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PA Compensation Models in the Twin Cities

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PA COMPENSATION MODELS IN THE TWIN CITIES

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ABSTRACT

A variety of compensation models for medical providers exist today. Current literature reveals that the main compensation models present for physicians and other advanced practice providers today include fee for service (FFS), fixed salary, pay for performance (P4P), and mixed models. To our knowledge, no previous studies that have characterized the compensation models of physician assistants (PAs) or their satisfaction in relation to those models exists. This study aims to characterize PA compensation models in the Twin Cities metro area and analyze PA satisfaction with these models. An electronic survey was used to collect data characterizing compensation models of PAs in the Twin cities and their related satisfaction. The participants of this study included PAs affiliated with Bethel University's PA program as either guest lecturers or preceptors. Upon data analysis, a total of 37 participants were recorded from the 69 invited participants. The response rate was 54%. PAs in the Twin Cities area are paid primarily on salary (62%) and PAs in the Twin Cities are satisfied (51%) or very satisfied (41%) with their compensation models. Analysis of the data revealed that no statistical significance exists between a PAs compensation model and their satisfaction with that model with a p value >0.05. This study and its outcome should be interpreted as a small, pilot study that will require further investigation with a larger sample size for more accurate conclusions to be drawn.

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CHAPTER 1: INTRODUCTION

Introduction

Many compensation models for providers exist in the world of healthcare. As time has passed and the focus on quality of care measures have increased, compensation models for providers have evolved to reflect these changes. With this focus on assessment of quality of patient care measures, a new wave of utilizing physician assistants (PAs) to meet demands has occurred. How has this changed the manner in which PAs are compensated? What is the current trend in compensation for PAs?

Background

With the rising costs of healthcare, the economy of the healthcare system has changed dramatically. The differences in private practice pay versus health care system pay is slowly equalizing due to the changes in the healthcare market. In order to keep up with the changing demands of healthcare, including the demand for higher quality care, incentive programs in compensation of providers have been developed. Incentive programs encourage or discourage behaviors and certain quality of care outcomes by offering rewards (Strombach, Hubert, & Kenning, 2015). These new programs sometimes do not follow market values and are often difficult to track due to complexity relating to quality of care (Mobley & Turcotte, 2010). Other models of compensation have fallen out of favor and other new systems such as team based incentives have been developed (Greene, Hibbard, & Overton, 2014).

Compensation for physicians and advanced practice providers often falls under a model with specific criteria set forth by the institution. Often these models are one of four choices: fixed salary, fee-for-service (FFS), pay for performance (P4P), or a mixed

model incorporating FFS and P4P together (Olson, 2012). The decision of an institution to implement any given model often depends on locations and specialties of the providers, as well as revenue generated by that institution (Mobley & Turcotte, 2010; Olson, 2012).

Fixed salary models are one choice of compensation for physicians. This model is often seen as simple to use and simple for the provider (Olson, 2012). Most providers now are not paid with this model (Olson, 2102). With the rise in focus of quality of care measures, fixed salaries have fallen out of favor (Olson, 2012). One reason for this is a lack of motivation (Olson, 2012). Incentives such as bonuses have been added to the fixed salary model in order to motivate providers to perform higher quality care for their patients (Mobley & Turcotte, 2010). Compensation models are moving in the direction of P4P models and P4P is often viewed as a midway option between incentive bonuses and FFS (Mobley & Turcotte, 2010).

Fee-for-service models have been the hallmark compensation model since the dawn of medical insurance (Greene et al., 2014). This type of model allows providers to bill separately for different services including office visits, tests ordered, and procedures performed (Greene et al., 2014). This type of model is still widely used and more than 50% of primary care providers are paid in this manner (Greene et al., 2014). However, FFS has started to fall out of favor due to the model's lack of focus on the patient and quality of care measures (Greene et al., 2014).

Pay for performance models have been up and coming in recent years. This model pays providers based on quality of care, patient satisfaction, number of patients seen, or a combination of all the factors (Mobley & Turcotte, 2010). The P4P model has

gained popularity due to the focus on quality of care measures (Mobley & Turcotte, 2010). This model has been shown to increase motivation of providers to not only see more patients, but to tend to the needs of the patient more intently (Qaseem et al., 2010). Pay for performance models have received a lot of dissatisfaction by providers due to their complexity (Greene et al., 2014). Providers also feel pressured to perform at a higher level to meet financial goals rather than provide only basic services to their patients and meet quality of care measures (Greene et al., 2014).

Pay for performance models can be broken down into individual and team-based models. Team-based models integrate colleagues together and reward the group based on outcomes and quality of care (Greene et al., 2014). An individual model challenges a provider to perform based on his/her own standards rather than working as a team to achieve a goal (Olson, 2012). Some primary care providers feel that in a team-based model, they are challenged by their colleagues to perform at a higher level and provide top quality care (Greene et al., 2014). On the other hand, according to Berenson and Rich (2010), many physicians in the United States are wary of any payment mechanism that seeks to increase production, that is, see more patients in less time in an attempt to make money (p. 613-614).

In a study of medical students and interns in Norway by Abelsen and Olsen (2015), a clear preference was shown for compensation models that had a low degree of uncertainty, that is to say those that resulted in a more fixed income. The study aimed to focus solely on medical students, as they had yet to develop any biases towards payment schema. However, this limited the study to a population which, not having experienced

these models firsthand, could demonstrate their preference only on perceived pros and cons rather than real-world knowledge (Abelsen & Olsen, 2015).

Another study conducted in Norway concluded that a third of general practitioners (GPs) would prefer a different remuneration scheme to the one under which they are currently paid. In private practice in Norway, GPs are generally paid 30% capitation and 70% FFS (Halvorsen, Steinert, & Aaraas, 2012). Only a very small number of respondents (3%) prefer a fixed salary compensation, a position that is government-sanctioned in Norway (Halvorsen et al., 2012). The physicians demonstrated that the majority would like to be in a private practice where they can, theoretically, maximize their income to a greater extent than would a physician in government-sanctioned salaried position (Halvorsen et al., 2012).

A thorough literature review conducted by the researchers has demonstrated a lack of data in the area of PA compensation models. Much of the data that addresses PA compensation is linked to annual surveys conducted by organizations such as the American Academy of Physician Assistants (AAPA) (American Academy of Physician Assistants, 2015). Unfortunately, the only data presented in these annual reports are dollar amounts, rather than compensation models.

Problem Statement

To our knowledge, no data demonstrates either the manner by which PAs are compensated or their attitudes towards those compensation models. This lack of data prevents a complete understanding of PA compensation.

Purpose

The purpose of this study was to characterize the compensation models of PAs in the Twin Cities metro area. The research addressed the following topics: county of practice, specialty of practice, employment status (full-time, part-time), compensation model, years of practice, facility of practice, total annual compensation, and satisfaction related to compensation models.

Research Questions

This study answered the following questions:

1. What compensation model was the most commonly used model for PAs in the Twin Cities?
2. What effect, if any, did compensation models have on physician assistant job satisfaction?

Significance of the Study

While PA salary reports are published annually by the AAPA, the type of compensation model is not disclosed in these reports. This research allowed a view of compensation models, thus contributing to a better understanding about compensation models for the PA profession.

Definitions of Terms

The following defined terms are important to understanding this research and are utilized throughout the study.

Advanced Practice Provider: Physician assistant, nurse practitioner, or clinical nurse specialists (AUA Consensus Statement on Advanced Practice Providers, 2015).

Capitation: Payment per patient seen (Alguire, 2015).

Fee for Service (FFS): Payment per patient visit, tests ordered, or procedures (Greene et al., 2014).

Fixed Salary: A fixed rate of pay to compensate employees for services (Steinwald, 1983).

Incentive: A form of reward intended to encourage or discourage behaviors and improve performance (Strombach et al., 2015).

Quality of Care Measures: Criteria designed to improve quality of care for certain populations and create accountability of an individual or team (Greene et al., 2014).

Pay for Performance (P4P): Payment earned by qualifying criteria, such as quality of care, that are institution specific (Qaseem et al., 2010).

Productivity: Providers are "paid a percentage of either billings or collections, or they are paid based on the resource-based relative value scale (RBRVS) units assigned to procedures or patient-visit types" (Darves, 2004).

CHAPTER 2: LITERATURE REVIEW

Introduction

Compensation models of physicians in the United States has a long and varied history. The compensation models often coincided with the contemporary economic climate. Since the advent of privatized medical insurance and managed care, the influence that insurance companies hold over payment for services has steadily increased (Berenson & Rich, 2010; Ginsburg, 2003). Today, a variety of compensation models are present, including capitation, fee-for-service (FFS), fixed salary, and pay-for-performance (P4P). (Berenson & Rich, 2010; Devlin & Sarma, 2008; Eijkenaar, 2012). Pay-for-performance is the newest and most controversial of the compensation models. To our knowledge, these compensation models have only ever been studied heavily in physicians, moderately in nurse practitioners, and never in physician assistants.

Through a thorough literature review conducted by the researchers, it is clear that no data concerning compensation models for PAs exist. Due to the lack of studies about PA compensation, this review will focus on the available information, namely that which concerns physicians and other advanced practice providers, such as nurse practitioners. First, we will discuss the history of compensation in the medical field and how insurance companies have affected compensation models. Next, we will detail current compensation models in use today. Finally, we will examine what little information is available concerning advance practice providers. With this review, we will elucidate the current state of research concerning compensation models for healthcare providers and demonstrate a lack of research concerning PA compensation models which our study will begin to remedy.

Historical Background of Compensation Models

Medical providers, historically physicians, have always received some form of compensation for services they have provided. The methods of compensation for physicians have changed significantly over time. Valone (2004) notes that in the United States, until the early 1900s, physicians often worked for little to no monetary pay for their services and primarily served the poor population out of a sense of duty to the people rather than as a business maneuver. Most compensation of this time was not monetary, but rather a trade of goods or property (Valone, 2004). Often physicians were also inclined to work on a sliding scale, charging only what the patient population could afford based on the patient's financial situation (Lee & Butler, 1974).

However, around the year 1900, the population of physicians began to grow quickly. According to Valone (2004), with this unprecedented growth in the field, physicians no longer had to work out of a sense of duty, billing only with the patient's financial situation in mind. Instead, the physician mindset became more enterprising and pricing for services began to reflect the competitive marketplace that was built by the influx of physicians into the healthcare system. By the early 20th century, the number of physicians began to level off while competition between different medical professions (chiropractic, osteopathic medicine, etc.) rose (Valone, 2004).

When the Great Depression occurred in the 1930s, payments for medical services suffered as a result of the economic hardship faced by most Americans. Valone (2004) states that "concern had begun to arise about the increasingly high cost of medical care, the poor state of public health regulations and staffing, and the relative scarcity of professional physicians in rural areas" (p. 223). Additionally, during the first half of the

20th century, there was a relatively quick decline of the "country" doctor due to poor national economic conditions and lack of amenities in rural areas (Valone, 2004). The combination of economic hardship and drastic changes in the distribution of physicians around the country, particularly in rural areas, further propagated the attitude of making a profit in healthcare (Valone, 2004). For example, Valone (2004) notes that in the 1930s in rural New York state,

> On the one hand, [country doctors'] fees were necessarily low, since the communities they served were generally fairly poor. On the other hand, they faced considerable expense. They needed to provide their own drugs and supplies, an office from which to practice, and a car, since house calls were common, especially for emergencies. In addition, conscientious doctors would incur expenses for medical journals, books, and professional dues. All of this meant that some 35-40% of a country doctor's gross income was consumed by these various expenses. On top of this, a country doctor's work was really a 24-hour job, since there was no one else to call when medical crises arose. (p. 224)

Physicians increasingly began to present themselves as businessmen looking to make a profit rather than altruistic healers who did their work for the good of the people (Valone, 2004). This new mindset geared towards turning a profit spawned models such as fee-for-service in which physicians expect prompt payment and propelled many physicians to move their practices to more urbanized areas (Valone, 2004). These models remained relatively unchanged until the last quarter of the 20th century.

The last 25 years of the 20th century ushered in many changes in the way that physicians were paid. As managed care rose, physicians desired to be paid in ways that

reflected their work and offered motivational incentives (Ginsburg, 2003). Lee and Butler (1974) proposed physician compensation as a three layered system: basic compensation, personal incentive, and system incentives. Lee and Butler (1974) believed that the combination of these three components would make quality of care, not monetary or entrepreneurial motivations, the top priority of physicians. Even though Lee and Butler's system was not implemented until the present, during that time physician compensation started to change.

These changes to physician compensation manifested themselves in a variety of new compensation models, including fixed salary, fee-for-services, and department leasing. Fixed salaries were the mainstay of compensation for physicians who were employed by a healthcare organization. A fixed salary often indicated that a physician held an employee status, but did not always reflect the level of effort put forth by the physician. This type of compensation was seen as cost-effective and promoted an employer-employee relationship in the late 20th century (Steinwald, 1983). Fee-for-service compensation was historically the cornerstone compensation models for private practice physicians and continues as the preferred compensation model for private practice today (Greene et al., 2014). This type of compensation offers a monetary incentive for seeing more patients, but does not offer an incentive for lowering cost and burden on the healthcare industry. Department leasing was primarily designed for specialty physicians. Under this mechanism, physicians leased a department from a hospital, which would pay for equipment and materials used by the physician. Additionally, the hospital organization was responsible for billing of services performed by the physician in the leased department (Steinwald, 1983).

The types of compensation for physicians has changed drastically since the dawn of medicine in the United States. These changes have been associated with the fluctuations in economic climate and a push to make medicine more profitable. The historical significance of compensation has been a direct reflection on the healthcare market in the United States, as it continues to be today.

Insurance Effects on Compensation

Following the rise of managed care in the 1990s, the compensation of physicians changed dramatically, especially affecting the compensation of physicians in primary care. According to Ginsburg (2003), managed care has resulted in an environment that makes compensation for primary care physicians more difficult. In an attempt to keep costs relatively low for the consumer, insurance companies have contracted with certain physicians to provide medical services at a lower cost than they would otherwise charge. In exchange for the lowered price offered by the physicians, the insurance companies allow physicians access to their patient population (Ginsburg, 2003). Primary care providers have been those primarily affected by managed care because they are responsible for the management of chronic illness and are the gatekeepers of specialized services (Ginsburg, 2003). While patients do have some autonomy in choosing a specialty care provider, managed care dictates that said provider must be in-network in order for the patient to receive the insurance benefit (Ginsburg, 2003). Insurance companies have continued to look for novel compensation models that are beneficial to both the themselves and the physicians involved in the managed care organization.

Capitation is one model by which insurance has affected compensation of physicians. Under this model, primary care physicians are paid a per-person-per-month

(PPPM) fee that aims to cover any costs that the physician may encounter in caring for their patient population. Capitation allows the physician a certain amount of autonomy over their funds to spend as they deem necessary to continue to provide their services (Berenson & Rich, 2010). By paying physicians a set rate for each enrollee, the physician is allowed to be compensated for services that were not previously billable under FFS. For example, management of a patient via electronic communication is not usually billable under FFS, but capitation allows the physician flexibility to be compensated for time spend on electronic communication (Ginsburg, 2003). Many physicians have found this type of compensation unsatisfactory in the past due to its similarities to a fixed salary (Ginsburg, 2003). A prominent problem with capitation is that the PPPM amount is often not sufficient to cover the costs incurred (Berenson & Rich, 2010). This leads to physician dissatisfaction and the desire to unnecessarily refer patients to specialty rather than manage the care in the primary clinic (Berenson & Rich, 2010). Physicians found that capitation did not adequately reflect the work that they performed and was not a motivator for continued advances in practice (Lee & Butler, 1974). Other critics of this mechanism have argued that capitation encourages only the minimum basic care, resulting in the primary care physician transferring patients to specialists rather than attempting to manage the patients themselves (Berenson & Rich, 2010). As Berenson and Rich (2010) point out, "[u]nder this scenario, instead of promoting access, continuity, and comprehensive care, capitation often had the perverse effect of 'ping-ponging' patients" (p. 615).

Managed care and capitation tend to affect healthcare organizations and private practices immensely (Berenson & Rich, 2010). However, the compensation models of

the individual physicians are affected more by the economic climate and quality of care goals of the organization than by managed care (Devlin & Sarma, 2008; Quella, Brock, & Hooker, 2015). While managed care and capitation are still prevalent today, a variety of other compensation models have recently been implemented and are gaining popularity (Quella et al., 2015).

Most Common Compensation Models Today

Compensation amounts have risen much more quickly than the inflation rate in recent years. This disconnect with the state of the economy is seen as unfavorable by insurance companies (Quella et al., 2015). There is a greater need for healthcare than ever before, but insurance companies are still trying to keep their profit margins large, leading to an increased demand for cheaper options because physicians demand such high compensation (Quella et al., 2015). This economic environment has led to an explosion of advanced practice providers into the market and, understandably, compensation models have morphed to incorporate this influx and address the compensation differences between physicians and advance practice providers (Zorn, Snyder, & Satterblom, 2009).

Most compensation models today fall under one of three categories: fee-for-service (FFS), fixed salaries, and pay for performance (P4P) (Greene et al., 2014). Some models are considered more favorable than others due to the focus on quality of care (Greene et al., 2014). The compensation models most widely implemented presently incorporate motivation for quality care rather than just financial gain (Delvin & Sarma, 2008). With the shift in focus of healthcare on quality care, compensation has followed suit.

Fee-for-service models are those in which providers receive a fixed fee for each service provided to their patient. These models are not considered to be very effective with quality of care measures because each service rendered receives payment, regardless of the outcome of the patient (Bokhour et al., 2006). Fee-for-service may have been the preferred compensation model for such a long period of time due to how the organizations view their providers (Bokhour et al., 2006). "[P]ractice executives [...] view physicians as highly professional; that is, motivated by a professional ethos to do good work and perhaps even insulted by the implications that external review mechanisms are necessary to encourage them to do this quality work" (Bokhour et al., 2006, p.91S-92S).

The main goal of fixed salary compensation is to remove any incentives for pay. Fixed salary compensation would hypothetically allow the physician to act without thought for their own interests, but with regard to the patient's well-being only. However, critics of fixed salaries have argued that a lack of incentives allows physicians to neglect their work (Berenson & Rich, 2010). Alternatively, there several advantages to a fixed salary model. Olson (2012) states that fixed salary models are easy to incorporate and afford a sense of financial security by providing a predictable income. Additionally, a fixed salary model encourages a more modest approach to patient care as the physician will have no financial gain by over-utilizing diagnostic tools and treatment (Olson, 2012).

Pay for performance is a relatively new compensation model that "involves the use of marginal financial incentives to reward (or penalize) clinicians and other providers for meeting (or failing to meet) predetermined performance goals as reflected in specific

performance measures" (Berenson & Rich, 2010, p. 616). The main problem with this compensation model is the implementation of the compensation model in a given organization, namely the difficulty of identifying and measuring performance goals (Berenson & Rich, 2010). Quality of care measures are common to all P4P programs. The remaining measures, such as patient experience, mortality, and health outcomes, are determined by the organization, depending on what the organization deems important to their mission (Eijkenaar, 2012; Khullar, Kocher, Conway, & Rajkumar, 2015).

While quality of care measures can be incentivized, they can also be penalized, as noted in the Berenson and Rich (2010) definition of P4P. Eijkenaar (2012) also explains that, while not common, some P4P compensation models have penalties in place that allow the organization to mitigate costs of bonuses for achieving quality measures by financially docking poor performers. In order to avoid undeserved penalties, some P4P models take into account that patients with multiple comorbidities may have higher risk factors for other conditions, and therefore worse outcomes, as a result of their disease states (Eijkenaar, 2012). The patients with multiple comorbidities have a different value in the calculation of quality measure achievements so that providers who see mainly these patients will not be unfairly penalized (Eijkenaar, 2012).

Bokhour et al. (2006) addressed the impressions of practice executives who use P4P in their practices. The researchers note that practice executives are concerned with the quality measures of P4P mechanisms being meaningful to the physicians working under the mechanism (Bokhour et al., 2006). They also note that P4Ps are sometimes perceived as "unfair" by the physicians (Bokhour et al., 2006 p. 77S). The results of the

study by Bokhour et al. (2006) showed four different ways that the incentive money was dispersed: equally between primary care providers, dependent on physician performance related to quality targets, based on an internal rating system, or fully retained by the organization. Other research has indicated that the majority of physicians prefer clinic-level quality control incentives rather than individual incentives (Eijkenaar, 2010; Green, Kurtzman, Hibbard, & Overton, 2015).

The study by Khullar et al. (2015) provides the most current information available on compensation models that are employed today. This study details the physician compensation models of the top ten health care systems in the United States. Khullar, et. al (2015), found that three major healthcare systems pay a fixed salary alone, and only half of the sampled systems pay a productivity-adjusted salary. The organization of these productivity-adjusted salaries varies greatly in three distinct areas: quality measures, percentage of compensation that is unpredictable, and how the incentives are distributed (Khullar, Kocher, Conway, & Rajkumar, 2015).

Advanced Practice Providers

Little research is available concerning the ways in which advanced practice providers are compensated. In the study by Buerhaus, DesRoches, Dittus, and Donelan (2014), the compensation models of primary care nurse practitioners and primary care physicians in the United States were examined by using a mail survey. The results found that twice the number of primary care nurse practitioners were paid a fixed salary as compared to primary care physicians. The researchers noted that "only a handful of primary care nurse practitioners have their salary adjusted for productivity and quality performance" (Buerhaus et al., 2014, p. 144). In addition to this research, professional

organizations, such as the national professional association for PA's, the AAPA, have attempted to collect data on PA salaries.

The AAPA produces an annual report describing the salary and wages of physician assistants across the nation. The annual wages and salaries of PAs are reported via survey results of AAPA members. Currently, physician assistants in primary care in the Midwest make a median annual salary of $91,700 (American Academy of Physician Assistants, 2015). This data from the AAPA however does not reflect the current compensation models of physician assistants in the United States, merely the dollar amount of compensation.

To our knowledge, no data has ever been collected on the compensation models of PAs in the United States. Thus, a study such as ours provides unique information that is lacking in the area of PA compensation.

Conclusion

The historical complexity of healthcare economics in the United States has contributed heavily to the compensation models that are employed today. The most recent mechanism is P4P. This mechanism has stirred much discussion as to both the design and how the P4P mechanism is perceived by physicians. Despite the abundance of material examining the compensation models of physicians, no known information regarding the compensation models of PAs is available in the literature. This study seeks to add research to the area of health economics regarding compensation models of PAs.

CHAPTER 3: METHODOLOGY

Introduction

The purpose of this study was to characterize the compensation models of PAs in the seven county Twin Cities metro area. The counties of study included Anoka, Hennepin, Ramsey, Carver, Scott, Dakota, and Washington. The research characterized county of practice, specialty of practice, employment status, number of years in practice, payment model, facility of employment, and annual compensation of the participants. The questions addressed in this study were:

1. What compensation model was the most commonly used model for PAs in the Twin Cities?
2. What effect, if any, did compensation models have on physician assistant job satisfaction?

The remainder of this chapter will cover study design and procedure, participants, validity and reliability, anticipated limitations and delimitations, data analysis, and data dispensation.

Study Design and Procedure

This study was an observational, prospective, quantitative, pilot study. Data was obtained via administration of the online survey tool Qualtrics. Since no recorded surveys relevant to our research questions were available, a survey was developed by the researchers to investigate the current compensation models among PAs in the seven county Twin Cities metro area including the counties of Anoka, Ramsey, Hennepin, Dakota, Scott, Carver, and Washington (Appendix A). Information collected included practice setting, specialty, employment status, years of practice, compensation model,

total annual compensation, and satisfaction with compensation model. The study was submitted for approval by Bethel University's Institutional Review Board (IRB).

The survey was emailed to the selected participants in July 2016. The email contained information about the study, including informed consent, and instructions with a link to the survey. This email informed participants of the purpose of the study, the researchers' affiliation with Bethel University, and the participant's voluntary involvement in this research. No identifying information on participants was collected by the survey, thus protecting participant confidentiality (Appendix B).

The participants had a total of one month to complete the survey. A reminder email was sent two weeks from the original email date (Appendix C).

Participants

Physician assistants, both male and female, in the Twin Cities area who were affiliated with Bethel University as guest lecturers, preceptors, or graduates of the program were contacted to participate in the study. They were from a variety of specialties and healthcare systems and had varying years in practice. Contact information for study participants was obtained from the Bethel University Physician Assistant Program Director (Appendix D). The number of individuals invited to participate was as follows: 14 new graduates, 24 guest lecturers, and 31 preceptors, for a total of 69 individuals. To maximize response rate to the study, only PAs affiliated in some way with the Bethel University's Physician Assistant program were contacted. Participants were contacted via email by an administrator in the Bethel University Physician Assistant program and the researchers did not have access to names or email addresses, further ensuring privacy and anonymity of participants. Due to past interactions with the

program, the researchers believed that these PAs were more amenable to participating in the research.

Validity and Reliability

Minimal published information regarding PA compensation models existed and few surveys were available with questions relevant to our research question. The survey designed for this study had never been used before and therefore the validity and reliability of the survey had not been established. To help assess validity and reliability of the survey, an expert panel reviewed the survey in advance. The panel consisted of three faculty members of the Bethel University Physician Assistant Program and one community physician assistant who are practicing physician assistants, representing a population similar to the intended study participants. This panel helped determine the understandability and readability of the survey and their feedback was considered in the finalization of the survey content.

Anticipated Limitations and Delimitations

Anticipated limitations to this study were as follows:

1. Low response rate to the survey. Low response rate may have result in statistically insignificant data.
2. Lack of access to internet services to complete the survey. Lack of access to internet services may have lowered the response rate due to inability to complete the survey.
3. Validity and reliability of the new survey tool had not been established. A novel survey tool may have result in invalid and/or unreliable data.

4. The study may have pulled from a variety of specialty practices. While surveying several specialties provides a broad view of the PA profession, compensation models may be standard in certain specialties that is not utilized in other specialties. Additionally, some specialties may not have been represented.

Anticipated delimitations to this study are as follows:

1. Focus on Twin Cities area only. The research was regional because it is a pilot study and the researchers were interested in a compensation models of the immediate area.
2. Participants were affiliated with Bethel University in some way. The researchers believed that this would increase response rates as stated previously.

Data Analysis

Upon completion of data collection via survey, the researchers statistically analyzed the data using statistical analysis software on Microsoft Excel. Since the study sought to categorize responses, counts and percentages were used to characterize the results of each individual question. In addition, a one-way analysis of variance (ANOVA) was performed to identify statistical significance between the satisfaction of PAs paid under each compensation model. The null hypothesis for this study was that there is a statistical significance in satisfaction of PAs paid under different compensation models. The alternate hypothesis was that there is no statistical significance in satisfaction of PAs paid under different compensation models. For the purposes of this study, a confidence interval of 95% ($p \leq 0.05$) was considered statistically significant.

Data Dispensation

During the study, the data was kept on a password-protected computer that was in the possession of the researchers. No identifying information of the participants was stored with the data. Only the researchers and the faculty committee chairperson had access to the data. Upon completion of the study, the data was transferred to a USB storage device and turned over to the Bethel University Physician Assistant program for secure storage for a minimum of five years.

Conclusion

The purpose of this study was to characterize the compensation models of PAs in the Twin Cities metro area. The study was conducted via an email survey tool sent to PAs affiliated with Bethel University's Physician Assistant program in June 2016. The following chapter will present the data collected and analysis that was performed.

CHAPTER 4: RESULTS

Review

The purpose of this study was to characterize the compensation models of PAs in the seven county Twin Cities metro area, addressing questions about types of compensation models in use and PA satisfaction related to those models. The research characterized county of practice, specialty of practice, employment status, number of years in practice, payment model, facility of employment, and annual compensation of the participants. The remainder of this chapter will include data presentation and analysis from data collected by an online survey sent to study participants in July 2016.

Counts and Percentages

At the time that the online survey was closed on July 31, 2016, a total of 38 respondents were recorded from 69 invited participants. After the completion of the survey, one participant was excluded due to choosing "retired/not currently practicing," which was disallowed by this study design, resulting in a final total of 37 participants. This final count gave a response rate of 54%. Thirty-two (86.5%) of respondents were full-time employees, while the remaining five (13.5%) were part-time.

The respondents of the study were all practicing in the seven-county metro area of the Twin Cities in Minnesota. If the prospective study participant did not practice in one of these seven counties, they were unable to complete the remainder of the survey. Twenty (52.6%) of the respondents were from Hennepin county and eleven (28.9%) respondents were from Ramsey county. There were zero respondents from Carver and Scott counties. See Table 1 for data regarding county of practice.

Table 1

County of practice for PAs in the Twin Cities metro

County	Count	Percentage
Anoka	2	5.3
Carver	0	0.0
Dakota	2	5.3
Hennepin	20	52.6
Ramsey	11	28.9
Scott	0	0.0
Washington	3	7.9
Total	38	

Participants were also asked to choose their practice setting (Table 2). Participants were instructed to choose all applicable answers, leading to a count of 58 responses for this question. An option was included for "retired/not currently practicing" and any participant that chose this answer was not able to continue with the survey. Over half of the respondents worked in a clinic (37.9%) or a hospital setting (27.6%).

Table 2

Practice setting for PAs in the Twin Cities metro

Setting	Count	Percentage
Clinic	22	37.9
Community Health Center	2	3.4
Hospital (not ED)	16	27.6
Hospital ED	3	5.2
On-Call	4	6.9
Physician Private Practice	7	12.1
Urgent Care	4	6.9
Other	0	0.0
Total	58	

Participants were also asked in which specialty they currently practice as outlined in Table 3. One participant was excluded from the study after this question, as they chose "retired/not currently practicing," which was disallowed by this study design. This question had 37 responses. Respondents who chose "Other" were asked to indicate their specialty in a free-form text box, though not all 11 respondents provided an answer. The recorded responses were: allergy, hematology/oncology, otolaryngology, rheumatology, gastroenterology, pain medicine, urology, general surgery, orthopedics-spine, and plastic surgery.

Table 3

Practice specialties for PAs in the Twin Cities metro

County	Count	Percentage
Cardiology	1	2.7
Dermatology	1	2.7
Emergency Department	2	5.4
Family Medicine	6	16.2
Internal Medicine	2	5.4
Neurology	1	2.7
OB/GYN	0	0.0
Oncology	1	2.7
Orthopedics	7	18.9
Pediatrics	0	0.0
Psychiatry	2	5.4
Urgent Care	3	8.1
Other	11	29.7
Total	37	

Data on the study participants' years in practice, compensation model, and annual compensation was collected and is displayed below in Figures 1-3. The median years in practice was 6-10 years. Over half of the respondents (62%) were paid by salary and over half (70%) were paid more than $100,000 annually. Respondents that chose "Mixed Model" for their compensation model were asked to indicate their specialty in a free-form text box. The recorded responses were: "salary plus % over productivity threshold,"

"base salary plus overtime above 44 hours," "30% base 70% production," and "90% base + 10% productivity."

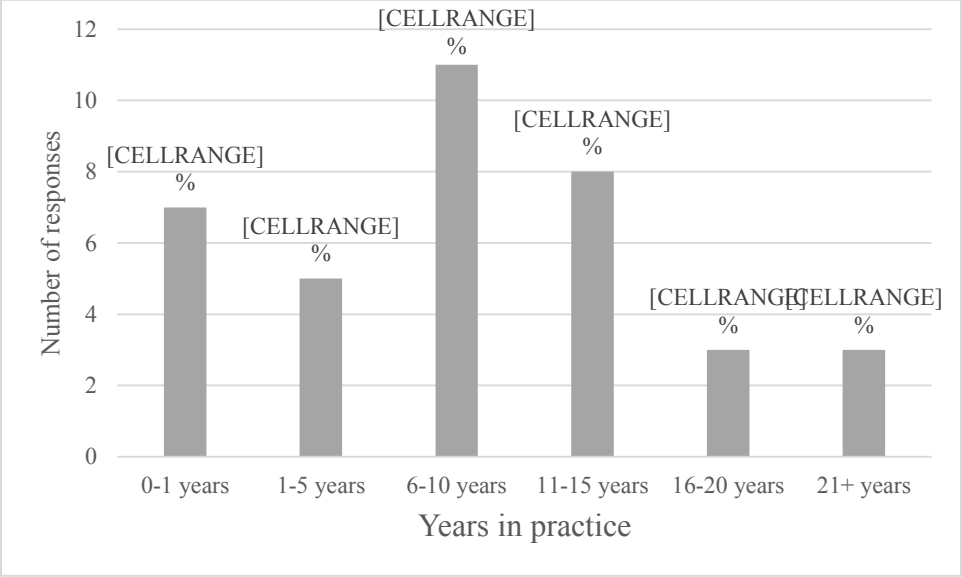

Figure 1. Number of years in practice. This figure demonstrates the both the numerical count and percentage of the PA participants' years in practice.

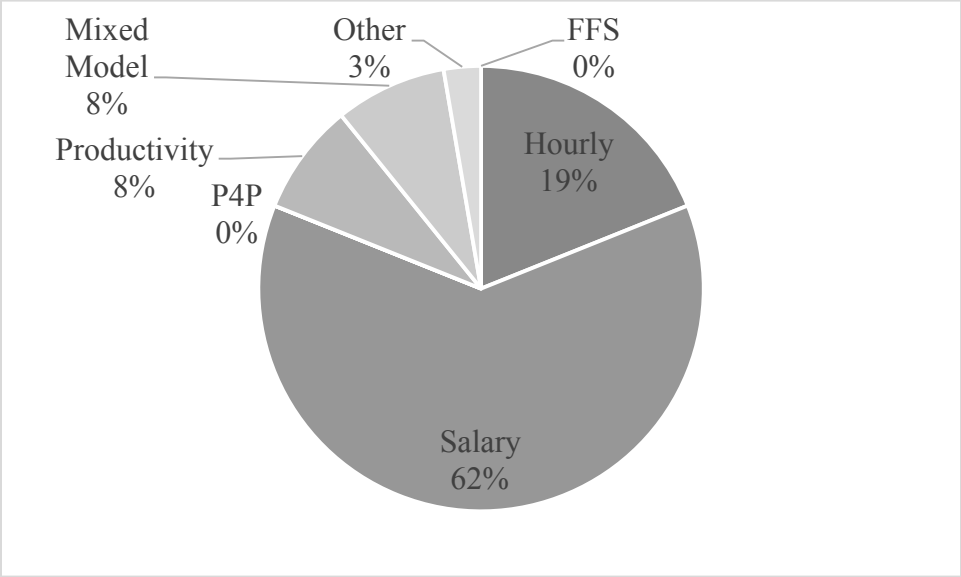

Figure 2. Compensation models. Percentages of reported compensation models for PAs practicing in the Twin Cities metro. No responses were recorded for FFS or P4P.

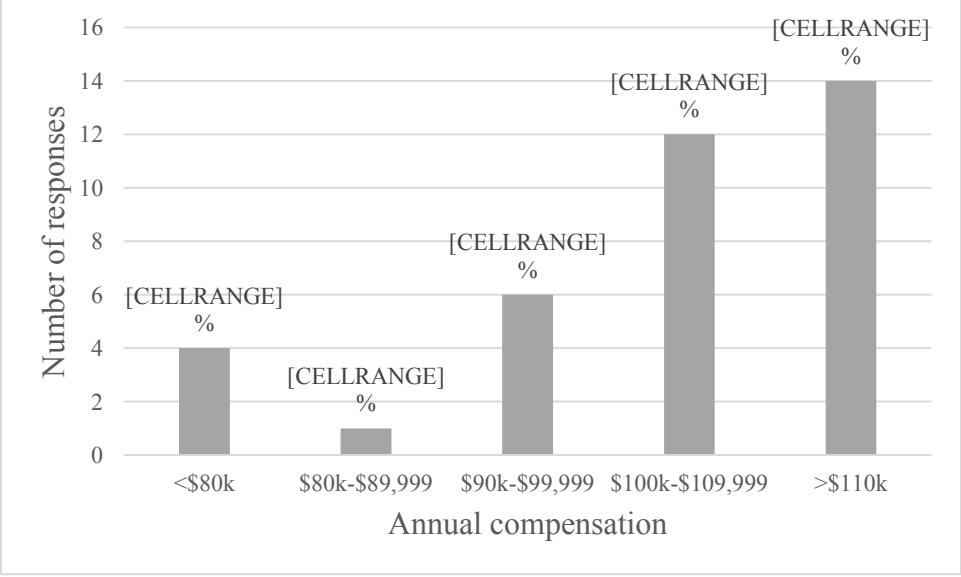

Figure 3. Annual compensation amount. This figure demonstrates the both the numerical count and percentage of the PA participants' annual compensation.

Compensation Models and Satisfaction

The last question of the survey was designed for the participants to rate their level of satisfaction with their compensation model. They were asked to rate their level of satisfaction on a 5-point scale from "Very Satisfied" to "Very Dissatisfied." Figure 4 shows that the respondents were overwhelmingly "Satisfied" or "Very Satisfied" with their compensation model (92%).

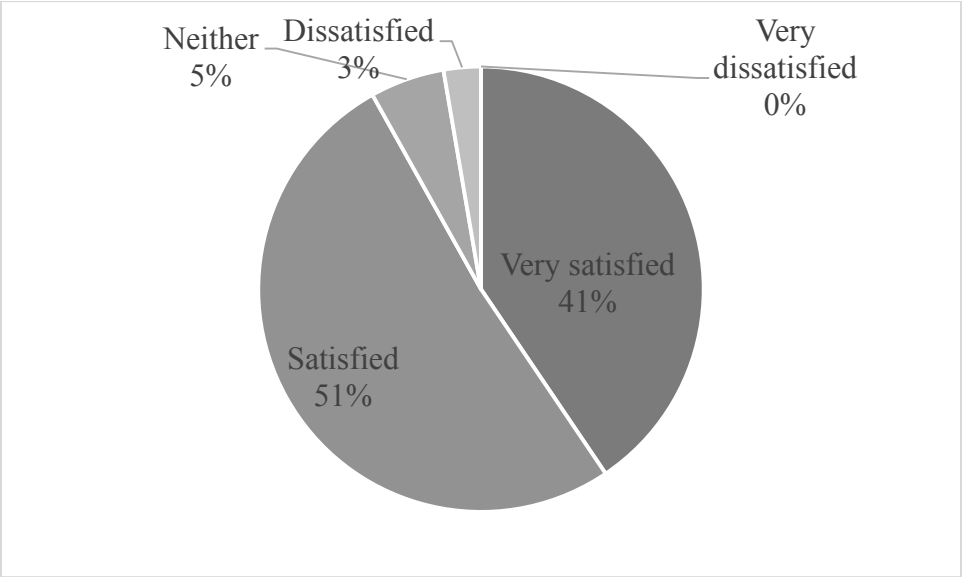

Figure 4. Satisfaction of compensation models. Percentages of reported satisfaction of compensation models for PAs practicing in the Twin Cities metro. No responses were recorded for "very dissatisfied."

Statistical Analysis

A one-way ANOVA test (Table 4) was performed to test the null hypothesis: there is a statistical significance in satisfaction of PAs paid under different compensation models. A confidence interval of 95% was used. There was no statistical significance

between PA satisfaction and compensation model ($p>0.05$). Therefore, the null hypothesis was rejected and the alternate hypothesis was accepted.

Table 4

One-Way Analysis of Variance of PA Satisfaction by Compensation Model

Source	*df*	*SS*	*MS*	*F*	*P*
Between groups	4	0.88	0.22	0.43	0.79
Within groups	33	16.93	0.51		
Total	37	17.82			

Conclusion

Analysis of the collected data revealed that a majority of PAs in the Twin Cities are paid by salary and that a majority of the same population is satisfied or very satisfied with their current compensation model. Chapter 5 discusses the findings of this study in detail, including how the data answered the research questions, limitations to the study, and recommendations for future research.

CHAPTER 5: DISCUSSION

Introduction

In this chapter, the findings of this study are discussed. The following will also include an exploration of the limitations encountered during this study, recommendations for improvement of the study including study design, methods, and data collections, ideas for future research opportunities, and lastly a detailed conclusion to the data analysis and study findings.

Discussion of Findings

The goal of this study was to answer the original research questions:

1. What compensation model was the most commonly used model for PAs in the Twin Cities?
2. What effect, if any, did compensation models have on physician assistant job satisfaction?

Much of the data collected during this study was used to demonstrate demographics of PAs practicing in the Twin Cities area. The data collected, along with the compensation model and related satisfaction, included: county of practice, specialty of practice, employment status, number of years of practice, facility of employment, and annual compensation of the participant.

The seven-county metro area in Minnesota is comprised of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties. The majority of the participants were practicing in Hennepin county (52.6%) and Ramsey county (28.9%). These two counties are the most densely populated of the seven counties surveyed, so this

was not an unexpected finding (United States Census Bureau). No responses were recorded from either Washington or Carver county.

Practice setting and specialty were also characterized by the data. The responses regarding practice setting showed that the largest amount of the participants practice in a clinic setting (37.9%). Of the specialties listed on the survey, the answer that received the most responses was "other," indicating that their specialty was not listed. Of the answers in the free text box, all were practicing in specialties that would not generally be considered primary care, as defined by the American Academy of Family Physicians (2017). Orthopedics was the second largest group, followed by family medicine. While we were unable to discover why there was such a large percentage of providers working in orthopedics, we hypothesize that orthopedic providers are in much higher demand due to the aging population and it's need for procedures such as knee and hip replacements. The high percentage of providers in family medicine was an expected outcome as many PAs are trained as generalists and are projected to increasingly fill positions in primary care (Bureau of Labor Statistics, 2016).

Question 6 of the survey served to answer the first research question of which compensation model was most common among PAs in the Twin Cities area. Of the 37 respondents, 62% were paid by salary, 19% hourly, 8% productivity, and 8% mixed model. A total of 3% of the respondents selected the other category and none of the respondents were paid on a P4P or a FFS model. A majority of physician assistants in the Twin Cities area were paid by the salary compensation model without any type of production or hourly compensation. This was an unexpected finding as a high percentage of respondents were working in specialty or subspecialty settings and the literature

review revealed it was more likely that a specialty physician would be paid on a production or P4P type compensation model (Mobley & Turcotte, 2010). Additionally, Olson (2012) noted that with the rise in focus of quality of care measures, fixed salaries have fallen out of favor. However, the most recent study concerning physician compensation models found that three major healthcare systems pay a fixed salary alone, and only half of the sampled systems pay a productivity-adjusted salary (Khullar, et. al, 2015). Another study by Buerhaus, DesRoches, Dittus, and Donelan (2014) found that twice the number of primary care nurse practitioners were paid a fixed salary as compared to primary care physicians. The findings from this question indicate that PA compensation is more closely aligned with nurse practitioners than with physicians.

The finding that none of the respondents were paid on a P4P model was somewhat unexpected as the literature review indicated the P4P model is being more widely utilized today (Mobley & Turcotte, 2010). However, the literature review also revealed that many providers are dissatisfied with P4P because of the complexity of these models and the pressure to perform to meet financial goals rather than for the health of the patient (Greene et al., 2014). The finding that none of the respondents were paid on an FFS model was to be expected, as this model has fallen out of favor today due to its lack of focus on the patient and quality of care measures (Greene et al., 2014).

Overall, the data of this study showed that PAs in the Twin Cities area were satisfied (51%) or very satisfied (41%) with their current compensation model. This was likely due to the large number of respondents having several years of experience with a large number of respondents having practiced for greater than 6 years. It is likely that respondents were more comfortable with their current compensation model having had

experiences in the past with other models or having accepted this type of model upon starting employment in their current setting.

In answering the second research question, a one-way ANOVA test showed that satisfaction is not correlated with a particular compensation model and no statistical significance exists between PA compensation models and associated satisfaction. If the data had been statistically significant, it would have been helpful to compare this to the Halvorse, Steinert, & Aaraas (2012) study that showed a third of general practitioners (GPs) in Norway would prefer a different remuneration scheme to the one under which they are currently paid. However, this was a drastically different study population and design, so it would be difficult to draw conclusions between the two studies.

Limitations

All of the anticipated limitations listed in Chapter 3 were encountered during this study. The most notable limitation to this study was the size of the sample study. Compared to other studies of compensation, a sample size of 37 was relatively small. This small sample size, while being appropriate for a pilot study, may have proven to be too small to determine if there was, indeed, any statistical significance in our data. We suspect that, had the sample size been larger, there may have been a different outcome to the study. This small sample size was somewhat self-imposed, as we self-limited our respondents to include only PAs affiliated with Bethel University, hoping for a better response rate. A larger group and more participants would have potentially given a better view of PAs within other specialties as well as a larger population to study.

Another limitation was the geographic limitation to the originally designed study. Surveying only Twin Cities PAs only revealed data on a specific population in a specific

geographical location. Surveying from a larger population may have given a better glance at the PA profession as a whole, rather than only a single region in Minnesota.

Using an email generated survey instrument was another possible limitation to this study. It is possible that providers did not check their email or simply did not respond to emails aimed at collecting data. A more direct approach to collecting data, such as in person surveys or over-the-phone questionnaires, may have yielded more responses. Notwithstanding the information above, an electronic survey instrument was the most feasible option to the researchers regarding ease of data collection, time restraints, and confidentiality.

A lack of research in this topic may have also limited the effectiveness of this study. Data collected prior may have aided the researchers in creating a more efficient survey tool as well as helped to select a group of participants that would yield the most data. Due to the lack of pre-existing studies in the area of PA compensation models and satisfaction, a novel survey tool was used. While that tool was refined based on feedback from an expert panel of practicing PAs in the Twin Cities, it had not been used in prior studies and therefore could not be considered entirely valid or reliable.

Recommendations

As stated above, study groups of a larger size would likely yield more data as survey response would likely be higher and a more diverse group would be surveyed. Including data from populations outside of the Twin Cities area, including rural regions within Minnesota and/or populations on the national scale, would provide a more accurate description of the type of compensation model most widely utilized by PAs at large.

Future research into this topic could include the recommendation of a larger population size, a more diverse geographic area, and a more accessible survey tool. Future researchers may be interested in comparing and contrasting the results to the results of this study to gain a better understanding of PA compensation models. Additional research in this area would be beneficial to the PA community and would aid in confirming the reliability of the results of this study.

Conclusion

The purpose of this study was to answer the research questions regarding which compensation model is most widely used among physician assistants in the Twin Cities area and what effect, if any, does the compensation model have on the satisfaction of the physician assistant. This pilot study utilized a novel survey instrument created by the researchers to answer the research questions. The untested survey instrument was without validity and reliability related to other studies. That being said, the research questions were answered with a sufficient population size considering the email format of the survey instrument. The intention of the results of this study was to inform the PA community of the current compensation models being utilized by PAs in the Twin Cities. The results of this study indicated that the salary compensation model is most widely utilized and that the PAs surveyed are overwhelmingly satisfied with their current compensation model. Further research into this topic should consider this study's limitations and recommendations to expand upon the research questions to benefit the PA community regarding compensation models. A larger population size as well as a larger geographical area could be beneficial to future researchers in better characterizing PA

compensation models and their related satisfaction. Future research into PA compensation models may better equip PAs for future employment.

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Appendix A

Survey

PA Compensation Research Survey

1. In which county do you primarily practice?
    a. Anoka
    b. Carver
    c. Dakota
    d. Hennepin
    e. Ramsey
    f. Scott
    g. Washington
    h. Other

2. In which setting do you practice? Choose all that apply.
    a. Clinic
    b. Community health center
    c. Hospital (not emergency department)
    d. Hospital emergency department
    e. On-call
    f. Physician private practice
    g. Retired/Not currently practicing (disqualified)
    h. Urgent care
    i. Other: _____

3. What is your current specialty?
    a. Cardiology
    b. Dermatology
    c. Emergency medicine
    d. Family medicine
    e. Internal medicine
    f. Neurology
    g. OB/GYN
    h. Oncology
    i. Orthopedics
    j. Pediatrics
    k. Psychiatry
    l. Urgent care
    m. Other:_____

4. What is your current employment status?
    a. Full-time (≥0.75 FTE)
    b. Part-time (<0.75 FTE)

5. How many total years have you been in practice?
    a. 0-1 year
    b. 1-5 years
    c. 6-10 years
    d. 11-15 years
    e. 16-20 years
    f. 21+ years

6. Under which of the following compensation models are you currently paid by your primary employment?
    a. Fee for Service (definition: payment per patient visit, tests ordered, or procedures)
    b. Hourly
    c. Salary
    d. Pay for performance (definition: payment earned by qualifying criteria such as quality of care)
    e. Productivity (definition: paid a percentage of billings or paid by visit type and/or procedures performed)
    f. Mixed model
    g. Other: _____

7. If you selected "f. Mixed model" for the previous question, please describe below (ex: 80% base salary + 20% productivity):

    _____

8. What is your current total gross annual compensation amount?
    a. < $80,000
    b. $80,000-$89,999
    c. $90,000-$99,999
    d. $100,000-$109,000
    e. > $110,000

9. How satisfied are you with your current compensation model?
    a. 5 – Very satisfied
    b. 4 – Satisfied
    c. 3 – Neither satisfied nor dissatisfied
    d. 2 – Dissatisfied
    e. 1 – Very dissatisfied

Thank you for your participation!

Appendix B

Informed consent

PA Compensation Research Participation Informed Consent

July 1, 2016

Dear Participant:

You are invited to participate in this study regarding compensation models for physician assistants in the Twin Cities. This study aims to characterize compensation models for physician assistants to better understand job market norms. This study has been developed by and will be conducted by students from Bethel University in partial fulfillment of their Masters of Physician Assistant. This study has been approved by Bethel University's Institutional Review Board for Research with Humans.

Your participation in the study will consist of a 9 question electronic survey. The survey should take no longer than 5 minutes to complete.

The survey collects no identifying information of any respondent. All responses will be kept anonymous and reported only as a collected combined total.

Your participation in this study is completely voluntary. You will not receive any reward or compensation for participation, nor will you receive any penalty. Participation in this study will in no way affect your relationship with neither Bethel University nor your primary employer.

Should you have any questions or concerns regarding the study, please contact the research committee chair, Dr. Wallace Boeve, at w-boeve@bethel.edu, or the researchers, Kayli Piechowski (kaf24549@bethel.edu) and Alannah Pratt (a-pratt@bethel.edu).

By continuing with this survey, you are indicating your consent to participate in the study. Your participation is appreciated.

Please click on the survey link below and provide us with your feedback no later than July 31, 2016.

https://bethel.qualtrics.com/SE/?SID=SV_bwQBMsCj792MX3f

Thank you,

Kayli Piechowski & Alannah Pratt
Bethel University Graduate PA Students

Appendix C

Reminder email

Reminder Email

July 15, 2016

Dear physician assistant:

You were sent an invitation by email to participate in our research project regarding physician assistant compensation models in the Twin Cities. This study aims to characterize compensation models for physician assistants to better understand job market norms. This study has been developed by and will be conducted by students from Bethel University in partial fulfillment of their Masters of Physician Assistant. This study has been approved by Bethel University's Institutional Review Board for Research with Humans.

Your participation in the study will consist of an 9 question electronic survey. The survey should take no longer than 5 minutes to complete.

The survey collects no identifying information of any respondent. All responses will be kept anonymous and reported only as a collected combined total.

Your participation in this study is completely voluntary. You will not receive any reward or compensation for participation, nor will you receive any penalty. Participation in this study will in no way affect your relationship with neither Bethel University nor your primary employer.

Should you have any questions or concerns regarding the study, please contact the research committee chair, Dr. Wallace Boeve, at w-boeve@bethel.edu, or the researchers, Kayli Piechowski (kaf24549@bethel.edu) and Alannah Pratt (a-pratt@bethel.edu).

By continuing with this survey, you are indicating your consent to participate in the study. Your participation is appreciated.

The survey will be closed after July 31, 2016. Your participation is appreciated. If you have not already completed the survey, please take a moment to fill it out by following the link below.

https://bethel.qualtrics.com/SE/?SID=SV_bwQBMsCj792MX3f

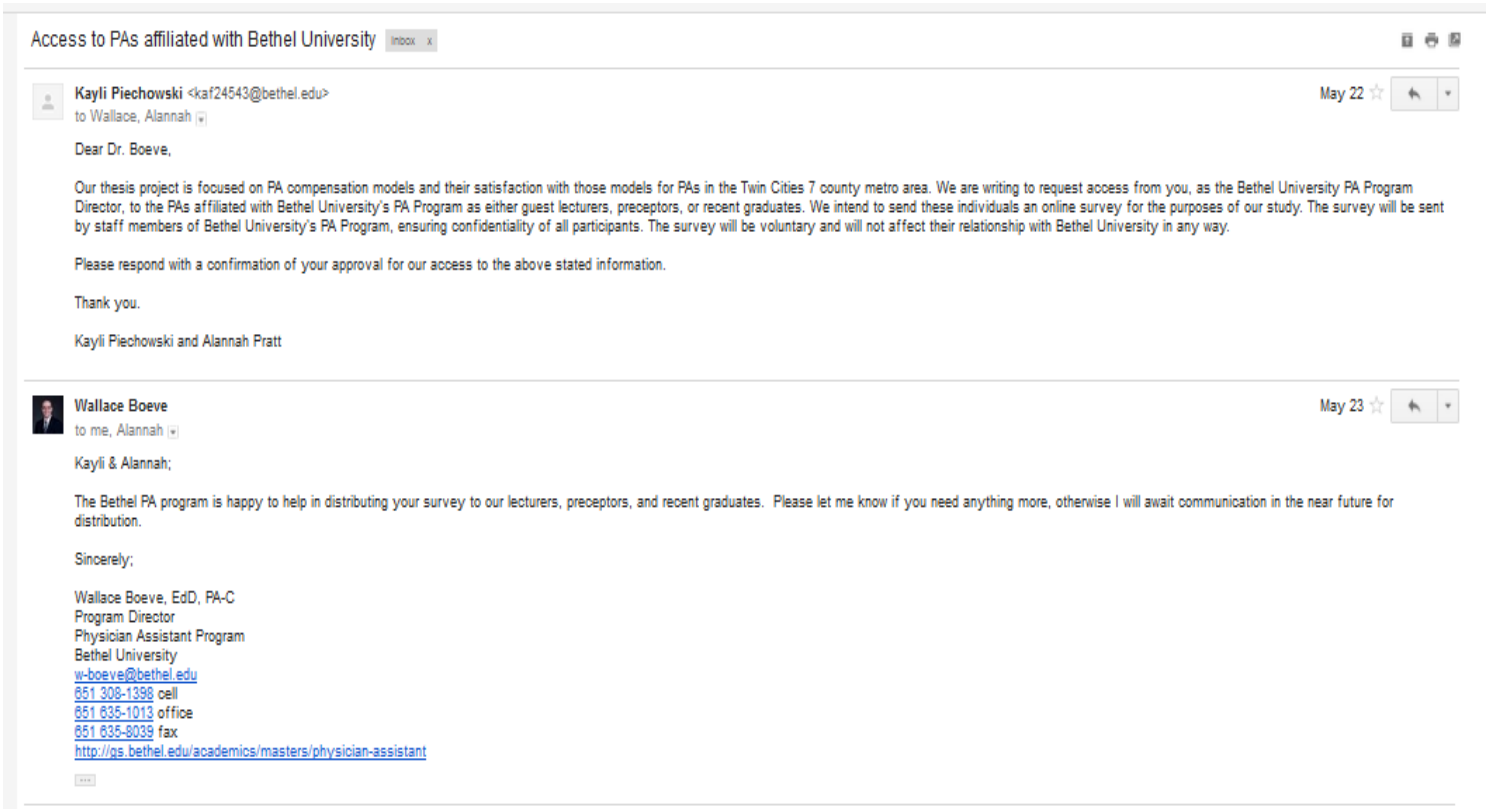
Thank you for your time.

Sincerely,

Kayli Piechowski & Alannah Pratt
Bethel University Graduate PA Students

Appendix D

Participant access approval



Access to PAs affiliated with Bethel University Inbox x

Kayli Piechowski <kaf24543@bethel.edu> May 22
to Wallace, Alannah

Dear Dr. Boeve,

Our thesis project is focused on PA compensation models and their satisfaction with those models for PAs in the Twin Cities 7 county metro area. We are writing to request access from you, as the Bethel University PA Program Director, to the PAs affiliated with Bethel University's PA Program as either guest lecturers, preceptors, or recent graduates. We intend to send these individuals an online survey for the purposes of our study. The survey will be sent by staff members of Bethel University's PA Program, ensuring confidentiality of all participants. The survey will be voluntary and will not affect their relationship with Bethel University in any way.

Please respond with a confirmation of your approval for our access to the above stated information.

Thank you.

Kayli Piechowski and Alannah Pratt

Wallace Boeve May 23
to me, Alannah

Kayli & Alannah;

The Bethel PA program is happy to help in distributing your survey to our lecturers, preceptors, and recent graduates. Please let me know if you need anything more, otherwise I will await communication in the near future for distribution.

Sincerely;

Wallace Boeve, EdD, PA-C
Program Director
Physician Assistant Program
Bethel University
w-boeve@bethel.edu
651 308-1398 cell
651 635-1013 office
651 635-8039 fax
http://gs.bethel.edu/academics/masters/physician-assistant

Appendix E

IRB approval

Wallace Boeve <w-boeve@bethel.edu> 6/16/16

to Alannah, Kayli, Lisa, Peter

June 16, 2016

Alannah & Kayli;

As granted by the Bethel University Human Subjects committee as the program director, I write this letter to you in approval of Level 3 Bethel IRB of your project entitled: "PA Compensation Models in the Twin Cities." This approval is good for one year from today's date. You may proceed with data collection and analysis. Please let me know if you have any questions.

Sincerely;

Wallace Boeve, EdD, PA-C
Program Director
Physician Assistant Program
Bethel University
w-boeve@bethel.edu
651 308-1398 cell
651 635-1013 office
651 635-8039 fax
http://gs.bethel.edu/academics/masters/physician-assistant

CC: Bethel IRB Chair
Faculty Chair Advisor
PA Program Research Coordinator