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Career Satisfaction of Physicians Employed by Health Systems

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CAREER SATISFACTION OF PHYSICIANS EMPLOYED BY HEALTH SYSTEMS

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ABSTRACT

Background: Higher career satisfaction has been shown to result in better patient outcomes, higher patient satisfaction and less turnover among physicians. The purpose of this study is to examine the relationship between physician employment and career satisfaction.

Methods: Data from the Center for Studying Health System Change (HSC) 2008 Health Tracking Physician Survey was used in the study. The study is a cross sectional, quantitative study of the relationship between physician employment and career satisfaction. A total of 4,720 respondents responded to the survey, with a weighted response rate of 61.9%. An ordinal logistic regression was used to examine the study relationships while; controlling for other physician and practice characteristics. Following the main analysis, a subgroup analysis was used to assess whether the relationship between employment and career satisfaction differed by gender and compensation arrangement (i.e. fixed salary versus incentive based).

Results: The study found no significant association between employment and career satisfaction. When controlling for physician characteristics, only length of time in practice was significantly associated with career satisfaction. The study found no significant association between employment and career satisfaction when comparing

physicians by gender. The study found no significant association between employment and career satisfaction when comparing physicians that were on a fixed salary and those that had an incentive based compensation arrangement.

Conclusions: The study found no association between employment and career satisfaction. The null/nonsignificant results at least suggest that employment of physicians may not result in lower levels of satisfaction.

Keywords: Physician Employment, Career Satisfaction

DEDICATION

I wish to dedicate this doctoral dissertation to my wife (Lisa) and my daughter (Avery) and thank them for their love and support during this process.

I would also like to thank my parents for teaching me about unconditional love.

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LIST OF ABBREVIATIONS

ACA	Affordable Care Act
ACO	Accountable Care Organization
AHA	American Hospital Association
AMA	American Medical Association
CIHI	Canadian Institute for Health Information
CSC	Center for Studying Health System Change
EMR	Electronic Medical Records
HSC	Health System Change
HMO	Health Maintenance Organization
HTPS	Health Tracking Physician Survey
IPAB	Independent Payment Advisory Board
NHS	National Health Service
PCP	Primary Care Provider
PHO	Physician Hospital Organization
PCORI	Patient Centered Outcomes Research Institute

CHAPTER 1

INTRODUCTION

Over the past several decades, research has demonstrated that physicians' satisfaction with their profession has declined (Williams & Skinner, 2003). A decrease in the overall morale of physicians has also been noted (Bogue, Guarneri, Reed, Bradley, & Hughes, 2006; Williams & Skinner, 2003; Zuger, 2004). Physicians' declining satisfaction with their careers is likely due to a confluence of changes in the delivery of healthcare including: changes in the political environment, general effects of health care reform still unknown, rapid advancement of technology, time pressures and increased financial risk. Factors often associated with career satisfaction in the practice of medicine are relationships with patients, prestige, quality of life, work control and balance, income, and collegiality.

The employment of physicians by hospitals and health systems may improve physician career satisfaction by providing relief from some of the aforementioned regulatory and financial burdens. Physicians are increasingly seeking shelter from rising costs, uncertain reimbursement, ballooning overhead expenses and increased regulatory requirements (O'Malley, Bond, & Berenson, 2011; Zusman, 2011). Numerous reports have detailed an exodus of physicians from private practice of very large proportions (Bouchard, 2011). The number of independently owned physician practices has been declining at a 2% rate annually for the last twenty five years (Isaacs, Jellinek, & Ray, 2009). As many as 65 percent of hospitals are actively seeking to increase the number of

physicians they employ while a recently released survey stated that 76 percent of hospitals and health systems have moved to a full employment staff model (Betbeze, 2011; Wilson, 2011), in part as a strategy to align physician efforts with overall goals of the system. The logic behind such efforts is that employment may reduce unnecessary administrative burdens and thereby increase career satisfaction while allowing physicians to focus on the delivery of excellent, high quality care and become primarily patient focused (Grauman & Harris, 2008).

The purpose of this study is to examine the relationship between physician employment and career satisfaction and potential moderators of this relationship. Specifically, the following research questions will guide this study:

- Does career satisfaction differ for physicians employed by a hospital or health system as compared to physicians in private practice?
- Is the relationship between physician employment and physician career satisfaction moderated by gender and compensation arrangement?

Answers to these questions are important for health care policy makers, executives, patients and practitioners. The implications of physicians being dissatisfied with their career range from decreased productivity to leaving the practice of medicine. For instance, research has linked physician job satisfaction to turnover (Buchbinder, Wilson, Melick, & Powe, 2001). Turnover can be disruptive to patient care and quite expensive for hospitals and medical groups trying to recruit a physician to fill a vacancy. The recruitment and replacement costs for an internist can exceed $245,000 (Buchbinder, Wilson, Melick, & Powe, 1999; Pratt, 2010). Physicians who leave the practice of medicine would only stress the delivery system to a greater extent especially given an

aging population, more complex patients and increasing number of people becoming eligible for insurance coverage due to health reform. It is expected that a combination of factors will result in a 22% increase in demand for physician services between 2005 and 2020 (HRSA, Workforce Demand Survey). Physicians are also instrumental in driving quality goals and patients are more likely to receive greater continuity of care as well as better quality of care from physicians with high career satisfaction (Warren, Weitz, & Kulis, 1998). Therefore, the extent to which employment of physicians by hospitals or health systems impact career satisfaction should be studied so strategies can be formed that may optimize the relationship and may influence career satisfaction.

This dissertation consists of five chapters. Chapter 2 reviews the literature associated with current research regarding career satisfaction of physicians. The literature review chapter also addresses the advantages and challenges associated with employment of physicians by hospitals. Chapter 2 concludes with a review of the theory of professions, the theory of social exchange, the proposed theoretical framework and proposed study hypotheses. Chapter 3 of the proposal will discuss the methods used in the study. Chapter 3 also includes a description of the research design, and how the variables will be operationalized and the quantitative techniques used to examine the proposed relationships. Chapter 4 presents the results of the study. Chapter 5 discusses these results, including their practical implications, the study limitations, and future research recommendations.

CHAPTER 2

THE LITERATURE REVIEW

The literature review chapter synthesizes the research associated with physician career satisfaction and employment by health systems to provide some context for the research questions under consideration in this study. The first part of the chapter will explore the impact of physician satisfaction and the implications of satisfaction for physicians as well as the health care system. The second section reviews the history of the hospital and physician relationship and discusses the driving factors that are impacting the hospital-physician relationship today. The drivers of employment will be followed with the advantages and disadvantages of physician employment by hospitals and why employment might be associated with physicians' career satisfaction. The final section will explore the challenges associated with employment as well as an overview of the theoretical framework of the study.

Impact of Physician Career Satisfaction

Research suggests that in the current U.S. health delivery system many physicians experience high levels of dissatisfaction and that dissatisfaction may be on the rise. A review of the literature concerning career satisfaction shows in 1973, family physicians reported approximately 15% of the time they had concerns about their career. A study in the 1990's showed 40% of internal medicine physicians would discourage potential physicians from entering the field of medicine while only 39% of the physicians would choose the field again (Gibson & Borges, 2009). A study in 2002 by the Kaiser Family

Foundation found that 87% of the physicians that responded said that within the last five years their overall morale has dropped. Also, 58% of the responding physicians said that even their own "enthusiasm" for practicing medicine had dropped (Williams & Skinner, 2003).

The implications of physicians being dissatisfied with their career range from decreased productivity to leaving the practice of medicine. For instance, studies have linked job satisfaction to turnover, with physicians who are happy in a practice situation less likely to leave (Buchbinder et al., 2001). Thus, understanding what makes physicians satisfied with their careers is important for understanding the dynamics of the physician workforce. Such considerations are even more important given that, according to the American Medical Association, in 2005, 252,000 physicians were 55 or older, part of a dramatic trend in which physicians are leaving the field of medicine faster than new physicians are entering. In 2025, it is projected 25,000 physicians will be leaving the field with just 22,000 entering the field.

Career satisfaction is also important for quality of care and patient outcomes. According to Leigh and colleagues (2009), physicians who are satisfied with their careers are likely to provide better health care than dissatisfied physicians. Physician satisfaction has been found to strongly correlate with patient satisfaction (Leigh, Tancredi, & Kravitz, 2009). Physician dissatisfaction can negatively impact patient care. Dissatisfied physicians are two to three times more likely to leave the practice of medicine than satisfied physicians (Landon, Reschovsky, Pham, & Blumenthal, 2006). "Physician career dissatisfaction has been found to be associated with physician stress, disruptive behavior, burnout and career exit, medical errors, reduced patient care quality, reduced

patient compliance with medical instructions and higher health care costs" (Bogue et al., 2006; Keeton, Fenner, Johnson, & Hayward, 2007)

Factors Associated with Physician Satisfaction

Physician satisfaction is influenced by many factors, including external political ones. In the early 1990's, the British Health Care system implemented reforms through the National Health Service (NHS). The reforms introduced a different approach to contracting which began a move toward value based purchasing but simultaneously increased the amount of paperwork required when submitting for reimbursement (Le Grand, 1999). Many physicians, especially general practitioners, felt they were being attacked as independent contractors and their professional autonomy was being challenged. This reform made physicians suspicious of the motives and many physicians felt the workload was being increased at the expense of patient care (Sibbald, Enzer, Cooper, Rout, & Sutherland, 2000; Whalley, Bojke, Gravelle, & Sibbald, 2006). The issues of mistrust related to motives and clinical autonomy had to be addressed before physician satisfaction began to bounce back to "pre-reform" levels in the United Kingdom.

Other factors that make physicians more satisfied include: relationships with patients, relationships with colleagues, family issues, personal growth, ability to provide quality care, availability of office and hospital resources and prestige for role as a physician (Bogue et al., 2006). A physician that has the time necessary to effectively communicate with patients has been shown to increase the physician's satisfaction with their work. According to the Canadian Institute for Health Information Exchange (CIHI)

study, family physicians aged 65 and over were the most likely to be satisfied with their current professional life while physicians between the ages of 35 and 64 were least likely to respond that they were satisfied (Canadian Insitute For Health Information, 2006). The study also found that as workload goes up, career satisfaction goes down. The most common predictor of satisfaction with current professional life is the satisfaction a physician felt with the balance between professional and personal commitments. This predictor held true for both primary care physicians as well as specialists. To a lesser extent, the relationships physicians had with their patients predicted the extent to which the physician was satisfied with their career. Adequate time spent during exams has also been shown to increase communication, increase patient satisfaction and make the patient more likely to attend scheduled appointments which increase the physicians' satisfaction.

In summary, research on physician career satisfaction has identified a number of key predictors of satisfaction. The top predictors of satisfaction are a controllable lifestyle or good work life balance as well as a feeling of collegiality. The top dissatisfiers are loss of autonomy, loss of income and loss of focus or control (Bogue et al., 2006; Leigh et al., 2009; Warren et al., 1998). Health care is challenged to find an approach that speaks to physicians from different generations that clearly have different experiences as well as expectations.

The Hospital Physician Relationship

To weather the changes associated with health care reform and to sustain the delivery of medicine in a struggling economy, hospitals and physicians must find innovative ways to work together. Physicians and hospitals have many reasons to find

ways to work together. Both parties are competing for business in today's market, working together could improve the quality of care delivered, control the cost of care and gain the providers leverage in negotiations with health plans (MedPac, 2008). The relationship between hospitals and physicians has seen changes many times in the past. As the practice of medicine and specialization has evolved, hospitals and physicians have become more dependent on each other. As Paul Starr pointed out in The Social Transformation of American Medicine, the growth of hospitals and the move toward more specialization has resulted in doctors becoming more dependent on one another for referrals and access to facilities. Therefore, as opposed to advertising themselves as members of competing medical sects, they were forced to consider the views of their peers. However, greater cohesiveness between primary care physicians and specialists as well as increased authority on behalf of the physicians did not mean there was a natural symbiotic relationship with the hospital. Tensions have existed between the two parties for many years. Physicians and hospitals have been able to survive for decades without addressing fundamental tensions that existed between the two parties (Goldsmith, 1993). External factors, such as declining reimbursement and increased regulation, have come together to force a change in the way physicians have to practice and is threatening the autonomy physicians have enjoyed (Robbins, 2011). These external factors are causing a modification in the way labor within health care is divided as well as the way health care is delivered. These changes will have advantages and disadvantages to the parties involved.

Physicians and hospitals have worked together in various ways over the years. Physicians have always viewed the hospital as a place to practice their craft. In exchange

for this opportunity the physician would serve on the hospital medical staff committees, take call or even help raise money (Starr, 1982). The two parties have also been involved in joint ventures as well as participating together in a Physician Hospital Organization (PHO). The physician becoming a hospital employee is a more recent phenomenon.

Advantages/Reasons for Hospitals to Employ Physicians

There is an increasing trend of employment of physicians by hospitals and health systems (Harris, 2009; Kennedy, 2009; Thomas, 2009; Strode, 2009). Employment of physicians has continued to become more common and according to American Hospital Association (AHA) data, surpassed physician hospital organizations (PHO) as the most common model to achieve integration (MedPac, 2008). A recent survey by the recruiting firm Merritt Hawkins found that more medical residents (32%) indicated they would prefer to be employed by a hospital than any other business arrangement (Hawkins, 2011). As many as 63% of physicians that changed jobs in 2009 moved to a hospital employment model (Sauer, 2011).

Physicians have been the primary manpower component of the healthcare system for many years. Traditionally, physicians have practiced in a very independent and autonomous environment. As recently as 1990, more than half (54 percent) of all physicians practiced in the independent settings of self-employed solo or group practices (Cohen, 1990). This independence has, at times, created inefficiencies and operational challenges. It has proven difficult for an independent physician practice to put together a benefit plan that will allow them to compete for skilled medical personnel on the same terms as a larger practice or health system. Outreach efforts to patients in the ever

increasing digital age are also more difficult for small practices when compared to a larger operation with access to marketing and planning departments. These challenges have left physicians lacking leverage in negotiating reimbursement rates or incentives, needing practice support and often unable to fund large capital projects such as the implementation of electronic medical records (EMR). In addition to the investment independent practices are challenged arranging during the acquisition of an EMR it has also been a challenge to arrange for qualified staff to support and use the EMR (Spruell, Vicknair, & Dochterman, 2010). Physicians are being driven to salaried arrangements because they are tired of dealing with a "fractious" staff, everyday business pressures and the fight to negotiate reimbursement (Cook, 2007). Landon and colleagues state that the primary reason a physician is seeking employment is the stagnant reimbursement rates coupled with the rising costs of a private practice and a desire for better work life balance (Landon, Reschovsky, O'Malley, Pham, & Hadley, 2011). In some states, reimbursement advantages have been noted as the greatest trigger of the conversion from solo practice to other arrangements. A hospital based physician will receive 20-30 percent more on a Medicaid patient than an independent physician (Lenardson, 2008). Hospitals are also usually able to negotiate more favorable commercial rates on behalf of employed physicians as a package deal with the hospital (O'Malley et al., 2011).

This is not the first time the industry has seen a trend toward physician practices being purchased by health systems. During the practice acquisition period that was driven by managed care in the 1990's, physicians were looking to address declining incomes, capital pressures, and quality of life issues (e.g. work more predictable hours for a more predictable income) (Halley, 2010). Hospitals acquired many physician practices

that they subsequently divested (O'Malley et al., 2011). The strategy of that time period was mainly to acquire primary care physicians. Hospitals were looking to solidify a competitive advantage, effectively recruit and retain physicians, in order to regain lost market share and revenue.

Many of these same issues are what are important to physicians and hospitals today, when the external factors driving this trend are rooted in federal health reform. Both hospitals and physicians face the challenge of finding solutions to ever changing issues surrounding software application, financial services, and clinical processes while being transparent with each other and the public. Finding effective responses to these issues may happen quicker and be more sustainable if hospitals and physicians work together. As federal health reform continues to focus on value and accountability, as opposed to volume, coordinating efforts of the physician and hospital increases the chances of effective coordination of patient care and reduces the chances of the duplication of services or tests.

With looming physician shortages, (studies project deficits in excess of 91,000 physicians by the year 2020), hospitals are still eager to ensure they have adequate medical manpower to accomplish the business plans and missions they have in place (Kirch, Henderson, & Dill, 2011). Employment is one strategy to address these physician shortages (O'Malley et al., 2011). Employment should also aid in addressing the distribution of physicians to underserved areas. Hospitals must often employ physicians because that is the only way a physician will locate to a rural area. Private practice physicians are either unwilling or unable to recruit physicians to these underserved areas of the country. In 2009, 65% of physicians that changed jobs moved to a hospital

employment model (Sauer, 2011). Hospitals employing physicians have become an accepted way to address their physician shortages in rural areas (Bouchard, 2011).

Employing physicians may also prevent physicians from joining another large group, which may give the hospital a competitive advantage and discourage the development of competing ancillary services or new entrants into the market. Market share is still a real concern that many hospitals feel can best be addressed through employing physicians, which in turn will ensure care is received at one of their facilities. Many hospitals negotiate with managed care plans on behalf of their employed physicians and in conjunction with the negotiations surrounding services provided in the hospital. The combination of services often increases the leverage of the hospital and physicians in discussions with the insurance company resulting in greater reimbursement for the physicians (O'Malley et al., 2011). Having a complement of employed physicians may also give the hospital an opportunity to have better clinical integration of care and better communication, between staff and physicians, thereby giving the hospital a better chance to impact quality (Vance, 2009).

Another advantage from a hospital perspective concerning employment of physicians is it makes it easier to deal with regulations that govern joint ventures and independent physician agreements. Restrictions in place that oversee the relationship between a hospital and a private physician are different when a physician is employed (Vance, 2009).

Advantages/Reasons for Physicians to Choose Employment

Employment advantages from a physician perspective most often begin with a more consistent paycheck. As reimbursement decreases and uncertainty with health reform persists, physicians often find comfort in a steady and predictable compensation program (O'Malley et al., 2011). New physicians entering the health care field are more risk averse, with new graduates desiring more of a work life balance. Employment feels like it is a more secure practice situation (Vance, 2009). The practice of medicine itself has changed substantially, requiring physicians that choose to remain independent to invest more time, money and resources in making sure they are compliant with regulations. The federal Affordable Care Act (ACA) contains multiple provisions to the way coding, billing and information is handled in a physician office. Specifically, regulatory authority is expected to grow in the Independent Payment Advisory Board (IPAB) and the Patient Centered Outcomes Research Institute (PCORI) (Manchikanti, Caraway, Parr, Fellows, & Hirsch, 2011). The regulations must be understood and effectively implemented. This implementation often requires human capital that small practices typically do not have as well as capital to purchase hardware and software. Employment arrangements, if structured correctly, can provide expert managerial advice from the hospital to the physician practice as well as the resources to stay current and complaint with new regulations and operating and capital funding (Mitlyng & Laskowski, 2008).

The demographics of physicians have also changed greatly. The percentage of all licensed physicians in the United States that are female rose to 22 percent in 1997, up from 7.7 percent in 1970 (Hoff, 2001). The total number of women entering US medical

schools has increased every year since 1969-1970. In 1982, 31.4% of graduates were female and the number increased to over 46.9% in 2010 ("Medical School Graduates and Attrition Rates," 2011). Younger female as well as male physicians have shown to be interested in working part time and list more personal time as a key career desire (Mechaber et al., 2008). The desire to have a better balance between work and family time with more flexible work hours is more feasible when employed by a hospital (Elliott, 2011a).

Many physicians may see employment by hospitals as offering more flexibility in work schedules and a better quality of life. Behaviors normally associated with physicians are changing because of different roles and interests of physicians. Newer generations of physicians are reportedly less eager and less willing to work the hours that older generations spent in their medical practice (Elliott, 2011a). They also are reluctant to accept risks, take hospital call or add unassigned patients to their practices (Burns & Muller, 2008). The increasing number of physicians that are older and who plan to work less hours over a year will result in the total number of physician services available growing less rapidly than the number of licensed physicians (Colwill, Cultice, & Kruse, 2008). Essentially, this change will require there to be more physicians to do the same amount of work than in the past.

When a physician chooses to be employed by a hospital, they typically do not need any capital to start a practice. The capital expense is now borne by the hospital. The accepted model for many years required a young physician to buy a retiring doctor out or buy in to a practice. Start up costs, as well as practice overhead, continue to

escalate and this factor combined with increasing medical school expenses, makes younger physicians less interested in assuming more financial risk.

Challenges with Employment

Physicians employed by a hospital will bring challenges to the hospitals or health systems that the physician now works with. The fact that these entities will now have physicians, nurses, managers and executives all employed by the same company will bring its own unique challenges. Physicians that have been in private practice and functioned as owners may have a difficult time relinquishing some of the decision making authority they had a as owner. It will be a challenge to the hospital to keep the physician engaged and have them function within parameters different than when they were an owner.

However, as medical practices are absorbed into hospital structures, there will be an attempt to shift toward a corporate philosophy that historically has assembled intellectual and financial capital under one roof. For the new physician just finishing medical school and a residency, joining an employed physician group may bring many challenges as this is often their first job. Most of these challenges will be associated with how to code a claim, learn an electronic medical record or other logistical real world issues that are not taught in medical school. However, for the physician that has been part of an independent group, the switch to employment will be quite different. Independent physicians have not only been practicing physicians and “healers”, they have also been business owners.

Federal reform efforts are forcing hospitals as well as physicians to find a business model that better serves the patient. It has not been unusual for hospitals to lose as much as $150,000 to $250,000 annually per physician, over the first three years of employment, by pursuing an employment strategy (Kocher & Sahni, 2011). Risks include employed physicians being added to the hospital's cost base and impacting the system's ability to invest in facilities, information technology and human resources (J. M. Harris, Simmons, & Kierstead, 2009; Kennedy, Clay, & Collier, 2009). The structure of these employment arrangements is often cited as the culprit. Practices were bought using "good will" in the valuation formula and physicians were often put on straight salary. Studies have shown that salary independent of other incentives undermines productivity, condones on-the job leisure, and fosters a bureaucratic mentality in which every procedure is someone else's problem (Robinson, 2001).

Hospitals must realize that no strategy operates in a vacuum and this fact is compounded with the debate regarding health care reform. There appears to be at least a relative consensus in most health reform discussions that health care should reward the value of the care, not volume. There also is a likelihood that fee for service payment may end with a move toward a bundled payment. The bundled payment would be distributed to one party for an entire episode of care. The payment would then be distributed to the many different providers that are part of the team. Reimbursement modifications of this magnitude will change the way health care is delivered and change the alignment of resources. It would be logical to believe that sharing a payment among providers that are not affiliated in any way would be cumbersome. These changes would necessitate hospitals and physicians working together more collaboratively, if for no other reason

than to share a payment. Physicians as well as other providers could now be more effective as a member of a team as opposed to an autonomous and independent provider. Alignment of efforts will be a necessity. Hospitals and health systems have found the employment of physicians to be a structure or vehicle for alignment.

Another challenge hospitals must address with physician employment is, how the rest of the medical staff feels about the hospital's employment of physicians. Independent physicians often see employment as a competitive threat against those that have practiced in the community for many years. This often results in the division of the medical staff and feelings of mistrust. Independent physicians may feel the hospital is not being transparent and employed physicians are given an advantage.

Hospitals must also have in place the right infrastructure to support a physician practice. Many hospitals have tried to run acquired physician practices with support from the hospital billing departments that have not had the experience needed in effective physician practice management (Stover, Sauter, & James, 2004). In order to be successful, a practice specific comprehensive physician support service must exist that includes, at a minimum, expert office scheduling, coding and revenue cycle management. In addition to infrastructure, it has also become a challenge for offices to stay in compliance with the changing legislation governing healthcare. While just twenty years ago the rules were pretty straightforward, now physician practices need extra staff and experts to stay abreast with the latest changes (Sauer, 2011).

Social Exchange Theory

Social exchange theory is a sociological theory that suggests social interactions are negotiated exchanges based on subjective assessments of the benefits of the exchange

relative to the costs of the exchange (Blau, 1964; Homans, 1958). In other words, an individual's willingness to enter into or sustain a relationship is based on his/her calculation of the overall worth of the relationship (i.e., benefits of relationship minus costs of relationship). Social exchange allows one to look at relationships as a series of exchanges that include both economic and non-economic incentives. Although many of the reasons hospitals and physicians look to work together and eventually move into an employment arrangement are financial in nature (Halley, 2010), this study proposes there is a non-economic side for entering into an employment relationship. More specifically, members of groups tend to reciprocate beneficial treatment or experiences they receive in a positive work experience. Likewise, if one feels they have negative experiences they will reciprocate with negative experiences (Emerson, 1976).

Theory of Professions

The theory of professions is another sociological perspective that is based on the premise that some individuals (i.e., professionals) prefer autonomy and the ability to self-regulate. A profession is defined as "an occupation whose core element is work based upon the mastery of a complex body of knowledge and skills. It is a vocation in which knowledge of some department of science or learning or the practice of an art founded upon it is used in the service of others. Its members are governed by codes of ethics and profess a commitment to competence, integrity and morality, altruism, and the promotion of the public good within their domain. These commitments form the basis of a social contract between a profession and society, which in return grants the profession a monopoly over the use of its knowledge base, the right to considerable autonomy in

practice and the privilege of self-regulation. Professions and their members are accountable to those served, to the profession, and to society" (Cruess, Johnston, & Cruess, 2004, p. 75). According to this theory, professionals may find it undesirable to work in large organizations because of hierarchical supervision rather than peer-based supervision and oversight (Scott, 1965).

Observers have noted that from at least the turn of the century until the mid 1970's, physicians practicing medicine seemed the consummate example of a profession. As a rule they have worked long hours and sacrificed personally for their practice. The practice of medicine has essentially been a calling (McMurray et al., 2005; Warren et al., 1998). Physicians as an occupational group characterize themselves by specialized technical knowledge, public faith in its moral and scientific authority, the autonomy to make decisions and regulate its work conditions and members. Some have argued that professionalism in medicine has changed greatly over the years and physicians have exploited the monopoly they had created to reduce the supply of services and created more demand (Kinghorn, McEvoy, Michel, & Balboni, 2007). This demand was then met but at a financial gain to the physician.

Thus, according to the theory of professions, if professionals are more satisfied when they can practice with autonomy and self-regulate, then physicians moving to an employment arrangement may have a decreased level of career satisfaction.

H_1: Physician employment is associated with lower levels of career satisfaction.

At the same time, from a social exchange theory there may be reasons to believe that employment is associated with higher levels of satisfaction. Social exchange theory may give insight into this and why physicians may react more positively to an

employment situation. Social exchange is the premise that actions are based on the rewarding reactions from others. It is also described as the economic analysis of noneconomic social situations (Emerson, 1976). From a social exchange perspective, the rewards of employment, such as better work-life balance and more predictable hours and income, may outweigh the costs of employment (e.g., loss of autonomy, less self-regulation). Likewise, employment may allow physicians to focus on the practice of medicine while not being distracted by dealing with compliance issues and the requirements to constantly come up with additional capital. Physicians seem to struggle to maintain the core identifiers of their profession, such as self-regulation and autonomy. Physicians have their professionalism challenged on a daily basis with the loss of their autonomy, ability to self-regulate, market competition, ever changing financial incentives and the erosion of their patient's trust. Whereas the profession of medicine once shared a homogeneous makeup, a very similar work structure, and career paths that were virtually identical, they now have a much more varied makeup and day to day experience. Employment, if structured correctly, could address some of these factors through organizational leadership and governance opportunities, better work-life balance, and more predictable income and job security. Thus, from a social exchange perspective, I propose the competing hypothesis that:

H_2: Physicians employment will be associated with higher levels of career satisfaction.

Moderating Characteristics of the Employment-Career Satisfaction Relationship

It also seems plausible that the relationship between employment and satisfaction differs for different types of physicians (e.g., males versus females) and in different compensation situations (e.g., salary versus productivity).

Gender

The participation of women in the practice of medicine continues to increase. The percentage of all physicians that are women rose to 27.8% in 2006, up from just 7.6% in 1970 (Tracy, Wiler, Holschen, Patel, & Ligda, 2010). The number of actively practicing female physicians increased 240 percent between 1970 and 1985. During this same time period, males practicing medicine increased just 13% (Martin, Arnold, & Parker, 1988). One might expect female physicians to emphasize family roles to a greater extent than male physicians(Elliott, 2011b) . Studies have shown that the newer generation of physicians have different views from their predecessors and place a greater value work life balance. A 2011 Cejka survey showed 22% of males and 44% of females worked less than fulltime. These numbers reflected a 15% increase from a study done by the same group in 2005. An AMANEWS.com article also said that men near the end of their careers and women at the beginning or middle of their careers are the demographic to most likely request part time or flexible work schedules. (AMAnews.com March 26, 2012, (Buddeberg-Fischer, Stamm, Buddeberg, & Klaghofer, 2008).

Do gender differences impact a physician's view of career satisfaction? While there are verified differences, there are also similarities. Female physicians are driven professionals as well as men. While they are generally satisfied, as many as 30% of

female physicians reported they would choose not to be a physician again and as many as 38% would choose to change their specialty (Frank, McMurray, Linzer, & Elon, 1999).

One explanation for why men differ from women with respect to how employment by a hospital or health system might be associated with career satisfaction is socialization. Socialization is a lifelong process that exposes each gender to what are the appropriate norms, customs and ideologies regarding professions and how one will fit within that profession. Socialization teaches individuals how to interact with others including communicating with other members of the health care team and patients (Harter & Krone, 2001; Mason, 1995). Harris describes socialization as indirect learning where contact and exposure to instructors and peers result in the formation of attitudes, values and beliefs (C. M. Harris, 1974).

As recently as the late 1960's and early 1970's, most medical students were male. Thus, the socialization of a physician into medical school as well as the practice of medicine focused exclusively on that of male physicians (Riska, 2001). Studies have shown the importance of socialization and that physician professional identities are shaped by interaction norms learned during medical school.

The socialization perspective predicts there will be a difference between the genders regarding career satisfaction. Studies have shown that females respond to socializing forces striking similar as males in some respects and very differently in other areas (Martin et al., 1988). Women are thought to have been socialized into more caring roles and are also thought to be more caring in their practice styles, while men are more dominant and will be more satisfied with jobs that are challenging and their views often result in seeking advancement while focusing on career more than family life (Martin et.

al., 1988). Thus, one might hypothesize that the desire to balance work and family demands while minimizing potential conflicts between work and home is strong enough for women to trade what typically are seen as career pursuits for a better quality of life. Because employment may result in a physician having a better work-life balance, and this being a characteristic that is more attractive to female physicians, I hypothesize that:

H_3: As compared to male physicians, female physicians who are employed by a health system will be associated with higher levels of career satisfaction.

Compensation

Physicians historically have been compensated based on the volume of work they performed. Despite the fact that many physicians are working harder they have seen their compensation decline (Kennedy et al., 2009). One may expect that a compensation plan that had elements of production and performance as a component would be a motivating factor to the physician. Studies have shown that physicians do respond to financial incentives as a part of their compensation package (Landon et al., 2011). As the U.S. health system moves into an era that focuses on ACO's and payment per episode of care the methods used to compensate physicians are one of just a few policy tools that may influence physician decision making and utilization of resources (Landon et al., 2011). Having a system that holds providers accountable, through an ACO, or a bundled payment with financial incentives that are aligned with desired outcomes is anticipated to change the way care is delivered. Studies have demonstrated that more physician compensation arrangements include elements of performance in addition to volume like patient satisfaction and quality (Elliott, 2010). This rationale is consistent with Institute

of Medicine report that suggests, among other things, provider payment incentives need to be aligned with incentives. A couple specifically mentioned were: "provide a fair payment for good clinical management of the types of patients seen", "align financial incentives with the implementation of care processes based on best practices and the achievement of better patient outcomes"(Conrad & Christianson, 2004). Given this movement toward ACO's and other pay for performance models one would expect that physicians would be motivated by being rewarded for accomplishing outcomes that often require them to spend a bit more time with patients. The more providers work together on quality outcomes and the more efficient they become the more they can benefit. An incentive approach is much more challenging than straight salary.

H_4: As compared to fixed salaried physicians, physicians who are compensated based on production and performance will be associated with higher levels of career satisfaction.

In summary, the study has proposed competing hypothesis about the relationship between employment and physician career satisfaction. I believe it is conceivable that the association between employment and career satisfaction may be moderated by the gender of the physician as well as the compensation arrangement the physician works under. Enough noneconomic factors are in play, through both gender and compensation arrangement, that physician may be willing to exchange some of the need for control and dominance for security and quality of life. Incentive components around quality and outcomes should appeal to a physicians need to serve and be altruistic as well as their need to be productive and accomplish. Chapter 3 outlines the methods used to examine these relationships.

CHAPTER 3

METHODS

The purpose of this research is to examine the relationship between physician employment and physician career satisfaction. Furthermore, this study will explore whether the relationship differs by age, specialty, practice type, practice size and length of time in practice. The purpose of this chapter is to discuss the study design, the data sources used to study these relationships, and the analytic methods used to test the study hypothesis.

Data Source and Sample

The study will use the Center for Studying Health System Change, 2008 Health Tracking Physician Survey (HTPS) as a data source (Center for Studying Health System Change, 2010). Data collection for the 2008 survey was completed on October 31, 2008. The survey was conducted in the form of a mail questionnaire. The sample frame was taken from a list of physicians from the American Medical Association (AMA). The sample consisted of active, non-federal, office and hospital based physicians. The sample excludes residents, fellows and graduates of foreign medical schools who are licensed to practice in the United States only temporarily. The sample consisted of US physicians that provided direct patient care for at least 20 hours per week. A total of 4,720 physicians responded to the survey with a weighted response rate of 61.9 percent. Respondents represented all 50 states and the District of Columbia.

Research design

The study is a cross-sectional, quantitative study of the relationship between physician employment and career satisfaction.

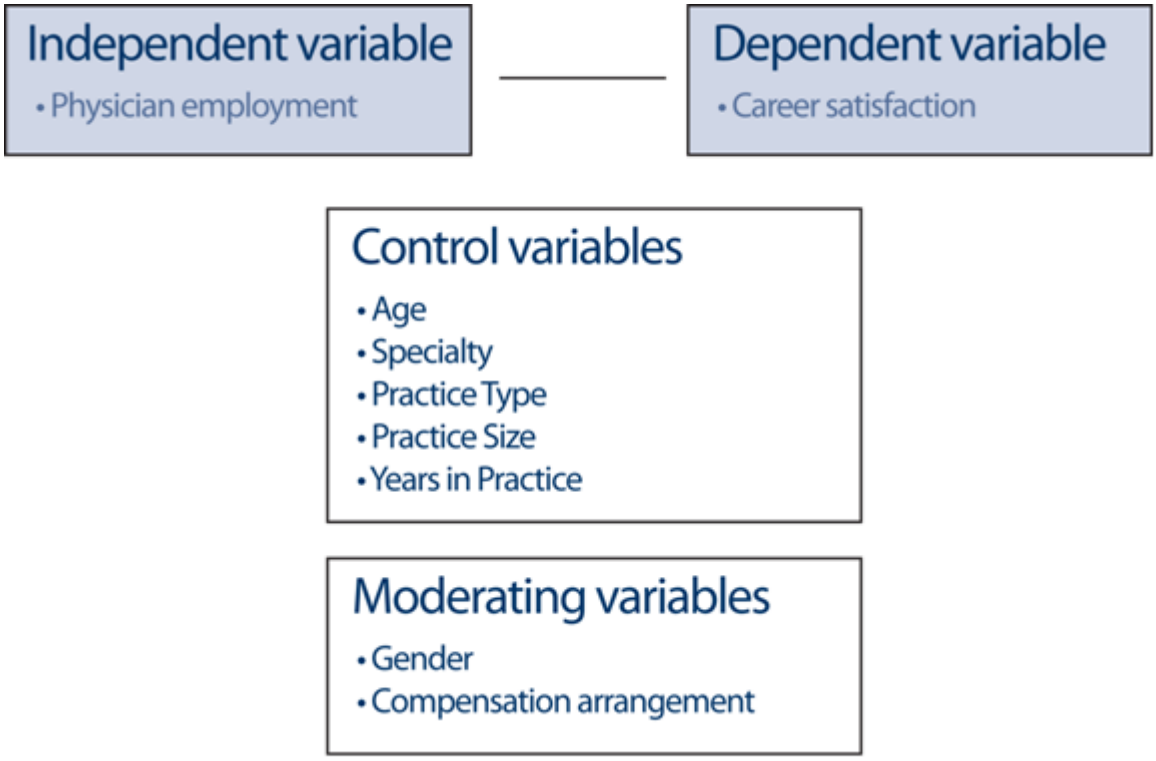

Figure 1: Research Design Illustrated

Dependent Variable

The dependent variable of the study is physician career satisfaction, and is based on one survey item measured as a 5-point Likert scale. The survey asked physicians: "Thinking very generally about your satisfaction with your overall career in medicine, would you say you are currently very satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied, very dissatisfied". The study reduced the 5-point Likert scale into a 3-point ordinal scale variable. The very satisfied and somewhat

satisfied was grouped into a single category. Neither satisfied nor dissatisfied was grouped into a single category. Somewhat dissatisfied and very dissatisfied was grouped into the third category and will serve as the referent group.

Independent Variable(s) of Primary Interest

The independent variable of primary interest is the employment status of the physician. The variable related to employment status was constructed from the question: "This question is about your main practice, that is, the business or organization that compensates you. In your main practice, are you a full owner, a part owner (e.g., with one or more other physicians), an employee with no ownership, or an independent contractor? I created a dummy variable for employment where 1 = employee with no ownership and 0 =full owner, a part owner (e.g., with one or more other physicians). There were 222 respondents that answered they were independent contractors. One could argue that independent contractors have an ownership stake (they are independent after all), or you could claim just as validly that they are employees, as they are under contract, and are likely being reimbursed on a fixed payment. This study chose to exclude them, as they are somewhat of a niche, much like the academic physicians, which were treated the same way and excluded.

Moderating Variables

Gender and compensation are two variables that will be examined to explore whether they moderate the relationship between employment and career satisfaction. *Gender* - constructed as a dummy variable where 1 = male (referent) and 0 = female.

Compensation – "Which of the following best describes your basic compensation?" Fixed Salary, salary adjusted for performance, shift, hourly, other time-based pay, share of billings/workload, solo practitioner, not ascertained. The study created a dummy variable where 1 = fixed salary (referent) and 0 = salary adjusted for performance.

Control Variables

Age – Age was controlled for with a series of dummy variables: Less than 40 years of age, 40-59 years of age, and 60 years or older (referent).

Specialty –"What is your primary specialty?"

The study created a dummy variable where 0=Family Practice, General Practice, Internal Medicine, Pediatrics (referent) and 1 = all other specialties. Specialist will serve as the referent group.

Practice Type - "Best describe where you work": solo practice, a group practice with three or more physicians, HMO, medical school, hospital based, other. A dummy variable was created from responses where: 0 =Solo practice; 1= group practice, HMO, hospital based, other, (referent).

Practice Size - "Including yourself, how many physicians are in your main practice? Respondents wrote in the number of physicians in their main practices. These responses were taken and recoded into those that had 5 or fewer or six or more physicians. A dummy variable was created from responses where: 0=5 or fewer, 1=6 or more. Groups with 6 or more physicians served as the referent group.

Years in practice – "In what year did you begin medical practice after completing your undergraduate and graduate medical training?" The study created a dummy variable for

each of the following categories: Less than 3 years, 4-12 years, 13-27 years and 28 or more years. Responses 1975 or earlier and 1976-1980 were put in a single group and label 3= 28 +, 1981-1985 and, 1986-1990 and 1991-1995, were labeled 2 =13-27, 1996-2000 and 2001-2004, were labeled 1= 4-12 years and 2005 or later were labeled 0= 0-3 years. 28+ years in practice served as the referent group.

Table 1: Operational Variables

Name	Operationalization	Variable Type
Dependent Variable		
Career Satisfaction	0-Dissatisfied 1-Neutral 2-Satisfied	Categorical
Predictor Variable		
Employment	1-Full or Part Owner 0-Employee	Categorical
Moderating Variables		
Gender	Male Female	Categorical
Compensation	Performance Adjusted Fixed Salary	Categorical
Control Variables		
Specialty	Primary Care Specialist	Categorical
Practice Type	Solo Group HMO Hospital Based	Categorical
Practice Size	5 or Fewer 6 or more	Categorical
Age	Less than 40 years of age 40-59 years of Age 60 or older	Categorical
Years in Practice	Less than 3 years 4-12 years 13-27 years 28 or more years	Categorical

Proposed Statistical Analysis

Univariate descriptive statistics were used to examine the distributions of the variables and look for potential data anomalies such as outliers and missing values.

Bivariate methods were used to assess the relationship between two variables (without attempting to account/control for other variables). Chi-square tests will be used to assess the statistical significance of the bivariate relationship between the dependent variable and the independent variables.

The multivariate analysis used to examine the research questions was ordinal logistic regression. Ordinal logistic regression allows a researcher to generate predictions and examine the significance of independent variable (employment) in situations where the dependent variable (career satisfaction) is ordinal in nature. An overview of the empirical model used to test these relationships is provided in the following formula:

$$P(0,1,2) = \beta_0 + \beta_1(\text{Employed}) + \beta_2(\text{Gender}) + \beta_3(\text{Specialty}) + \beta_4(\text{Practice Type}) + \beta_5(\text{Compensation Type}) + \beta_6(\text{Practice Size}) + \beta_7(\text{Age}) + \beta_8(\text{Years in Practice}).$$

To examine the moderating effects of gender and compensation, the study reran the model for different subgroups; for example, only female respondents and then rerun the model again with only male respondents. The study then compared the direction and significance of the employment status coefficient across these two models to assess whether the employment-career satisfaction relationship differed for these subgroups. The process was performed for both moderating variables (gender and compensation).

The primary goal of chapter three was to outline the methodology used to examine career satisfaction of employed physicians relative to those who are not employed, controlling for other physician and physician practice characteristics. Chapter four will present the results of the analysis and chapter five will interpret these findings and their implications and discuss the study's implications.

CHAPTER 4

RESULTS

This chapter presents the results of the study. The chapter first discusses descriptive statistics that illustrate characteristics of the survey respondents. Bivariate results are next presented, followed by multivariate results and subgroup analyses by gender and compensation mechanisms.

Univariate Results

Of the survey respondents, 81.8% reported being satisfied with their careers. In comparison, 3.7% reported being neither satisfied nor dissatisfied and 14.4% reported being dissatisfied with their career (Table 2). Overall, a majority (56.8%) of the respondents were full or part owners of their practice, while 40.2% of physicians considered themselves employees.

Respondents to the survey included 73.5% males and 26.5% female physicians. Primary care providers (PCP) made up 60% of the respondents, while the remaining 40% indicated they were specialists. In terms of practice type, solo practitioners comprised 37.4% of the respondents, 44.4 % were in a group practice, 3.8 % practiced in an HMO and 14.4% were hospital based. A total of 46.8% of physicians practiced in a group that contained 6 or more physicians, while slightly more than 53% percent of physicians were in practices that had 5 or fewer physicians. A majority of physicians (56.5%) had an incentive component to their compensation, while 43.5% were on a fixed salary. A

majority of physicians were between the ages of 40 and 59 (61.8%) while 24.9% were younger than 40 years of age and 13.3% were 60 years of age or older. Five percent (5%) of physicians had been in practice three years or less, while 30.8% had been in practice between 4 and 12 years, 44% between 13 and 27 years, and 20.1% had practiced medicine for more than 28 years.

Table 2: Descriptive Statistics

Variables	N (%)
Dependent Variable	
Career Satisfaction	
Satisfied	3,825/ (81.8%)
Neutral	174/ (3.7%)
Dissatisfied	678/ (14.4%)
Predictor Variable of Primary Interest	
Employment	
Full/Part Owner	2,688/ (56.8%)
Employee	1,810/ (40.2%)
Control Variables	
Gender	
Male	3,470/ (73.5%)
Female	1,250/ (26.5%)
Specialty	
Primary Care	2,830/ (60.0%)
Specialist	1,890/ (40.0%)
Practice Type	
Solo	1,566/ (37.4%)
Group	1,859 / (44.4%)
HMO	161/ (3.8%)
Hospital Based	603/ (14.4%)
Compensation Type	
Performance Adjustment	2,666/ (56.5%)
Fixed Salary	2,054/ (43.5%)
Practice Size	
5 or Fewer	2,393/ (53.2%)
6 or More	2,105/ (46.8%)

Age	
Less than 40 years of Age	1,177/ (24.9%)
40-59 Years of Age	2,916/ 61.8%)
60 or Older	627 / (13.3%)
Years in Practice	
Less than 3 years	238/ (5.0%)
4-12 years	1,454/ (30.8%)
13-27 years	2,078/ (44.0%)
28 or more years	950 / (20.1%)

Note: number of respondents for each variable may not match due to item specific missing data.

Bivariate Results

A crosstabs analysis with chi-square tests was used to preliminarily examine the relation between career satisfaction of physicians and the variables of interest (Table 3).

Over 80% (80.6%) of physicians that were full or part owners of their practice reported that they were satisfied while 84% of employed physicians reported being satisfied ($\chi^2 = 14.29$, $p< 0.001$). Nearly 84% (83.9%) of physicians that were in a group practice reported being satisfied, while only 77.5% of physicians that were in a solo practice type reported being satisfied ($\chi^2=24.198$, $p< 0.001$). Practice size was significantly associated with career satisfaction, with providers in small groups (5 or fewer) being significantly more dissatisfied than those in groups of six or more ($\chi^2 (2) = 17.91$, $p <0.001$).

Age was also associated with career satisfaction of the physician. Older physicians tended to be more satisfied, with 85.3% of physicians 60 years or older reporting being satisfied, followed by physicians less than 40 years of age at 82.9% ($\chi^2 = 13.792$, $p< 0.001$). Physicians between the ages of 40 and 59 had the lowest level of satisfaction at 80.6% and the highest level of dissatisfaction at 15.9%.

A higher percentage of physicians who had just begun practicing medicine reported being satisfied (87.8%) followed by those that had been in practice for more than 28 years 85.5%, physicians in practice 4-12 years (80.7%) and physicians in practice13-27 years (80.2%) ($\chi^2 = 26.154$, $p < 0.001$).

In sum, there was a significant bivariate association between career satisfaction and five factors: practice size, ownership status, practice type, age, and years in practice. There was no association between career satisfaction and specialty type, compensation type or gender.

Table 3: Physician Satisfaction by Demographics

	Satisfied	Neither Satisfied or Dissatisfied	Dissatisfied	χ^2(p-value)
Ownership				14.299(.001)
Full or Part Owner	2,143/ (80.6%)	91/ (3.4%)	425/ (16.0%)	
Employee	1,511/ (84.0%)	72/ (4.0%)	216/ (12.0%)	
Gender				.089(.957)
Male	2,815/ (81.8%)	129/ (3.8%)	496/ (14.4%)	
Female	1,010/ (81.6%)	45 (3.6%)	182/ (14.7%)	
Specialty				1.371(.504)
Primary Care	2,308/ (82.2%)	98/ (3.5%)	401/ (14.3%)	
Specialist	1,517/ (81.1%)	76/ (4.1%)	277/ (14.8%)	
Practice Type				24.198(.000)
Solo	1,197/ (77.5%)	71/ (4.6%)	276/ (17.9%)	
Group	1,552/ (83.9%)	54/ (2.9%)	244/ (13.2%)	
HMO	132/ (83%)	6/ (3.8%)	21/ (13.2%)	
Hospital Based	493/ (82%)	22/ (3.7%)	83/ (13.9%)	

Compensation Type				1.610(.447)
Salary Adjusted For Performance	2,138/ (81.2%)	103/ (3.9%)	393/ (14.9%)	
Fixed Salary	1,687/ (82.5%)	71/ (3.5%)	285/ (14.0%)	
Practice Size				17.911(.000)
5 or Fewer	1,887/ (79.9%)	86/ (3.6%)	389/ (16.5%)	
6 or more	1,767/ (84.3%)	77/ (3.7%)	252/ (12.0%)	
Age				13.792(.008)
Less than 40 years of age	972 / (82.9%)	51/ (4.4%)	149/ (12.7%)	
40-59 years of age	2,330/ (80.6%)	103/ (3.6%)	459/ (15.9%)	
60 years or older	523/ (85.3%)	20/ (3.3%)	70/ (11.4%)	
Years of Practice				26.154(.000)
Less than 3 years	208/ (87.8%)	8/ (3.4%)	21/ (3.1%)	
4-12 years	1,167/ (80.7%)	69/ (4.8%)	210/ (14.5%)	
13-27 years	1,653/ (80.2%)	70/ (3.4%)	339/ (16.4%)	
28 or more	797 / (85.5%)	27 (/2.9%)	108/ (11.6%)	

Note: Frequencies may not match univariate descriptive due to nonresponse on the career satisfaction item.

Multivariate

The multivariate analysis consisted of two parts and the results in this section follow these two parts. First, presented are the results of an ordinal logistic regression analysis for the entire sample that examined the relationship between employment and career satisfaction, controlling for other physician and practice characteristics. Next, the

results of the subgroup analysis that examined these relationships for different gender and compensation mechanisms are presented.

Main Effect Results for Employment-Career Satisfaction Relationship

There was no significant difference in career satisfaction between physicians who were owners and physicians who were employees (OR=0.965, p=0.75), thus the analysis failed to find support for hypotheses 1 and 2 (Table 4).

With respect to the control variables, only one characteristic was significantly associated with career satisfaction, length of time a physician had been in practice. Relative to physicians who reported being in practice 28 years or more, the odds of a physician reporting a higher level of satisfaction was 0.679 ($p<0.05$) times for physicians in practice 4-12 years and 0.733 ($p<0.05$) for physicians in practice 13-27 years.

Table 4: Ordinal logistic regression results (n=4,720)

	B(Std error)	Sig	OR/95%CI
Intercept 1- satisfied	-2.291(.196)	.000	0.101(-2.675, -1.907)
Intercept 2- neutral	-2.025(.195)	.000	0.132(-2.407, -1.643)
Gender			
Male (referent)			
Female	-.043(.098)	.657	0.958(-.235,.148)
Ownership			
Employee (referent)			
Full or Part Owner	-.036(.112)	.749	0.965(-.255, .183)
Specialty			
Specialist (referent)			
Primary Care	.029(.085)	.734	1.0294(-.138, .196)

Practice Type			
Hospital Based (referent)			
Group	.106(.148)	.471	1.112(-.183, .396)
HMO	.039(.250)	.877	1.039(-.451, .528)
Solo	-.211(.194)	.278	0.809(-.592, .170)
Compensation Type			
Fixed Salary (referent)			
Incentive	-.027(.085)	.751	0.973(-.195, .140)
Practice Size			
6 or more (referent)			
5 or fewer	-.036(.115)	.753	0.965(-.260, .188)
Age			
<40 yrs	-.063(.227)	.782	0.939(-.507, .382)
40-59 yrs	-.226(.175)	.196	0.797(-.569, .116)
60+ (referent)			
Years in practice			
Less than 3	.087(.300)	.772	1.091(-.501, .675)
4-12 years	-.386(.179)	.031	0.679(-.737, -.035)
13-27 years	-.310(.148)	.037	0.733(-.601, -.019)
28 or more (referent)			

Subgroup analysis-Employment-Career Satisfaction Relationship for Males vs. Females

The odds of female physicians who are part a group of 5 or fewer physicians reporting higher career satisfaction is 0.663 times as likely than those physicians that are part of a practice that has more than six members. No significant association was found between ownership and career satisfaction for either male or female physicians. Therefore, hypothesis 3 was not supported.

Table 5: Ordinal Logistic Regression Results, Males (N=3,470) vs. Females (N=1,250)

	OR/95%CI (Male)	OR/95%CI (Female)
Intercept 1- satisfied	0.094(.080, .192)	0.203(.087, .475)
Intercept 2- neutral	0.108(-2.700, -1.752)	0.262(.112, .610)
Ownership		
Employee (referent)		
Full or Part Owner	0.876(.669, 1.148)	1.149(.778, 1.697)
Specialty		
Specialist (referent)		
Primary Care	1.076(.883, 1.310)	0.905(.658, 1.245)
Practice Type		
Hospital Based (referent)		
Group	1.217(.853, 1.736)	0.954(.573, 1.587)
HMO	1.136(.611, 2.112)	0.860(.382, 1.939)
Solo	0.803(.507, 1.270)	0.844(.419, 1.700)
Compensation Type		
Fixed Salary (referent)		
Incentive	0.901(.742, 1.095)	1.222(.875, 1.706)
Practice Size		
6 or more (referent)		

5 or fewer	1.134(.864, 1.487)	0.663(.440, .997)***
Age		
<40 yrs	0.836(.499, 1.400)	1.992(.771, 5.145)
40-59 yrs	0.694(.477, 1.009)	1.777(.774, 4.080)
60+ (referent)		
Years in practice		
Less than 3	1.461(.665, 3.209)	0.826(.282, 2.421)
4-12 years	0.663(.447, .983)	0.718(.311, 1.661)
13-27 years	0.759(.555, 1.038)	0.685(.317, 1.480)
28 or more (referent)		

Subgroup analysis-Employment-Career Satisfaction Relationship for Fixed Salary vs. Incentive Based

The study found no significant relationship between employment and career satisfaction when comparing those physicians that were on a fixed salary and those that had an incentive based compensation arrangement (Table 6). Therefore hypothesis 4 was not supported.

Table 6: Ordinal Logistic Regression Results, Fixed Salary (N=2,054) vs. Incentive (N=2,666)

	OR/95%CI (Fixed)	OR/95%CI (Incentive)
Intercept 1- satisfied	0.013(.071, .237)	0.836(.051, .136)
Intercept 2- neutral	0.169(.093, .307)	0.109(.067, .178)
Ownership		
Employee (referent)		

Full or Part Owner	1.027(.760, 1.400)	0.863(.630, 1.182)
Specialty		
Specialist (referent)		
Primary Care	1.076(.836, 1.385)	1.006(.803, 1.261)
Practice Type		
Hospital Based (referent)		
Group	1.028(.626, 1.688)	1.173(.809, 1.701)
HMO	0.956(.442, 2.070)	1.148(.597, 2.207)
Solo	0.619(.350, 1.100)	0.847(.540, 1.326)
Gender		
Male (referent)		
Female	0.762(.569, 1.022)	1.117(.866, 1.442)
Practice Size		
6 or more (referent)		
5 or fewer	0.932(.682, 1.274)	0.992(.720, 1.366)
Age		
<40 yrs	1.157(.593, 2.256)	0.791(.433, 1.445)
40-59 yrs	1.043(.631, 1.725)	0.640(.399, 1.027)
60+ (referent)		
Years in practice		
Less than 3	1.581(.624, 4.013)	0.8636(.400, 1.862)
4-12 years	0.849(.492, 1.464)	0.600(.377, .955)***
13-27 years	0.831(.536, 1.287)	0.683(.461, 1.011)
28 or more (referent)		

This chapter has presented empirical results based on an analysis of the relationship between physician employment and career satisfaction, controlling for other physician and practice characteristics. Bivariate analysis found significant associations

between career satisfaction and ownership, practice type, practice size, age, and the years a physician had been in practice. However, when controlling for the effects of different physician and practice characteristics, only the length of time in practice was significantly associated with career satisfaction. A discussion of these results, implications for practice and policy, as well as conclusions of this study are presented in the following chapter.

CHAPTER 5

DISCUSSION

A discussion of the study results is presented in this chapter. The discussion will have three main parts. First, findings related to each of the hypotheses will be discussed and explanations of each will be reviewed. Following a discussion of the findings, there will be a discussion of the implications for hospital administrators, practitioners and policy makers as well as limitations of the study. Finally, recommendations for future research will be addressed.

Discussion of Results

The purpose of this study was to examine the relationship between the employment status of a physician and career satisfaction. Higher career satisfaction has been shown to result in better patient outcomes, higher patient satisfaction and less turnover among physicians (Leigh et al., 2009; Scheurer D Fau - McKean, McKean S Fau - Miller, Miller J Fau - Wetterneck, & Wetterneck, 2009). In the context of the changes surrounding the physician workforce, i.e. more physicians employed by health systems and more physicians choosing to practice part time, a better understanding of the factors that contribute to the satisfaction or dissatisfaction a physician experiences in their career is important.

The results of this study indicated that no association exists between career satisfaction and employment. There are several possible reasons why the analysis may not have found a significant relationship.

First, the univariate analysis indicated that physicians are generally quite satisfied with their careers, with over 80% of respondents reporting they were either satisfied or very satisfied with their careers. Both groups, owners and employees, reported being satisfied with their career at the time of the survey. These results are in contrast to studies that showed a decline in career satisfaction among physicians (Hinami et al., 2012; Landon et al., 2006). An explanation for the deviation in the various studies findings could be that physicians who have left the practice of medicine before retirement to pursue other career options were not a part of the pool from which the responses were gathered. While difficult to gauge the impact of these exclusions, the possibility this group may have been overlooked could explain the divergence in the findings.

The bivariate analysis indicated that the following variables had a significant association with career satisfaction: ownership, practice size, age, length of time in practice, and practice type. According to the bivariate analysis, you were more satisfied if you were an owner of a medical practice as opposed to an employee. The implications of this finding could be interpreted as those physicians who have been able to remain employed believe that the benefits of this arrangement outweigh the negatives, or what has been perceived as motivators for employment, i.e. quality of life, stabilization of income, may not be that important. As employment models continue to develop, the more one could identify elements that drive satisfaction, and maintain characteristics of

ownership, the more likely physicians would be satisfied with an employment arrangement.

Employment an Acceptable Form of Practice for Physicians

While this study originally proposed there would be an association between career satisfaction and employment, the study did not bear this out and might suggest that the employment relationship between hospitals and physicians is more flexible than first thought. The theories of professionalism and social exchange suggest that, while a physician who is clearly considered a professional may be averse to organizational hierarchy and bureaucracy, s/he may be willing to exchange some of this desire for autonomy and control for quality of life. It could also mean that relationships between physicians and employers have evolved in a more positive manner over time. Physicians appear to be willing to consider a different approach as well. As physicians consider employment by hospitals, they appear more willing to sacrifice autonomy for economic stability (Butcher, 2008).

The bivariate analysis indicated that physicians who were over 60 years of age or under the age of 40 were more likely to be satisfied than physicians who were between the ages of 40-59. These mid-careerists may have a reason to be less satisfied due to the uncertainty surrounding health care and the practice of medicine. Greater numbers of hours worked per week, family issues and less amount of time available for personal growth were factors that were cited as contributing to increased stress (Bogue et al., 2006). Another factor that may account for this dissatisfaction is that physicians who have made big investments in a medical practice are may be concerned that the rules of

the game are changing. Physicians are now working harder for less pay than in the past (Sauer, 2011). PCP's have seen their income drop as much as 10% from 1995-2003 (Warden, 2009). In the past, compensation has been driven in large part by the volume of patients seen and the services a physician provided. For a provider in private practice, supply costs are increasing as well as other expenses such as salary and benefits increase as do supply costs. Expenses in a physician's practice are increasing at an average annual rate of 6% (Sauer, 2011). Due to this increase in fixed expenses, with no offsetting revenue, the practice or physician must cover the increase.

With increasing overhead and declining reimbursement, one might hypothesize that employment by a health system might be viewed as a safe harbor for physicians who would like to minimize financial risk, focus on practicing medicine, and not deal as much with regulatory compliance issues. Self-employment does offer quite a bit of autonomy. However, with this autonomy comes less resources and flexibility. Solo practitioners or physicians who are part of a small or rural group must often balance the demands of treating patients as well as ensuring the administrative functions are addressed. Medical practice overhead continues to increase and has been coupled with what is viewed as additional bureaucratic requirements such as preauthorization and preapprovals necessary for certain procedures that often result in denials, lost revenue, while at the same time increasing practice costs through additional staffing (Sauer, 2011). Physicians may also have made the decision to practice medicine with a vision that is not achievable now due to reform conditions. Several studies supported that age had a U-shaped associated with career satisfaction with those physicians at the extremes more likely to report being satisfied (Bogue et al., 2006; Scheurer D Fau - McKean et al., 2009). These were the

respondents in this study who were less likely to be satisfied. The most significant factor affecting the career satisfaction of physicians is the length of time a physician has been in practice.

Years in practice was the only significant finding of this study. Years in practice between 4-12 years and 13-27 years, both were less likely to be satisfied when compared to the referent group of over 28 years in practice. These two categories made up almost 75% of the respondents, and when compared to those physicians who have been in practice less than 3 years or over 28 years, were less likely to be satisfied. This finding is evidence that a bulk of the physician manpower available in the future is less likely to be satisfied, which is concerning. As the population continues to live longer but need more attention to chronic health conditions maintaining the physician workforce will be critical.

Moderating/Subgroup Findings

Although five variables showed a positive association following a bivariate analysis, there was no association between the study's two moderating variables, gender and compensation type, and career satisfaction of a physician.

Gender, Employment and Career Satisfaction

The participation of women in the practice of medicine continues to increase and the roles they play are becoming more prominent (Lo Sasso, Richards, Chou, & Gerber, 2011). Because employment may result in a physician having a better work-life balance and this being a characteristic that is attractive to female physicians, one may expect that,

as compared to male physicians, female physicians who are employed by a health system will be associated with higher levels of career satisfaction (Pratt, 2010). Other studies have concluded that female physicians are more likely to retire or scale back the hours they practice medicine during their childbearing years (Landon et al., 2006). This study, however, found that the relationship between employment and career satisfaction did not differ by gender. This finding was consistent, however, with other research (Gibson & Borges, 2009). As stated in the Gibson and Borges study, physicians consistently responded that balancing personal and professional life with medicine was a primary challenge that if not addressed would lead to dissatisfaction. This concern seemed to impact physicians regardless of gender. Physicians reported having a feeling of inadequacy in medicine unless they were just able to focus on medicine and felt they were unable to perform family duties adequately without focusing solely on family. Several respondents reported that they felt they may progress through developmental stages. As a physician progressed through their career, they prioritized family, self and medicine differently at different points in their career. This statement is consistent with this study's findings that physicians that have been in practice for more than 28 years are more likely to be satisfied. However, this finding did not seem to vary by gender.

Impact of Compensation on Employment and Career Satisfaction

Physicians historically have been compensated based on the volume of work they performed. Some have said the worth of a physician is measured based on "productivity, indefatigability, and selfless dedication" (Frank et al., 1999; McMurray et al., 2005). One may expect that a compensation plan that had elements of production as a

component would be a motivating factor to the physician. Given this assumption, physicians who are compensated based on production and performance may be associated with higher levels of career satisfaction. Contrary to this hypothesis, the study found no association between employment and career satisfaction when examined by different types of compensation arrangements, i.e. fixed salary or incentive.

Physicians, goal oriented achievers by nature, appear to work hard when they have production targets and incentives as opposed to long term salary guarantees (Rosenthal, Frank, Buchanan, & Epstein, 2002). Incentives with elements other than production are important as well. The incentive may contain elements of staying engaged with medical staff issues and serving on committees or medical staff meeting attendance. A tie in with participation and the achievement of team goals as well as quality may protect against the diminishing of collegiality and camaraderie that has potential to erode career satisfaction.

Practical Implications

There are a number of practical implications to be drawn from the study's findings. For hospital administrators, as the trend of physician employment by health systems continues, the need to set up an effective employment model is important. Finding an effective model that allows autonomous and professional physicians to be integrated into a bureaucratic health care system could have significant positive implications on the delivery of quality care. As noted by one researcher, "Knowing how satisfaction is influenced can empower managers in adapting the work environment in a positive manner, while reducing negative pressures that can result in absenteeism or even

departure" (Pratt, 2010). To have satisfied physicians participating in an integrated system would also increase the chances of providing appropriate and seamless care to patients. Health systems have an opportunity to capture many benefits of economies of scale, including more favorable payor contracts, more referrals, better patient access and higher quality longitudinal care for the patient (Casalino, Devers, Lake, Reed, & Stoddard, 2003; Kletke, Emmons, & Gillis, 1996; Pope, 1996). In order to capitalize on this opportunity, the health system must have a cohesive, well-functioning team that includes physicians who are able to show medical staff leadership and participate in the achievement of system goals. However, since many practices have become part of a system through acquisitions, merging private practices into part of a bigger system has proven to be cumbersome. Some health systems have attempted to let recently acquired physician practices remain autonomous. Allowing the recently acquired physician practice to continue to function as an autonomous unit has proven counterproductive to accomplishing a system approach. In order to accomplish efficiency across the system, practices must coordinate care across what may have at one time been a collection of individual groups. The system must develop a sense of collegiality and camaraderie among the physician enterprise and have it integrated into the health system. Implications to a hospital administrator would be that having physicians that are satisfied with their careers should lead to better patient outcomes and better patient satisfaction, giving the health system a competitive advantage with better quality results and higher patient satisfaction scores. The health system should be able to more effectively recruit and retain physicians and should be able to address the culture challenges that face all health systems if you have split staff, i.e. private practice physicians and physicians that

are employed by the health system. During the recruitment process, hospitals should recognize the importance of fit between the hospital and the physician that is considering an employment arrangement. While physicians may have similar characteristics and motives, it would not be unreasonable to expect some physicians to be better equipped or disposed to work in an employment arrangement, while other physicians may find themselves in a practice situation where employment just will not work. A physician's predisposition to employment could be a potential explanation why the study did not find any significant relationships between employment and satisfaction. That said, this study did not find a significant association between employment and career satisfaction. Based on the results of this study, hospitals should be cautious in "selling" an employment arrangement to a physician. In other words, employment should not be presented as the "magic bullet" for physicians or hospitals in ensuring the career satisfaction of the physician. In some cases employment may be the lesser of two evils, i.e. decreased income and loss of autonomy but more security and balance of work and personal time.

For physicians, an effective employment model should provide additional career opportunities that balance quality of life concerns to a greater extent than do many private practice models. However, the study did not find an association between satisfaction and employment. While there seems to reoccurring themes that increase the chances of a physician being satisfied, physicians should not assume that by becoming employed they will instantly become happy. If satisfied physicians are less likely to leave the field which would put additional strain on the manpower needed in the future. An option available to practice medicine without the pressures of administrative requirements and regulations found in a private practice might help ensure the supply of necessary

physician manpower in the future. It will be important to keep the physicians engaged in medical staff governance and issues and maintain the feeling of collegiality and camaraderie with their peers that may choose to remain in private practice. Engagement should lead to satisfaction as the physician sees they have opportunities to participate in the direction of the practice despite the fact they may be employed and not the owner of the practice.

For health policymakers, with the noted decline of physicians entering the market combined with the aging of Americans and more Americans with chronic health issues, an approach to sustaining adequate physician manpower coverage is needed (Cooper, 2004). Policymakers are expected to expand the availability of health insurance to an additional 34 million people by 2021 (Kocher & Sahni, 2011). The health care industry is projected to experience shortages in both primary care as well as specialty areas. The null results of the study suggest that physicians can be employed by hospitals without negative implications for their satisfaction, thus there is hope for emerging models of care, such as ACO's and medical homes, that may choose to use employment as a means of integrating physicians and hospitals.

Study Limitations and Opportunities for Future Research

The use of a secondary data source presented limitations in that the variables were restricted to those contained in the original HTPS survey. Variable limitations prevented the analysis of certain interactions and the ability to control for certain factors that may be important. Only one type of satisfaction was evaluated and other types of satisfaction (e.g., satisfaction with staff, patient satisfaction) may be influenced by employment.

Likewise, the way the career satisfaction variable was constructed was rather simplistic and may not have captured some of the important aspects of employment that are associated with satisfaction. Future research might consider more fine-grained measures of satisfaction or different dimensions of satisfaction noted above. Dissatisfied physicians leaving the practice of medicine and therefore not being represented or being underrepresented in the pool of respondents are a possibility and creates an opportunity for selection bias.

The study itself was cross-sectional in design and examined the relationships at a point in time, which limits the ability to make casual claims about the study relationships. The study was not able to perform a longitudinal analysis. With the many changes that are occurring in the health care field today, especially concerning employment of physicians by health systems, the ability to look at changes over a period of time would be insightful. The field would benefit from research that examines evidence that employment models have resulted in a sustainable integrated model that allow the physician to practice medicine in a manner that is consistent with their professional aspirations as well as benefits the community.

One unexplored question is whether satisfaction differs as a function of different employment histories. Cohorts that consisted of physicians that had never been employed, physicians that recently became employed and physicians always employed would allow the researcher to examine differences. Having three separate cohorts would allow a researcher to explore the satisfaction of these three distinct groups. This approach would address questions such as: Are physicians that have never been employed more likely to report being satisfied than those physicians that have always

been employed? If you have been in private practice, are you, as a physician, more likely to be satisfied in an employed situation? The evolution of employment efforts since the data was collected in for this survey results in a limitation of this study.

Another opportunity for future research is more focus on the relationship between the flexibility of employment arrangement and career satisfaction. Do physicians that have flexibility (e.g., work preferred hours, see specific types of patients) in their work schedules report higher levels of career satisfaction? It is important to identify what influences satisfaction thereby empowering managers to adapt the work environment in a manner that will improve satisfaction, while reducing factors that can result in lower levels of satisfaction, absenteeism or even departure (Pratt, 2010). If the rate of physicians working for hospitals continues to increase, additional studies are needed to evaluate their career satisfaction over a period of time. It appears reasonable to expect continued changes in the physician workforce, as studies have found that just 26% of the group studied said they would continue practicing the way they are in the next three years (Sauer, 2011). Nearly three-fourths of the respondents said they would retire, cut back to part time, close their practice to new patients, and/or seek administrative positions (Sauer, 2011).

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APPENDIX A

IRB APPROVAL FORM

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

Institutional Review Board for Human Use

DATE: January 11, 2012

MEMORANDUM

TO: Edward L. Heath
Principal Investigator

FROM: Cari Oliver
Assistant Director, UAB OIRB

RE: Request for Determination—Human Subjects Research
IRB Protocol #N111221003 – Physician Career Satisfaction and Employment by Health Systems

A member of the Office of the IRB has reviewed your exempt application with the above title. Upon review it was determined that the application **qualifies for the designation of Not Human Subjects Research**.

The reviewer has determined that this proposal is **not** subject to FDA regulations and is **not** Human Subjects Research. Note that any changes to the project should be resubmitted to the Office of the IRB for determination.

470 Administration Building
701 20th Street South
205.934.3789
Fax 205.934.1301
irb@uab.edu

The University of
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AB 470
1530 3RD AVE S
BIRMINGHAM AL 35294-0104

Admission to Candidacy
Research Compliance Verification Form

Instructions
Complete this form, including all applicable forms and the signatures of the student, the student's advisor, and the Graduate Program Director. For research approval forms, contact the Institutional Review Board (IRB) (http://www.uab.edu/irb or 934-3789), or the Institutional Animal Care and Use Committee (IACUC) (http://www.uab.edu/iacuc or 934-7692).

Human Subjects
The University of Alabama at Birmingham defines a human subject as not only a living human being, but also human tissue, blood samples, pathology or diagnostic specimens, study of medical records, observation of public behavior, and all questionnaires or surveys.

Does the research proposed by the student involve human subjects? ☐ Yes (continue below) ☒ No
This research is:
Approved ✓ Date 1/11/12

IRB Protocol No. N111221003

Attach a copy of your IRB approval. Your own name must appear on the original approval or on an attached amendment.

Animal Subjects
The University of Alabama at Birmingham defines a laboratory animal as any vertebrate animal (e.g., traditional laboratory animals, farm animals, wildlife, and aquatic animals) and certain higher invertebrate animals used in research, teaching, or testing at UAB or sponsored through UAB but conducted off-site (i.e., field research or at collaborating institutions, etc.).

Does the research proposed by the student involve animal subjects? ☐ Yes (continue below) ☐ No

This research is:
Approved _____ Date _____

IACUC Protocol No. _____

Attach a copy of your IACUC Notice of Approval, showing your research subject and the animal project number. If your own name does not appear on the Notice of Approval, take this form to the IACUC office for verification of approval.

The IACUC office verifies that _____ is covered under the attached approval.
(name of candidate)

Signature of IACUC representative _____ Date: _____

NOTE: The student's advisor, the student, and the Graduate Program Director agree that no research will be initiated until an application is submitted for review and approved by the appropriate review boards (IRB and/or IACUC) if the proposed thesis or dissertation project requires approval. If approval already exists, this student's name must be added to the existing protocol before candidacy will be approved by the Graduate School. It is the responsibility of the student's advisor and the student to comply with federal and UAB regulations associated with this research. Documentation of continuous, appropriate approval will be required before degree conferral; all required IRB and/or IACUC approvals must be current at the time final versions of theses or dissertations are submitted to the Graduate School.

Edward T. Heath Student's Signature	HSA Dept.	12/28/2011 Date
Signature of Student's Advisor	HSA Dept.	12/28/2011 Date
Graduate Program Director	HSA Dept.	12/28/11 Date

Updated 10/31/08

APPENDIX B

COMMUNITY TRACKING STUDY: SURVEY OF PHYSICIANS

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COMMUNITY TRACKING STUDY

SURVEY OF PHYSICIANS

CONDUCTED BY

CENTER *for* STUDYING HEALTH SYSTEM CHANGE

FUNDED BY

Robert Wood Johnson Foundation

About this survey

The Community Tracking Study (CTS) Survey of Physicians is sponsored by The Robert Wood Johnson Foundation (RWJF). The Center for Studying Health System Change (HSC), an independent, nonpartisan research organization, is conducting the study on behalf of RWJF.

This survey asks about your practice and your views about the challenges facing physicians today. The questionnaire takes about 20 to 30 minutes to complete. Information you provide will contribute to analyses on topics of importance to physicians and policy makers. The enclosed fact sheet includes a sample of articles published from previous rounds of this survey, on topics such as whether physicians are accepting Medicare patients, whether pay-for-performance programs could work, and the consequences of physicians' career dissatisfaction.

Your participation is voluntary and greatly appreciated. However, not responding could seriously affect the accuracy of final results, and your point of view may not be adequately represented in the survey findings.

Your identifying information will remain confidential and will not be redistributed. Your answers will be aggregated with those of thousands of other physicians and only used for statistical analyses. Access to all data is tightly restricted. Survey data are made available to researchers only under strict data confidentiality procedures consistent with Federal guidelines. Researchers may request data through the Inter-university Consortium for Political and Social Research, which maintains an archive of survey data for research and instruction. Some HSC analyses may involve linking your survey data to your practice's claims data (such as Medicare claims or other insurer claims) obtained in accordance with the Health Insurance Portability and Accountability Act of 1996 and other strict Federal privacy regulations. In accordance with procedures established during prior rounds of the CTS Physician's Survey, you, your practice, and your patients will NEVER be identifiable from publicly released reports or analyses.

If you have any questions, please call Ms. Jenné Johns at The Robert Wood Johnson Foundation at 877-843-7953 ext. 5788.

Please return your completed questionnaire in the enclosed postage-paid envelope. If another envelope is used, please send to:

Center for Studying Health System Change
c/o WESTAT
1650 Research Boulevard
Rockville, MD 20850-3195

INSTRUCTIONS

Your answers are important to us. Following the instructions below will allow your answers to be correctly recorded

- Please put an "X" to mark your answer like this ☒.
  Fill in **only one answer** unless the instructions are to **"Mark all that apply."**
- Use a blue or black ball-point pen. Please do not use a pencil, your answers will not be recorded.
- If you make a mistake and fill in the wrong box, please draw a line through the incorrect choice, like this ☒. Then, fill in the correct box.
- If you write an incorrect answer, please draw a line through the incorrect answer and write the correct answer next to it.
- When filling in numbers, print each number clearly. Please avoid touching the sides of the boxes; fill in the boxes like this: | 3 | 5 | 9 | %

SURVEY ELIGIBILITY

A. Are you currently a resident or fellow?

☐ Yes → Do not continue. Please return the questionnaire in the enclosed envelope and we will remove your name from our list.

☐ No → **GO TO B**

B. Are you currently a full-time employee of a Federal agency, such as the U.S. Public Health Service, Veterans Administration, or a military service?

☐ Yes → Do not continue. Please return the questionnaire in the enclosed envelope and we will remove your name from our list.

☐ No → **GO TO C**

C. Do you currently provide direct patient care for at least 20 hours a week? Include all practices if you work in more than one practice.

Direct patient care includes seeing patients, performing surgery, and time spent on patient record-keeping, patient-related office work and travel time connected with seeing patients. It does not include time spent in training, teaching, or research, any hours on-call when not actually working, and travel between home and work at the beginning and end of the work day.

☐ Yes → **GO TO Q1**

☐ No → Do not continue. Please return the questionnaire in the enclosed envelope and we will remove your name from our list.

SATISFACTION WITH MEDICINE

1. **Thinking very generally about your satisfaction with your overall career in medicine, would you say that you are currently . . .**

- ☐ Very satisfied
- ☐ Somewhat satisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Somewhat dissatisfied
- ☐ Very dissatisfied

PRACTICE CHARACTERISTICS

2. **In what year did you begin medical practice after completing your undergraduate and graduate medical training?**

A residency or fellowship is considered graduate medical training.

☐☐☐☐ Year

3. **We define your primary specialty as the one in which you spend the most hours.**

What is your primary specialty?

MARK (X) ONE ANSWER

- ☐ Cardiovascular Diseases
- ☐ Dermatology
- ☐ Emergency Medicine
- ☐ Family Practice
- ☐ General Practice
- ☐ General Pediatrics
- ☐ Gastroenterology
- ☐ General Surgery
- ☐ General Internal Medicine
- ☐ Neurology
- ☐ Obstetrics and gynecology
- ☐ Oncology
- ☐ Ophthalmology
- ☐ Orthopedic Surgery
- ☐ Otolaryngology
- ☐ Psychiatry
- ☐ Pulmonology
- ☐ Urology
- ☐ Other Specialty

(Please describe your specialty below)

☐

4. **Are you board-certified in your primary specialty?**

- ☐ Yes
- ☐ No

5. **Please check the box that best describes where you work. If you work in more than one practice, check the one where you work the most hours.**

MARK (X) ONE ANSWER

- ☐ A solo practice → **GO TO Q6**
- ☐ A two physician practice → **GO TO Q6**
- ☐ A group practice with three or more physicians → **GO TO Q6**
- ☐ A group or staff model HMO → **GO TO Q6**
- ☐ A community health center → **GO TO Q6**
- ☐ A *hospital* run by state, county, or city government → **GO TO Q5a**
- ☐ A *hospital* run by a private for-profit or non-profit organization → **GO TO Q5a**
- ☐ A *medical school* or *university* (private or government) → **GO TO Q5a**
- ☐ Some other setting (Please describe)

5a. **If you work in a hospital, medical school, or university, in which of the following settings do you spend most of your time seeing patients?**

- ☐ Office practice owned by the hospital, medical school, or university
- ☐ On hospital staff
- ☐ In the emergency room
- ☐ In a hospital or medical school clinic
- ☐ Somewhere else (Describe)

6. **This question is about your main practice, that is, the business or organization that compensates you. In your main practice, are you a full owner, a part owner (e.g., with one or more other physicians), an employee with no ownership, or an independent contractor?**

- ☐ Full owner → **GO TO Q7**
- ☐ Part owner → **GO TO Q6A**
- ☐ Employee (Not an owner) → **GO TO Q6a**
- ☐ Independent contractor → **GO TO Q8**

6a. **If you are a part owner or employee, do any of the following have an ownership interest in your main practice? Check all that apply:**

- ☐ Other physician(s) in the practice
- ☐ Another physician practice
- ☐ A hospital or hospital group
- ☐ Insurance company, health plan or HMO
- ☐ Medical school or university
- ☐ Other (specify) _____

7. **Including yourself, how many physicians are in your main practice?**

PLEASE INCLUDE ALL LOCATIONS OF THE PRACTICE.

- ☐ 100 or fewer physicians → How many? ☐☐☐
- ☐ More than 100 physicians

8. **On balance, do the overall personal financial incentives in your practice favor reducing services to individual patients, favor expanding services to individual patients, or favor neither?**

MARK (X) ONE ANSWER

- ☐ Reducing services to individual patients
- ☐ Expanding services to individual patients
- ☐ Favor neither

9. **Thinking about your practice specifically, how would you describe the competitive situation your practice faces?**

By competition among physicians, we mean the pressure to undertake activities to attract and retain patients.

MARK (X) ONE ANSWER

- ☐ Very competitive
- ☐ Somewhat competitive
- ☐ Not at all competitive

HOURS WORKED AND PATIENT VISITS

10. **Approximately how many weeks did you practice medicine in 2006?**

Exclude time missed due to vacation, illness, family leave, military service, professional conferences, and other absences.

☐☐ Weeks practicing medicine in 2006

11. **During your LAST COMPLETE WEEK OF WORK, approximately how many hours did you spend in all medically-related activities?**

Please record all time spent in direct patient care in (a) and in other medically-related activities (e.g., administrative tasks and professional activities) in (b). Record the sum of (a) and (b) in total hours (c).

Direct patient care includes seeing patients, performing surgery, and time spent on patient record-keeping, patient-related office work and travel time.

Your best estimate is fine.

a. ☐☐ Hours in direct patient care

b. ☐☐ Hours in administrative tasks and professional activities

c. ☐☐ Total hours in medically-related activities

12. **During your LAST COMPLETE WEEK OF WORK, how many patient visits did you personally have in each of the following settings? Please count as one visit each time you saw a patient.**

Your best estimate is fine.

☐☐ Visits in the office and out-patient clinics

☐☐ Visits on hospital rounds

☐☐ Visits in nursing homes and patients' homes

13. **During a TYPICAL WORK DAY, how much time do you spend on each of the following activities?**

MARK (X) ONE ANSWER FOR EACH ITEM

	None	Less than a half hour	1/2 to 1 hour	1–2 hours	More than 2 hours
a. E-mail communications with patients and their families	☐	☐	☐	☐	☐
b. Telephone conversations with patients and their families	☐	☐	☐	☐	☐
c. E-mail communications with physicians and other clinicians	☐	☐	☐	☐	☐
d. Telephone conversations with physicians and other clinicians	☐	☐	☐	☐	☐

14. **Is your practice reimbursed by any health insurance plans for these activities?**
MARK (X) ONE ANSWER FOR EACH ITEM

	Reimbursed	Not Reimbursed	Unsure if Reimbursed
a. E-mail communications with patients and their families	☐	☐	☐
b. Telephone conversations with patients and their families	☐	☐	☐
c. E-mail communications with physicians and other clinicians	☐	☐	☐
d. Telephone conversations with physicians and other clinicians	☐	☐	☐

15. **During the LAST MONTH, how many hours, if any, did you spend providing charity care? By charity care, we mean that you charged either no fee or a reduced fee because of the financial need of the patient.**

Charity care does not include time spent providing services for which you expected, but did not receive payment, bad debts, time spent providing services under a discounted fee for service contract, or seeing Medicare or Medicaid patients.

Your best estimate is fine.

☐☐ Hours spent providing charity care

☐ None → **IF NONE, GO TO Q16**

15a. **Where do you typically provide charity care?**

MARK (X) ONE ANSWER

☐ In your main practice

☐ On-call or at a hospital emergency department

☐ In another practice or clinic

☐ Somewhere else

PATIENT CHARACTERISTICS

16. **About what percentage of your patients belong to the following groups?**

Your best estimate is fine. If you treat few or no patients in a group, check the box instead of recording a percentage.

	Record Percentage		
a. African-American or Black	☐☐☐ %	☐ Few or None
b. Hispanic or Latino	☐☐☐ %	☐ Few or None
c. Asian or Pacific Islander	☐☐☐ %	☐ Few or None
d. Native American or Alaska Native	☐☐☐ %	☐ Few or None
e. Has a chronic medical condition	☐☐☐ %	☐ Few or None

17. **About what percentage of your patients do you have a hard time speaking with or understanding because you speak different languages?**

Your best estimate is fine.

Record Percentage ☐☐☐ %

18. **Does your practice provide interpreter services for any non-English languages?**

MARK (X) ONE ANSWER

☐ Yes → **ANSWER Q18a**

☐ No → **SKIP TO Q19**

☐ Do not have non-English speaking patients → **SKIP TO Q19**

18a. **For which languages does your practice provide interpreter services?**

MARK (X) ALL THAT APPLY

☐ Spanish

☐ Portuguese

☐ Chinese

☐ Other _____

☐ Other _____

19. **Have you ever attended any professional meetings, workshops, or Continuing Medical Education activities that discuss improving the health of minority patients (such as cultural competence training)?**

☐ Yes ☐ No

INFORMATION TECHNOLOGY IN MEDICINE

20. **The next question is about the use of computers and other forms of information technology, such as hand-held computers, in diagnosing or treating your patients. For each of the following activities, please check whether or not computers or other forms of information technology are used in YOUR PRACTICE.**

For each activity where information technology is used, indicate whether YOU PERSONALLY use the technology routinely, occasionally, or not at all.

	Is Information Technology Available in YOUR PRACTICE for Activity?		IF YES, How often do YOU PERSONALLY use the technology?		
ACTIVITY	**NO**	**YES**	**Routinely**	**Occasionally**	**Not at all**
CLINICAL PRACTICE:					
a. Obtain information about treatment alternatives or recommended guidelines	☐	☐→	☐	☐	☐
b. Obtain up-to-date decision support for diagnostic and treatment recommendations based on data about your patients and practice guidelines	☐	☐→	☐	☐	☐
c. Generate reminders *for clinicians* about preventive services	☐	☐→	☐	☐	☐
d. Generate reminders *for clinicians* about other needed patient follow-up	☐	☐→	☐	☐	☐
e. Generate reminders *to patients* about preventive services	☐	☐→	☐	☐	☐
f. Communicate about clinical issues with patients by e-mail	☐	☐→	☐	☐	☐
PATIENT INFORMATION:					
a. Access patient notes, medication lists, or problem lists	☐	☐→	☐	☐	☐
b. Order laboratory, radiology, or other diagnostic tests	☐	☐→	☐	☐	☐
c. View results of laboratory, radiology, or other diagnostic tests	☐	☐→	☐	☐	☐
d. Exchange clinical data and images *with other physicians*	☐	☐→	☐	☐	☐
e. Exchange clinical data and images *with hospitals and laboratories*	☐	☐→	☐	☐	☐
f. Access information on patients' preferred language	☐	☐→	☐	☐	☐
PRESCRIPTION DRUGS:					
a. Obtain information on potential patient drug interactions with other drugs, allergies, and/or patient conditions	☐	☐→	☐	☐	☐
b. Obtain information on formularies	☐	☐→	☐	☐	☐
c. Write prescriptions	☐	☐→	☐	☐	☐
d. Transmit prescriptions to pharmacy	☐	☐→	☐	☐	☐

21. **An electronic medical record (EMR) is a computer-based patient medical record. Does your main practice use electronic medical records?**

MARK (X) ONE ANSWER

- ☐ Yes, all electronic
- ☐ Yes, part electronic and part paper
- ☐ No, all paper
- ☐ Don't know

22. **Does your main practice receive any financial incentives from health plans and other organizations that are tied to the types of information technology systems (e.g., electronic health records or electronic prescribing systems) it adopts?**

MARK (X) ONE ANSWER

- ☐ Yes
- ☐ No
- ☐ Don't know

HOSPITAL CARE

23. **Medical errors include events such as dispensing incorrect medication doses, surgical mistakes, or errors in interpreting results of diagnostic tests. Does the hospital where most of your patients are treated have a system for reporting medical errors, in which the person reporting the error remains anonymous?**

MARK (X) ONE ANSWER

- ☐ Yes
- ☐ No
- ☐ I do not admit patients
- ☐ Don't know

24. **Hospitalists are physicians whose primary professional focus is the general medical care of hospitalized patients. What percentage of your patients who were hospitalized last year had a hospitalist involved in their inpatient care?**

IF YOU DID NOT ADMIT ANY PATIENTS TO A HOSPITAL IN THE LAST YEAR OR YOU ARE A PRACTICING HOSPITALIST, CHECK THE APPROPRIATE BOX FOR THAT RESPONSE.

Record Percentage ☐☐☐ %

- ☐ I did not admit patients to a hospital in the last year
- ☐ I am a practicing hospitalist

25. **Intensivists are physicians who are board certified to care for critically ill patients in settings such as medical intensive care units. Does the hospital where you admit the greatest number of your patients have intensive care units that are always covered by intensivists?**

IF YOU DID NOT ADMIT ANY PATIENTS TO A HOSPITAL IN THE LAST YEAR OR YOU ARE A PRACTICING INTENSIVIST, CHECK THE APPROPRIATE BOX FOR THAT RESPONSE.

- ☐ Yes
- ☐ No
- ☐ I did not admit patients to a hospital in the last year
- ☐ I am a practicing intensivist

QUALITY AND COORDINATION OF PATIENT CARE

26. **How large an effect does your use of *formal, written* practice guidelines, such as those generated by physician organizations, insurance companies, HMOs, or government agencies, have on your practice of medicine?**

If you are unaware of formal, written guidelines that apply to your practice, check the last box.

MARK (X) ONE ANSWER

- ☐ Very large
- ☐ Large
- ☐ Moderate
- ☐ Small
- ☐ Very small
- ☐ No effect
- ☐ Unaware of guidelines that apply

27. **Please indicate your level of agreement or disagreement with the following statements.**

MARK (X) ONE ANSWER FOR EACH ITEM

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	Neither Agree nor Disagree
a. I have adequate time to spend with my patients during their office visits	☐	☐	☐	☐	☐
b. It is possible to provide high quality care to all of my patients	☐	☐	☐	☐	☐

28. **Please indicate whether or not you receive the following types of reports for your own patients or for the practice as a whole. These reports could be generated by your main practice or by other organizations, such as insurance companies or hospitals.**

MARK (X) ONE ANSWER FOR OWN PATIENTS AND MARK (X) ONE ANSWER FOR THE ENTIRE PRACTICE

	OWN PATIENTS		ENTIRE PRACTICE	
TYPE OF REPORT	**Yes**	**No**	**Yes**	**No**
a. Quality of preventive care delivered to eligible patients	☐	☐	☐	☐
b. Quality of care delivered to patients with specific chronic conditions (such as asthma, diabetes, depression, or congestive heart failure)	☐	☐	☐	☐
c. Demographic information on patients' race, ethnicity, or preferred language	☐	☐	☐	☐
d. Quality of care delivered to patients of different races or ethnic backgrounds	☐	☐	☐	☐
e. Patient lists or registries (e.g., lists of patients with specific clinical conditions, medications, or laboratory results)	☐	☐	☐	☐

29. **Do you *personally* participate in quality reporting programs sponsored by organizations outside of your practice (e.g., Bridges to Excellence, or the Centers for Medicare & Medicaid Services)?**

☐ Yes

☐ No

30. **Do physicians in your main practice *routinely* treat patients with the following chronic conditions?**

MARK (X) ONE ANSWER FOR EACH ITEM

CHRONIC CONDITION	**Yes**	**No**
a. Asthma	☐	☐
b. Diabetes	☐	☐
c. Depression	☐	☐
d. Congestive heart failure	☐	☐

IF YOU ANSWERED "YES" TO ONE OR MORE CHRONIC CONDITIONS (Q30a–d), GO TO Q31

IF YOU ANSWERED "NO" TO ALL FOUR CHRONIC CONDITIONS (Q30a–d), SKIP TO Q32

31. **Does your main practice provide the following services to patients with asthma, diabetes, depression, or congestive heart failure?**

MARK (X) FOR EACH SERVICE PROVIDED FOR PATIENTS WITH THE CONDITIONS ROUTINELY TREATED BY YOUR MAIN PRACTICE

TYPES OF PATIENT SERVICES	Asthma	Diabetes	Depression	Congestive Heart Failure
a. Written materials that explain guidelines for recommended care in English	☐	☐	☐	☐
b. Written materials that explain guidelines for recommended care in languages other than English	☐	☐	☐	☐
c. Nurse care managers to monitor and coordinate the care of patients with that condition	☐	☐	☐	☐
d. Non-physician staff to educate patients in managing that condition	☐	☐	☐	☐
e. Group visits in which patients with that condition meet with staff who provide routine medical care or address educational or personal concerns	☐	☐	☐	☐

32. **Disease management programs are intended to reduce costs and improve quality of life for patients with chronic diseases by integrating delivery of care and involving the patient in self-care. Are any of your patients in disease management programs sponsored by health plans or employers?**

☐ Yes → **GO TO Q32a**

☐ No → **SKIP TO Q33**

32a. **Please indicate your level of agreement or disagreement with the following statements about disease management programs sponsored by *health plans or employers.***

MARK (X) ONE ANSWER FOR EACH ITEM

	Agree Strongly	Agree Somewhat	Neither Agree nor Disagree	Disagree Somewhat	Disagree Strongly
1. Disease management programs improve the overall quality of care for my patients with chronic conditions	☐	☐	☐	☐	☐
2. Disease management programs improve my ability to provide high quality care to my patients with chronic conditions	☐	☐	☐	☐	☐

33. **This question concerns your experiences coordinating patient care with other physicians.**

- If you are a primary care physician (general and family practitioners, and internists and pediatricians who provide general care), answer items (a-d).
- If you are a specialist, answer items (a) and (e-g).
- If you provide both primary care and specialist care, answer all items.
- Check "not applicable" if you rarely or never coordinate patient care.

MARK (X) ONE ANSWER FOR EACH ITEM

	Always or Most of the Time	Sometimes	Seldom or Never	Not Applicable
ALL PHYSICIANS				
a. How often do you know about all the visits that your patients make to other physicians?	☐	☐	☐	☐
PRIMARY CARE PHYSICIANS ONLY				
b. When you refer a patient to a specialist, how often do you send the specialist notification of the patient's history and reason for the consultation?	☐	☐	☐	☐
c. How often do you receive useful information about your referred patients from specialists?	☐	☐	☐	☐
d. After your patient has seen a specialist, how often do you talk with the patient or family members about the results of the visit(s) with the specialist?	☐	☐	☐	☐
SPECIALISTS ONLY				
e. When you see a patient referred to you by a primary care physician (PCP), how often do you receive notification about the patient's medical history and reason for consultation?	☐	☐	☐	☐
f. For the patients that were referred to you by a PCP, how often do you send the PCP notification of the results of your consultation and advice to the patient?	☐	☐	☐	☐
g. How often are new patients you see self-referred?	☐	☐	☐	☐

34. **During the last 12 months, were you *unable* to obtain the following services for your patients when you thought they were medically necessary?**

If the service does not apply to your practice, please check "Not Applicable."

MARK (X) ONE ANSWER FOR EACH ITEM

SERVICE	Yes	No	Not Applicable
a. Referrals to high quality specialists	☐	☐	☐
b. Non-emergency hospital admissions	☐	☐	☐
c. High quality outpatient mental health services	☐	☐	☐
d. Interpreter services for non-English speaking patients when they received care in your practice	☐	☐	☐

35. **What percentage of your patients have prescription coverage that includes the use of a formulary?**

Your best estimate is fine.

Record Percentage ☐☐☐ %

☐ None

36. **Please indicate how often you consider *insured* patients' out-of-pocket costs in making the following decisions.**

MARK (X) ONE ANSWER FOR EACH ITEM

	Always	Usually	Sometimes	Rarely	Never
a. If a generic option is available, how often do you prescribe a generic over a brand name drug?	☐	☐	☐	☐	☐
b. If there is uncertainty about diagnosis, how often do you consider an insured patient's out-of-pocket costs in deciding the types of tests to recommend?	☐	☐	☐	☐	☐
c. If there is a choice between outpatient and inpatient care, how often do you consider an insured patient's out-of-pocket costs?	☐	☐	☐	☐	☐

37. **The table below lists problems that may limit physicians' ability to provide high quality care. For each one, indicate whether you think it is a major problem, minor problem, or not a problem affecting *your* ability to provide high quality care.**

MARK (X) ONE ANSWER FOR EACH ITEM

PROBLEMS THAT MAY LIMIT A PHYSICIAN'S ABILITY TO PROVIDE HIGH QUALITY CARE:	Major Problem	Minor Problem	Not a Problem
a. Inadequate time with patients during office visits	☐	☐	☐
b. Patients' inability to pay for needed care	☐	☐	☐
c. Rejections of care decisions by insurance companies	☐	☐	☐
d. Lack of qualified specialists in your area	☐	☐	☐
e. Not getting timely reports from other physicians and facilities	☐	☐	☐
f. Difficulties communicating with patients due to language or cultural barriers	☐	☐	☐
g. Patient non-compliance with treatment recommendations	☐	☐	☐
h. Medical errors in hospitals	☐	☐	☐
i. Any other problems that you feel limit your ability to provide high quality care (Describe below for up to three problems)			
1.	☐	☐	☐
2.	☐	☐	☐
3.	☐	☐	☐

PRACTICE ACCEPTANCE OF NEW PATIENTS

38. **Is your practice accepting all, most, some, or no new patients who are insured through MEDICARE, including Medicare managed care patients?**

MARK (X) ONE ANSWER

- ☐ All new Medicare and Medicare Managed Care patients → **GO TO Q39**
- ☐ Most new Medicare and Medicare Managed Care patients → **GO TO Q39**
- ☐ Some new Medicare and Medicare Managed Care patients → **ANSWER Q38a**
- ☐ No new Medicare and Medicare Managed Care patients → **ANSWER Q38a**

38a. **If your practice accepts *some or no* new MEDICARE patients, please indicate the importance of each of the following reasons for your practice's decision.**

REASONS WHY PRACTICE ACCEPTS *SOME OR NO* NEW MEDICARE PATIENTS:	Very Important	Moderately Important	Not Very Important	Not at all Important
1. Billing requirements, including paperwork, and filing of claims	☐	☐	☐	☐
2. Concern about a Medicare audit	☐	☐	☐	☐
3. Inadequate reimbursement	☐	☐	☐	☐
4. Practice already has enough patients	☐	☐	☐	☐
5. Medicare patients have high clinical burden	☐	☐	☐	☐

39. **Is your practice accepting all, most, some, or no new patients who are insured through MEDICAID, including Medicaid managed care patients?**

Include patients insured through state *Medicaid* programs that have adopted program names unique to your state.

MARK (X) ONE ANSWER

- ☐ All new Medicaid and Medicaid Managed Care patients → **GO TO Q40**
- ☐ Most new Medicaid and Medicaid Managed Care patients → **GO TO Q40**
- ☐ Some new Medicaid and Medicaid Managed Care patients → **ANSWER Q39a**
- ☐ No new Medicaid and Medicaid Managed Care patients → **ANSWER Q39a**

39a. **If your practice accepts some or no new MEDICAID patients, please indicate the importance of each of the following reasons for your practice's decision.**

REASONS WHY PRACTICE ACCEPTS *SOME OR NO* NEW MEDICAID PATIENTS:	Very Important	Moderately Important	Not Very Important	Not at all Important
1. Billing requirements, including paperwork, and filing of claims	☐	☐	☐	☐
2. Delayed reimbursement	☐	☐	☐	☐
3. Inadequate reimbursement	☐	☐	☐	☐
4. Practice already has enough patients	☐	☐	☐	☐
5. Medicaid patients have high clinical burden	☐	☐	☐	☐

40. **Is your practice accepting all, most, some, or no new patients through PRIVATE OR COMMERCIAL INSURANCE PLANS, including managed care plans and HMOs with which the practice has contracts?**

MARK (X) ONE ANSWER

- ☐ All new privately insured patients
- ☐ Most new privately insured patients
- ☐ Some new privately insured patients
- ☐ No new privately insured patients

SOURCES OF PRACTICE REVENUE

41. **Approximately what percentage of the practice revenue from patient care comes from MEDICARE (including Medicare health plans) and what percentage comes from MEDICAID (including Medicaid managed care) and other public insurance for low income people?**

Your best estimate is fine.

If you work in more than one practice, answer for your main practice. If you are unsure of the percentages, your best estimate is fine.

Record Percentage of practice's patient care revenue from **MEDICARE** ☐☐☐ %

Record Percentage of practice's patient care revenue from **MEDICAID** and other public insurance ☐☐☐ %

42. **Under CAPITATION, a fixed amount is paid per patient per month regardless of the services provided. Thinking about the patient care revenue from all sources received by the practice in which you work, what percentage is paid on a capitated or other prepaid basis?**

Your best estimate is fine.

Record Percentage of patient care revenue that is CAPITATED ☐☐☐ %

43. **With how many health plans does your practice have managed care contracts?**

Managed care contracts are contracts with health plans, such as HMOs, PPOs, IPAs, and Point-Of-Service plans that use financial incentives or specific controls to encourage utilization of specific providers associated with the plan.

Your best estimate is fine.

MARK (X) ONE ANSWER

- ☐ None
- ☐ 1–4
- ☐ 5–9
- ☐ 10–19
- ☐ 20 or more

MEDICAL MALPRACTICE

44. **Considering the full range of patients that you see, indicate your level of agreement with the following statements about medical malpractice.**

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1. I am concerned that I will be involved in a malpractice case sometime in the next 10 years.	☐	☐	☐	☐	☐
2. I feel pressured in my day-to-day practice by the threat of malpractice litigation.	☐	☐	☐	☐	☐
3. I order some tests or consultations simply to avoid the appearance of malpractice.	☐	☐	☐	☐	☐
4. Sometimes I ask for consultant opinions primarily to reduce my risk of being sued.	☐	☐	☐	☐	☐
5. Relying on clinical judgment rather than on technology to make a diagnosis is becoming riskier because of the threat of malpractice suits.	☐	☐	☐	☐	☐

MEDICAL EQUIPMENT & HOSPITAL OWNERSHIP

45. **Physicians are relying on more diverse business models now than in the past.**

A. Does your main practice own (fully or in part) or lease the types of medical equipment listed below? **(CHECK NO OR YES FOR EACH TYPE OF EQUIPMENT.)**

B. **FOR EACH TYPE OF MEDICAL EQUIPMENT CHECKED YES:** is the medical equipment located in your main practice, in a separate business, or in both your main practice and a separate business? By separate business, we mean a subsidiary or separate legal entity from your main practice.

	A. OWN OR LEASE?		B. LOCATION OF EQUIPMENT		
MEDICAL EQUIPMENT USED FOR:	**No**	**Yes**	**Main Practice**	**Separate Business**	**Both Practice and Separate Business**
a. Laboratory testing, including routine blood work	☐	☐→	☐	☐	☐
b. X-rays	☐	☐→	☐	☐	☐
c. Other diagnostic imaging, such as CT or MRI scans	☐	☐→	☐	☐	☐
d. Non-invasive testing besides EKGs (e.g., Echocardiograms, treadmill, nuclear testing, sleep testing)	☐	☐→	☐	☐	☐
e. Invasive procedures, such as endoscopy or cardiac catheterization	☐	☐→	☐	☐	☐

46. **Excluding any medical equipment owned or leased by your main practice, do you personally own (fully or in part) or lease the following types of medical equipment?**

MARK (X) ONE ANSWER FOR EACH ITEM

	Yes	No	Unsure
MEDICAL EQUIPMENT USED FOR:			
a. Laboratory testing, including routine blood work	☐	☐	☐
b. X-rays	☐	☐	☐
c. Other diagnostic imaging, such as CT or MRI scans	☐	☐	☐
d. Non-invasive testing besides EKGs (e.g., Echocardiograms, treadmill, nuclear testing, sleep testing)	☐	☐	☐
e. Invasive procedures, such as endoscopy or cardiac catheterization	☐	☐	☐

47. **Does your main practice own (fully or in part) a hospital?**

MARK (X) ONE ANSWER

- ☐ Main practice is a hospital or is owned by a hospital
- ☐ Yes
- ☐ No
- ☐ Unsure

48. **Excluding any hospitals owned by your main practice, do you personally own (fully or in part) a hospital?**

MARK (X) ONE ANSWER

- ☐ Yes
- ☐ No
- ☐ Unsure

COMPENSATION

49. **Which of the following methods *best* describes your basic compensation?**

MARK (X) ONE ANSWER

- ☐ Fixed salary
- ☐ Salary adjusted for performance (e.g., own productivity, practice's financial performance, quality measures, practice profiling)
- ☐ Shift, hourly, or other time-based payment
- ☐ Share of practice billings or workload
- ☐ Other Method (Describe)

50. **Are you eligible to earn income through any type of bonus or incentive plan?**

Check Yes if you receive periodic adjustments, bonuses, returns on withholds, or any type of supplemental payments, either from your practice or from health plans.

MARK (X) ONE ANSWER

- ☐ Yes
- ☐ No

51. **Medical practices may take various factors into account in determining the compensation (salary, bonus, pay rate, etc.) paid to physicians in the practice. Please indicate whether each of the following factors is explicitly considered by the practice in determining your compensation.**

IF THE FACTOR IS CONSIDERED, how important is it in determining your compensation?

	Is the factor explicitly considered in determining your compensation?		IF YES, how important is the factor in determining your compensation?			
COMPENSATION FACTORS:	**No**	**Yes**	**Very important**	**Moderately important**	**Not very important**	**Not at all important**
a. Factors that reflect your own productivity.	☐	☐ →	☐	☐	☐	☐
b. Results of satisfaction surveys completed by your own patients.	☐	☐ →	☐	☐	☐	☐
c. Specific measures of quality of care, such as rates of preventive care services for your patients.	☐	☐ →	☐	☐	☐	☐
d. Results of practice profiling, i.e., comparing your pattern of using medical resources with that of other physicians.	☐	☐ →	☐	☐	☐	☐
e. The overall financial performance of the practice.	☐	☐ →	☐	☐	☐	☐

52. **During 2006, did you personally receive any of the following from drug, device, or other medically-related companies? Include honoraria and payments from marketing and research firms working for medically-related companies.**

MARK (X) ONE ANSWER FOR EACH ITEM

	Yes	No
a. Food and/or beverages in your workplace?	☐	☐
b. Free drug samples?	☐	☐
c. Honoraria for speaking?	☐	☐
d. Honoraria for participating in surveys on prescribing practices?	☐	☐
e. Payment for consulting services?	☐	☐
f. Payment in excess of costs for enrolling patients in clinical trials?	☐	☐
g. Costs for travel for attending meetings?	☐	☐
h. Gifts that you received as a result of prescribing practices?	☐	☐
i. Complimentary tickets to cultural or sporting events?	☐	☐
j. Complimentary or subsidized admission to meetings or conferences for which CME credits are awarded?	☐	☐

53. **Excluding any food, beverages, and drug samples you may have received in your workplace, please estimate the total value of all goods and services you received in 2006 from drug, device, or other medically-related companies? Include honoraria or payments from surveys on prescribing practices conducted by marketing or research firms for medically-related companies?**

Your best estimate is fine. **MARK (X) ONE ANSWER**

- ☐ None
- ☐ $1 to $ 500
- ☐ $501 to $1,000
- ☐ $1,001 to $5,000
- ☐ $5,001 to $10,000
- ☐ More than $10,000

54. **During 2006, what was your own net income from the practice of medicine, after expenses but before taxes?**

Please include earnings (salaries, fees, bonuses, retainers, etc.) from all practices, not just your main practice, as well as contributions to retirement plans made for you by your practice(s). Exclude investment income, defined as income from investments in medically-related enterprises independent of your medical practice(s), such as medical labs or imaging centers.

Your best estimate is fine. **MARK (X) ONE ANSWER**

- ☐ Less than $100,000
- ☐ $100,001 to $150,000
- ☐ $150,001 to $200,000
- ☐ $200,001 to $250,000
- ☐ $250,001 to $300,000
- ☐ More than $300,000

55. **What percent of your own net income from the practice of medicine is based on factors that reflect your own productivity?**

- ☐ None
- ☐ 1 to 10 percent
- ☐ 11 to 25 percent
- ☐ 26 to 50 percent
- ☐ 51 to 75 percent
- ☐ 76 to 100 percent

PERSONAL BACKGROUND

56. **Do you consider yourself to be of Hispanic origin, such as Mexican, Puerto Rican, Cuban, or other Spanish-speaking background? MARK (X) ONE ANSWER**

- ☐ Yes, Hispanic
- ☐ No, Not Hispanic

57. **What race do you consider yourself to be? MARK (X) FOR ALL ANSWERS THAT APPLY**

- ☐ White
- ☐ Black or African-American
- ☐ Asian or Pacific Islander
- ☐ Native American or Alaska Native
- ☐ Other ____

58. **Is your main medical practice located at the address to which this questionnaire was mailed?**

☐ Yes → **SKIP TO Q60**

☐ No → **GO TO Q59**

59. **What are the name and address of your main medical practice?**

Your information is confidential and individuals or practices will not be identified. Your practice information will help us categorize types of physician practices and will be helpful if we select your practice for a follow-up study in future years.

Name of Practice _____

Street Address _____

City _____ **State** _____ **Zip** _____

60. **What is the name of the hospital where you admit the largest number of patients?**

This information is confidential and will be used solely for analytic purposes, for example, to define hospital referral regions. The hospital will not be contacted.

_____

☐ I do not admit patients

Thank you for taking the time to complete the survey.

Please return your questionnaire in the enclosed postage-paid envelope.

We appreciate your feedback and feel free to use this space to comment on the survey or health issues you would like to see addressed in future surveys.

Comments:

_____

_____

_____

_____

_____

_____

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 0 ☐ **Bat** ☐