clinic? iv. Team Lead (interest and experience) – will need orientation to OP practice v. Interest in transplant vi. Interest in which teams? b. Determine decision-making for positions i. CVS Seniority ii. Primary work location has to be an area you're currently trained to iii. Secondary work location is area of interest c. Job 1/Job 2 d. Criteria: i. Current position training (Clinic, ICU, PCU) ii. Mayo Clinic CVS APP cumulative LOS iii. Skill set/experience in area of interest e. Surgeon Group Preference: i. 1st choice for primary ii. 2nd choice for primary		
Roundtable	All	
Renee, Marci and Jeff to meet tomorrow morning to prep for staff meetings.		

Questions for OAM:

1. Appointments scheduled in the hospital (work for DOSs)
2. Definition of categories from data
3. Calendar template changes

Rounding:

At implementation, each team meets to plan rounding. Include Surgeon, CCS, NPPA and DOS

VAD:

1. Separate Inpatient/outpatient practice, align with CV Surgery Clinic 2.0 FTE
2. Every third weekend for VAD/Transplant Hospitalists
3. 24/7 Hospitalist takes VAD patient calls and transplants. (Need 2 on days to cover rounds) 7.5 FTE
4. Reallocate VAD NPPAs to Marci for reporting, Kathy remains administrative consultant.

Incremental FTE:

ICU – 2

Appendix J

			Weekday Staffing		Weekend Staffing		Shift Hours		FTE	Max Prov:Pat WkD		Max Prov:Pat WkE		Coverage
Area/Service Name	Area Comments	Area Beds	Day	Night	Day	Night	Day	Night	Needed	Day	Night	Day	Night	Hours
(Name)	(Text)	(#)	(#)	(#)	(#)	(#)	(#)	(#)						
Clinic, Direct Clinic		-	7				8	0	8.75	-	-			-
ICU by zone	**MB5B, MB5G, MB6E, MB7G (45)**													
MB5B	ICU	11	2	2	1.5	1.5	13	13	9.29	1 : 5.5	1 : 5.5	1 : 7.3	1 : 7.3	24
MB5G	ICU	14	2	2	1.5	1.5	13	13	9.29	1 : 7	1 : 7	1 : 9.3	1 : 9.3	24
MB6E	ICU	8	1	1	1	1	13	13	5.00	1 : 8	1 : 8	1 : 8	1 : 8	24
MB7G	ICU	12	1	1	1	1	13	13	5.00	1 : 12	1 : 12	1 : 12	1 : 12	24
ICU Totals		**45**	**6**	**6**	**5**	**5**								
PCU Surgeon Groups	**MB7E, MB5C/F, MB6D (55)**													
Group 1	Schaff, Pochettino	9	1	0.49	1	0.49	13	13	3.73	1 : 9	1 : 18.3	1 : 9	1 : 18.3	24
Group 2	Crestanello, Rowse	9	1	0.49	1	0.49	13	13	3.73	1 : 9	1 : 18.3	1 : 9	1 : 18.3	24
Group 3	Dearani, Bagameri, Peds	9	1	0.49	1	0.49	13	13	3.73	1:9	1 : 18.3	1 : 9	1 : 18.3	24
Group 4	Daly, Khullar, Stulak, Open	9	1	0.49	1	0.49	13	13	3.73	1:9	1 : 18.3	1 : 9	1 : 18.3	24
Group 5	Cicek, Arghami, Greason	9	1	0.49	1	0.49	13	13	3.73	1:9	1 : 18.3	1 : 9	1 : 18.3	24
Team Lead		0	1		1		13		2.50			1 : 0		
Transplant		5	1	0.27	1	0.27	13	13	3.18	1:5	1 : 18.3	1 : 5	1 : 18.3	24
VAD		5	1	0.27	1	0.27	13	13	3.18	1:5	1 : 18.3	1 : 5	1 : 18.3	24
PCU Totals		**55**	**8**	**3**	**8**	**3**								
	Beds Covered	**100**	**14**	**9**	**13**	**8**		**FTE Total**	**62.32**					
	Bed Total	**100**		5	2			**Curr. FTE**	**53**		5	2		
				12	10						10	10		
				60	20	0.25					50	20	0.285714	

Need to add: shift ratios for ICU/PCU and ratios of night/day teams
Clarify "off-shift" for shift differentials
Overflow trigger points and limits derived progressively by TLs

Team lead responsibilities given intent to crate stand-alone practice:
8a nursing meeting to determine bedding, admission, transfer, plan for day (1.5h)
Transplant rounds (2h)
Ancillary for team remaining of morning (1.5h)
Offload post-ops in afternoon in ICU 7G (2h)
Connection with outpatient (1h)

Directions
Make a staffing model in the yellow shaded cells by creating assignment groups in rows 5-16 and filling in the other associated columns.
Make sure to think about what groupings make sense, whether by surgeon(s), geography, or any other category that makes sense.
Area Beds - # of beds assigned to group, **must add up to 100** at bottom
Shift hours - # of hours per shift, should add up to 26 for 2 hours of overlapping hand-off time per day if coverage is for 24 hours, **ensure column M is 24 for any 24/7 coverage**
Desired staffing - # of NPPAs on floor at given time

FTE requirements and maximum ratios are calculated in pink cells to the right, and **current FTE is 52** as noted at bottom.

Additional information is listed to the right in two tables to help in how you define groups.

Not covered in model:
Rotations, scheduling methods, specific responsibilities

Considerations
What defines different our allocation groups?
Where do we allocate people
What shifts should be worked
Other support staff needs?

Assumptions
Day team/hospitalist division going away
Shift schedule open for change
Transplant not in scope