

Physician Professional Satisfaction and Area of Clinical Practice: Evidence from an Integrated Health Care Delivery System

John P Caloyeras, MPhil; Michael Kanter, MD; Nicole Ives, MHA; Chong Y Kim, PhD; Hemal K Kanzaria, MD, MSHPM; Sandra H Berry, MA; Robert H Brook, MD, ScD

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ABSTRACT

Context: For health care reform to succeed, health care systems need a professionally satisfied primary care workforce. Evidence suggests that primary care physicians are less satisfied than those in other medical specialties.

Objective: To assess three domains of physician satisfaction by area of clinical practice among physicians practicing in an established integrated health system.

Design: Cross-sectional online survey of all Southern California Permanente Medical Group (SCPMG) partner and associate physicians (N = 1034) who were primarily providing clinic-based care in 1 of 4 geographically and operationally distinct Kaiser Permanente Southern California Medical Centers.

Main Outcome Measures: Primary measure was satisfaction with one's day-to-day professional life as a physician. Secondary measures were satisfaction with quality of care and income.

Results: Of the 636 physicians responding to the survey (61.5% response rate), on average, 8 in 10 SCPMG physicians reported satisfaction with their day-to-day professional life as a physician. Primary care physicians were only minimally less likely to report being satisfied (difference of 8.2-9.5 percentage points; $p < 0.05$) than were other physicians. Nearly all physicians (98.2%) were satisfied with the quality of care they are able to provide. Roughly 8 in 10 physicians reported satisfaction with their income. No differences were found between primary care physicians and those in other clinical practice areas regarding satisfaction with quality of care or income.

Conclusion: It is possible to create practice settings, such as SCPMG, in which most physicians, including those in primary care, experience high levels of professional satisfaction.

INTRODUCTION

Health care reform sets the US on a path toward a health care system that is more patient-centered and more coordinated and that delivers more value per dollar spent. Getting to such a system cannot occur without the active engagement and involvement of all physicians, particularly those practicing in primary care.¹ One of the many reasons for this is because health care reform requires the willingness of all physicians to accept and to work to improve new models of care

delivery such as medical homes as well as various forms of value-based purchasing. Primary care physicians (PCPs) are being additionally relied on to spearhead the formation of medical homes and to take the lead in coordinating patient care in accountable care organizations.²

The active engagement and the involvement required by physicians to help ensure the success of health care reform are worrisome when considered against the backdrop of physician satisfaction. For example, a national

study using survey data collected in 2011 found that 45.8% of physicians studied reported at least 1 symptom of burnout, 37.8% screened positive for depression, and fewer than half of physicians either "agreed" or "strongly agreed" that their work leaves them enough time for their personal and/or family life schedule.³ Such findings raise doubts as to whether physicians, particularly in fields such as primary care with its documented workforce shortages, will be up to the task of helping transform our health care system. Perhaps of greatest concern is the negative perception toward primary care vs specialist careers found to be held by medical students,⁴ as well as the general negative sentiments in the popular press regarding careers in medicine and physician satisfaction.⁵

Although prior studies, including a 2013 RAND report, have examined physician satisfaction, we sought to add to the literature by examining satisfaction by area of clinical practice among physicians practicing in an established integrated health care system.⁶ We partnered with the Southern California Permanente Medical Group (SCPMG)—the physician group that provides care to Kaiser Permanente Southern California (KPSC) members—because it is an organization that reflects a model of care promoted by health care reform and is one that has made considerable investments promoting both quality of care and physician professional satisfaction.⁷⁻⁹

John P Caloyeras, MPhil, is a Doctoral Fellow at the Pardee RAND Graduate School in Santa Monica, an Assistant Policy Analyst for RAND Corporation in Santa Monica, and a Senior Manager for Global Health Economics for Amgen, Inc, in Thousand Oaks, CA. E-mail: jcaloyer@rand.org. **Michael Kanter, MD**, is the Medical Director of Quality and Clinical Analysis for the Southern California Permanente Medical Group in Pasadena, CA. E-mail: michael.h.kanter@kp.org. **Nicole Ives, MHA**, is a Senior Consultant for the Southern California Permanente Medical Group in Pasadena, CA. E-mail: nicole.r.ives@kp.org. **Chong Y Kim, PhD**, is a Senior Consultant for the Southern California Permanente Medical Group in Pasadena, CA. E-mail: chong.y.kim@kp.org. **Hemal K Kanzaria, MD, MSHPM**, is an Assistant Professor of Clinical Emergency Medicine at the University of California, San Francisco, an Emergency Physician at San Francisco General Hospital, and a Natural Scientist for the RAND Corporation in Santa Monica. E-mail: hemal.kanzaria@ucsf.edu. **Sandra H Berry, MA**, is a Senior Behavioral Scientist for the RAND Corporation and a Professor at the Pardee RAND Graduate School in Santa Monica, CA. E-mail: berry@rand.org. **Robert H Brook, MD, ScD**, is a Distinguished Chair in Health Care Services for the RAND Corporation, a Professor at the Pardee RAND Corporation in Santa Monica, a Professor at the David Geffen School of Medicine and at the Fielding School of Public Health at the University of California, Los Angeles. E-mail: brook@rand.org.

As health care reform continues to unfold, more practice settings may look like SCPMG. As such, we believe our results are relevant to medical students assessing the pros and cons and potential satisfaction of various career paths, and more broadly to policy makers wondering what physician satisfaction might look like as our health care system evolves toward that envisioned in the Affordable Care Act.¹⁰

METHODS

Design

We conducted a cross-sectional online survey of physicians. Our survey was developed by the authors at the RAND Corporation (Santa Monica, CA) in Fall 2011 with the goal of engaging physicians on the broad topic of health care value, including physician satisfaction. Of the 28 questions in our survey, 3 were dedicated to physician satisfaction and 7 were designed to gather physician demographics. The survey took approximately 15 minutes to complete. Our study was approved by the institutional review boards at both the RAND Corporation and KPSC.

Setting and Participants

SCPMG is a 6000-physician Medical Group composed of all major specialties that has an exclusive contract to provide medical services across 14 hospitals and more than 200 medical office buildings for the 3.7 million members of the Kaiser Foundation Health Plan in Southern California. The physicians surveyed practice care in a closed, integrated delivery system. SCPMG is a general partnership that self-governs and elects its own leaders. For our study, all SCPMG partner and associate (partner-track) physicians (N = 1034) who were primarily providing clinic-based care in 1 of 4 geographically and operationally distinct KPSC Medical Centers were invited to participate in the survey.

Measures

We divided physician satisfaction into three domains: day-to-day professional life, quality of care, and income.

Day-to-day professional life was our primary measure. This captures the ultimate physician outcome that is a function of many factors, including organizational features such as staffing ratios, health system contexts such as the professional liability environment, and work perceptions such as the quality of care one is able to provide. Our secondary measures were designed to capture information on work perceptions that contribute to overall professional satisfaction: satisfaction with quality of care and satisfaction with income. Our approach followed the physician satisfaction conceptual framework recently developed by the RAND Corporation.⁶

The survey-item stems for our three measures were as follows: 1) "Thinking about your own satisfaction with your day-to-day professional life as a physician, would you say you are ..."; 2) "Thinking about the quality of care you are able to give patients now, would you say you are ..."; and 3) "Thinking about your income in 2012, would you say you are ...". Participants were asked for each to choose one of seven response levels ranging from "extremely satisfied" to "extremely dissatisfied."

We dichotomized each measure for use in our multivariable analysis by categorizing "extremely satisfied" to "somewhat satisfied" as "satisfied" and all other responses (ranging from "neither satisfied nor dissatisfied" to "extremely dissatisfied") as "unsatisfied" following an approach used in prior studies.^{11,12}

Procedures

To allow for comparing PCPs with physicians working in other areas of clinical practice, we asked physicians to self-identify as practicing in "primary care," "medical specialty," "general surgery or surgical subspecialty," or "other." Additional demographic data such as sex and years of postgraduate training were also collected in the survey. RAND Corporation was provided with SCPMG administrative data for all physicians invited to take the survey, to supplement the survey-based demographic data and to allow for comparisons between survey respondents and nonrespondents.

A 7-step process was used to recruit participants from September through November 2013. Step 1 was an e-mail endorsing the survey from each of the 4 Area Medical Directors, followed by an e-mail from regional medical leadership in Step 2. In Step 3, eligible physicians were e-mailed an invitation to participate, which included an encrypted link to the survey hosted on a RAND Survey Research Group server. Steps 4 through 7 involved a series of reminder e-mails to complete the survey, to help maximize the response rate. Survey invitations and reminders were all co-signed by the site-specific Area Medical Directors, the SCPMG regional leader, and the RAND principal investigator. Physicians invited were promised full confidentiality with their responses to the survey and with their response status, both of which were available only to the RAND team. As a token of appreciation and to motivate participation, \$25 Amazon gift cards were provided to physicians who submitted a complete survey.

Data Analysis

Descriptive statistics were used to characterize physicians invited to participate in the survey and to summarize survey responses. Tests of statistical significance (*t*-tests for continuous variables and χ^2 tests for categorical variables) were used to compare physician responses by area of clinical practice and to compare survey respondents with nonrespondents.

Multivariable logistic regression analysis was used to estimate the adjusted proportion of physicians satisfied for each satisfaction measure. Independent variables were selected using the physician satisfaction conceptual model previously developed by RAND.⁶

To illustrate the impact of physician characteristics on our satisfaction measures, we generated predicted probabilities for each physician characteristic in our regression model. These probabilities were calculated by averaging the predictions across all individuals responding to the survey, producing an average marginal effect. The *t*-tests were used to compare predicted probabilities of satisfaction across the levels of each characteristic analyzed. Pearson correlation coefficients were used to measure the strength and direction

... if trying to prioritize professional satisfaction, [physicians] should consider both the quality of care they believe they will be able to deliver and the compensation they are being offered.

of the linear relationship between our satisfaction measures; these are expressed as ϕ coefficients because our satisfaction measures were dichotomous.

RESULTS

Surveys were completed by 636 of the 1034 physicians invited to participate, for an overall response rate of 61.5%. The characteristics of survey respondents, overall and by area of clinical practice, are shown in Table 1. Table 2 compares the characteristics of survey respondents with those of nonrespondents. The distribution of physicians across the 7 response levels for each of our primary

and secondary satisfaction measures is shown in Figure 1. Results of our multivariable regressions can be found in Tables 3 and 4. Because of a lack of variation in the responses to our quality measure—98.2% of physicians reported being satisfied with the quality of care they are able to provide patients—we were unable to perform our planned regression analysis for this measure.

Overall, 83.6% of physicians reported being satisfied with their day-to-day professional life (Table 1). The predicted probabilities for being satisfied with day-to-day professional life found satisfaction to vary between areas of clinical

practice, age categories, and medical school type (Figure 2). Compared with physicians working in primary care, medical specialists and general surgeons or surgical subspecialists were on average found to be 8.2 percentage points ($p = 0.03$) and 9.5 percentage points ($p = 0.02$), respectively, more satisfied with their day-to-day professional life. These absolute differences in professional satisfaction by area of clinical practice were similar in magnitude to those between the physician age categories and type of medical school attended. We found the youngest physicians in our sample (those aged 30-39 years) to be

Table 1. Characteristics of SCPMG physicians responding to survey, overall and by area of clinical practice^{a1}

Physician responses	Overall sample	Area of clinical practice			
		Primary care	Medical specialty	General surgery or surgical subspecialty	Other
No. (%)	636 (100)	283 (44.5)	186 (29.3)	122 (19.2)	45 (7.1)
Sex, no. (%)					
Women	268 (42.1)	138 (48.8)	72 (38.7)	36 (29.5)	22 (48.9)
Men	368 (57.9)	145 (51.2)	114 (61.3)	86 (70.5)	23 (51.1)
Age (years), no. (%)					
30-39	199 (31.3)	99 (35.0)	54 (29.0)	35 (28.7)	11 (24.4)
40-49	225 (35.4)	105 (37.1)	59 (31.7)	44 (36.1)	17 (37.8)
50-59	147 (23.1)	62 (21.9)	40 (21.5)	32 (26.2)	13 (28.9)
60-69	65 (10.2)	17 (6.0)	33 (17.7)	11 (9.0)	4 (8.9)
Age (years), mean (SD)	45.9 (9.2)	44.5 (8.6)	47.3 (10.0)	46.3 (8.8)	46.8 (8.8)
Medical school type, no. (%)					
Public	263 (41.6)	128 (45.2)	71 (38.2)	46 (37.7)	18 (40.0)
Private	270 (42.5)	115 (40.6)	72 (38.7)	64 (52.5)	19 (42.2)
International	103 (16.2)	40 (14.1)	43 (23.1)	12 (9.8)	8 (17.8)
Years since medical school, mean (SD)	18.5 (9.6)	16.9 (9.0)	20.3 (10.6)	18.9 (8.9)	19.6 (9.2)
Years of postgraduate training, mean (SD)	4.8 (2.2)	3.5 (1.4)	5.7 (2.4)	6.2 (1.6)	5.0 (1.8)
Average total hours per week working as an SCPMG physician, mean (SD)	48.8 (10.4)	48.6 (10.5)	47.5 (10.4)	51.7 (9.6)	47.4 (10.8)
Physician satisfaction, mean percentage (SD)					
Satisfied with day-to-day professional life	83.6 (37.1)	79.2 (40.7)	87.5 (33.2)	86.9 (33.9)	85.0 (36.2)
Satisfied with quality of care	98.2 (13.3)	98.0 (14.2)	98.2 (13.3)	100.0 (0.0)	95.0 (22.1)
Satisfied with income in 2012	83.9 (36.8)	86.5 (34.2)	83.2 (37.5)	81.5 (39.0)	77.5 (42.3)
SCPMG partner status, no. (%)					
Associate	154 (24.2)	68 (24.0)	51 (27.4)	27 (22.1)	8 (17.8)
Partner	482 (75.8)	215 (76.0)	135 (72.6)	95 (77.9)	37 (82.2)
KPSC site, no. (%)					
Site 1	149 (23.4)	63 (22.3)	51 (27.4)	25 (20.5)	10 (22.2)
Site 2	172 (27.0)	89 (31.4)	45 (24.2)	27 (22.1)	11 (24.4)
Site 3	139 (21.9)	57 (20.1)	36 (19.4)	32 (26.2)	14 (31.1)
Site 4	176 (27.7)	74 (26.1)	54 (29.0)	38 (31.1)	10 (22.2)

^a Percentages may not total to 100 because of rounding.

¹Source: authors' analysis of SCPMG survey data.

KPSC = Kaiser Permanente Southern California; SD = standard deviation; SCPMG = Southern California Permanente Medical Group.

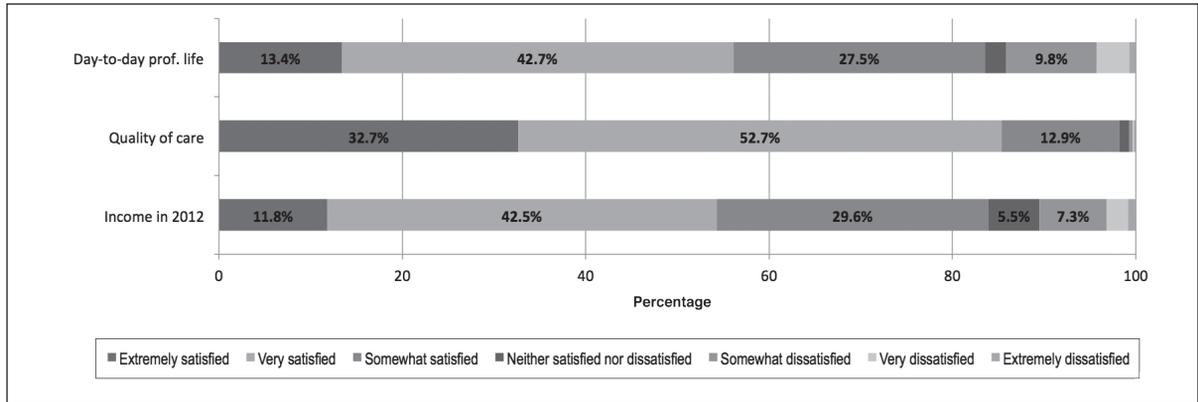


Figure 1. Distribution across response levels, by satisfaction measure.^a

^a Proportions are provided only for categories of satisfaction 5% or greater.

Source: Authors' analysis of Southern California Permanente Medical Group survey data.

Prof. = professional.

9.9 percentage points more likely to be satisfied with their professional life than those aged 40 to 49 years ($p < 0.01$), 13.0 percentage points likelier vs those aged 50 to 59 years ($p < 0.01$), and 16.7 percentage points likelier vs those aged 60 to 69 years ($p = 0.02$). Graduates of international medical schools were roughly 10 percentage points

($p = 0.02$ for both) more likely to be satisfied with their professional life vs those from both public and private US medical schools.

Although 83.9% of physicians reported satisfaction with their income—a proportion nearly identical to that for professional life satisfaction—income satisfaction was not found to vary by

any physician characteristics other than age (Figure 3). Physicians aged 60 to 69 years were, on average, 13.4 percentage points ($p < 0.01$) more likely to be satisfied vs those aged 40 to 49 years.

The correlation between the satisfaction with the perceived quality of care physicians are able to give patients now and one's day-to-day professional life as

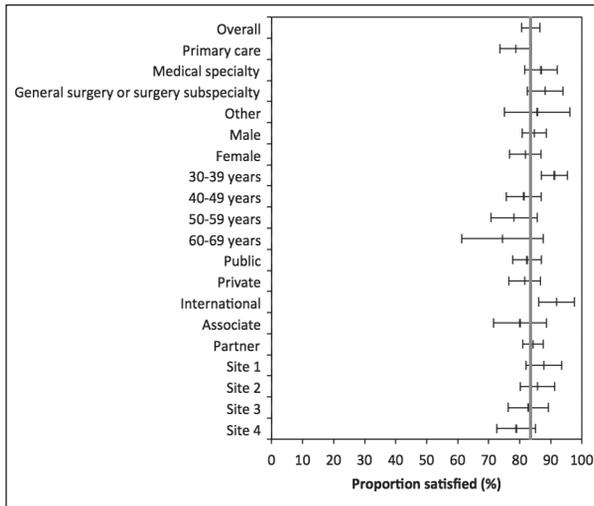


Figure 2. Predicted probabilities for satisfaction with day-to-day professional life as a physician, overall and by physician characteristic.^a

^a Error bars represent 95% confidence intervals for estimate. Variables for which satisfaction varied with statistical significance include the following: 1) area of clinical practice: primary care vs medical specialty ($p = 0.03$) and primary care vs general surgery or surgical subspecialty ($p = 0.02$); 2) age: 30 to 39 years vs 40 to 49 years ($p < 0.01$), 30 to 39 years vs 50 to 59 years ($p < 0.01$), and 30 to 39 years vs 60 to 69 years ($p = 0.02$); 3) medical school type: public vs international ($p = 0.01$) and private vs international ($p = 0.01$); and 4) Southern California Permanente Medical Group site: Site 1 vs Site 4 ($p = 0.04$).

Source: Authors' analysis of Southern California Permanente Medical Group survey data. International = international medical school; private = private medical school; public = public medical school.

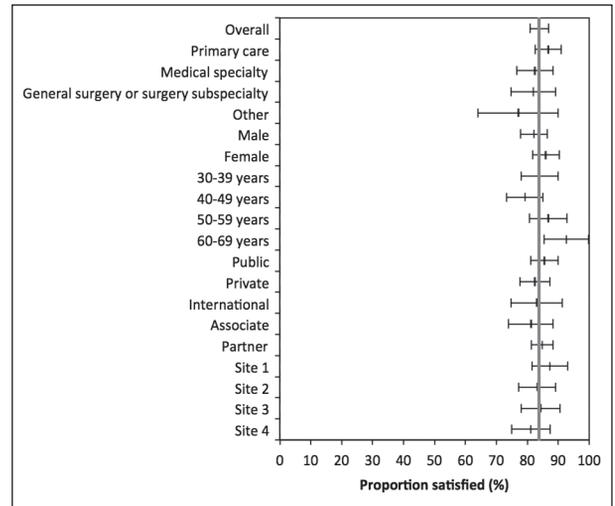


Figure 3. Predicted probabilities for satisfaction with income, overall and by physician characteristic.^a

^a Error bars represent 95% confidence intervals for estimate. Variables for which satisfaction varied with statistical significance were age 40 to 49 years vs 60 to 69 years ($p < 0.01$). Source: Authors' analysis of Southern California Permanente Medical Group survey data. International = international medical school; private = private medical school; public = public medical school.

a physician was positive and statistically significant ($\phi = 0.30$; $p < 0.01$), as was the correlation between satisfaction with one's income and satisfaction with one's day-to-day professional life as a physician ($\phi = 0.17$; $p < 0.01$). No significant association was found between the quality and income satisfaction measures ($\phi = -0.02$; $p = 0.60$).

DISCUSSION

We found that among the SCPMG physicians responding to our survey, roughly 8 in 10 PCPs, 9 in 10 medical specialists, 9 in 10 general surgeons or surgical subspecialists, and 9 in 10 physicians working in another discipline (listed as "other" on the survey) reported satisfaction with their day-to-day professional life. These results provide strong evidence that nearly all physicians—regardless of area of clinical practice—can be professionally satisfied, at least in

SCPMG's closed, integrated delivery system. This finding is likely of interest to medical students weighing the pros and cons of different career paths.

The high levels of satisfaction reported for one's day-to-day professional life may in part be driven by the high levels of satisfaction observed for the perceived ability to provide high-quality care and satisfaction with personal income as shown by Friedberg et al.⁶ Although we could not formally estimate the magnitude of these relationships through regression analyses, our correlation coefficients between our primary and secondary satisfaction measures support this hypothesis.

We thought it best to study SCPMG physicians because they practice in a setting encouraged by health care reform that differs in a number of ways from more traditional fee-for-service practice settings. Such practice-setting

differences are particularly important to note if they may differentially promote physician satisfaction. For example, SCPMG physicians are all salaried, which may promote physician satisfaction by providing greater income stability and reduced income-related anxiety compared with typical fee-for-service compensation arrangements in which income is in large part a function of volume of services

Characteristic	Respondents	Nonrespondents	p value ^b
No. (%)	636 (61.5)	398 (38.5)	—
Sex, no. (%)			
Women	268 (42.1)	163 (41.0)	0.71
Men	368 (57.9)	235 (59.0)	—
Age (years), no. (%)			
30-39	199 (31.3)	96 (24.1)	0.01
40-49	225 (35.4)	157 (39.4)	—
50-59	147 (23.1)	84 (21.1)	—
60-69	65 (10.2)	61 (15.3)	—
Age (years), mean (SD)	45.9 (9.2)	47.1 (9.2)	0.03
Medical school type, no. (%)			
Public	263 (41.4)	138 (34.7)	0.08
Private	270 (42.5)	195 (49.0)	—
International	103 (16.2)	65 (16.3)	—
Years since medical school, mean (SD)	18.5 (9.6)	19.9 (9.5)	0.02
SCPMG partner status, no. (%)			
Associate	154 (24.2)	68 (17.1)	< .01
Partner	482 (75.8)	330 (82.9)	—
KPSC site, no. (%)			
Site 1	149 (23.4)	99 (24.9)	0.16
Site 2	172 (27.0)	89 (22.4)	—
Site 3	139 (21.9)	107 (26.9)	—
Site 4	176 (27.7)	103 (25.9)	—

^a Percentages may not total to 100 because of rounding.

^b p values were generated using two-sample t tests for continuous variables and χ^2 tests for categorical variables.

¹ Source: authors' analysis of SCPMG survey data.

KPSC = Kaiser Permanente Southern California; SCPMG = Southern California Permanente Medical Group; SD = standard deviation.

Variable	Coefficient (standard error)
Area of clinical practice	
Primary care (reference)	
Medical specialty	0.611 ^b (0.297)
General surgery or surgical subspecialty	0.740 ^b (0.342)
Other	0.502 (0.486)
Sex	
Men (reference)	
Women	-0.221 (0.253)
Age (years)	
30-39 (reference)	
40-49	-0.897 ^b (0.357)
50-59	-1.102 ^c (0.393)
60-69	-1.319 ^c (0.500)
Medical school type	
Public (reference)	
Private	-0.054 (0.254)
International	0.924 ^b (0.443)
SCPMG partner status	
Associate (reference)	
Partner	0.308 (0.343)
Total hours per week working as an SCPMG physician (divided by 10)	-0.166 (0.112)
KPSC site	
Site 1 (reference)	
Site 2	-0.189 (0.375)
Site 3	-0.425 (0.378)
Site 4	-0.689 ^d (0.352)
Intercept	3.010 ^c (0.730)
Observations	558

^a Dependent variable was satisfaction with day-to-day professional life as a physician; logistic regression model was used.

^b $p < 0.05$.

^c $p < 0.01$.

^d $p < 0.1$.

¹ Source: authors' analysis of SCPMG survey data.

KPSC = Kaiser Permanente Southern California; SCPMG = Southern California Permanente Medical Group.

provided; this hypothesis is consistent with the recent RAND physician satisfaction study.⁶ The eligibility of all full-time SCPMG physicians to become partners over time may create a sense of ownership, which may also promote satisfaction vs fee-for-service settings and other settings in which physicians are employed (but are not partners). The nearly unanimous satisfaction with quality of care among the physicians responding to our survey may not come as a surprise given the longstanding commitment and efforts

by SCPMG leadership to create high-quality systems of care that lead in the nation, according to the National Committee for Quality Assurance.^{3,13,14}

We found no relationship between physicians' self-reported number of hours worked and day-to-day professional satisfaction (see regression results in Table 3), an area in which prior studies have produced mixed findings.¹⁵ However, our study may not have been able to detect a relationship between hours worked and satisfaction because of the limited variation in hours worked among the physicians responding to our survey (Table 1). Future work could investigate whether equality in the number of hours worked may create a sense of equity and thereby serve as one way to promote physician professional satisfaction.

Reasonable work hours and likewise the high levels of both care quality and day-to-day professional satisfaction reported by the physicians responding to our survey may be attributable in part to SCPMG's well-developed infrastructure for engaging and supporting physicians.^{8,9} In fact, in a recent study, organizational interventions aimed at improving communication and workflow, and initiating quality-improvement projects to address clinician concerns—interventions that largely reflect processes already in place in SCPMG—were found to reduce PCPs' burnout and dissatisfaction.¹⁶ How such characteristics of SCPMG may affect the satisfaction of non-PCP is unknown.

Our key result—that professional satisfaction varies minimally across the 4 areas of clinical practice defined in our study—is difficult to contrast with prior studies because of how specialties are demarcated, the choice of specialty for the reference group, the variation of specialties included, and the exact definitions of professional satisfaction used.¹⁵ A few articles important to note include a 2012 study by Chen and colleagues,¹¹ who examined career satisfaction among PCPs and found those in pediatrics to be marginally more satisfied compared with those in internal medicine. An older article

found physicians in geriatric internal medicine, neonatal-perinatal medicine, dermatology, pediatrics and “all other specialties” to be between 104% (geriatric internal medicine) and 27% (“all other specialties”) more likely to be satisfied vs family practice (the reference category); no other specialties examined had higher satisfaction with statistical significance.¹² The article also examined the likelihood of being dissatisfied vs family practice; the only specialties that were lower (with statistical significance) vs family practice were otolaryngology and rhinology, obstetrics and gynecology, ophthalmology, orthopedic surgery, and internal medicine with the likelihood of dissatisfaction ranging from 78% more likely (otolaryngology) to 22% (internal medicine).¹² Leigh and colleagues,¹⁷ in a follow-up in 2009 to their earlier article on physician career satisfaction,¹² again examined career satisfaction across specialties. The only specialties found to have greater satisfaction with statistical significance compared with family practice (their reference group), were pediatric emergency medicine, geriatric medicine, other pediatric subspecialty, neonatal-perinatal medicine, internal medicine and pediatrics, pediatrics, dermatology, and child and adolescent psychiatry. The specialties that were less likely with statistical significance to be satisfied vs family practice were obstetrics and gynecology, nephrology, pulmonary critical care medicine, and neurologic surgery.

To help frame the implications of our study in the context of health care reform promoting models of care reflective of SCPMG, we sought to contrast our findings with prior studies of physicians practicing in settings similar to SCPMG. The most relevant studies identified were reviewed by Scheurer and colleagues,¹⁵ who found evidence that physicians practicing in health maintenance organizations and those paid based on capitation may be less satisfied. Although somewhat relevant, health maintenance organization and capitation in these prior studies have a very different meaning because the physicians studied were not practicing in

Table 4. Multivariable regression: satisfaction with income in 2012^a

Variable	Coefficient (standard error)
Area of clinical practice	
Primary care (reference)	
Medical specialty	-0.336 (0.290)
General surgery or surgical subspecialty	-0.372 (0.323)
Other	-0.680 (0.430)
Sex	
Men (reference)	
Women	0.297 (0.253)
Age (years)	
30-39 (reference)	
40-49	-0.327 (0.306)
50-59	0.222 (0.378)
60-69	0.876 (0.607)
Medical school type	
Public (reference)	
Private	-0.236 (0.261)
International	-0.197 (0.362)
SCPMG partner status	
Associate (reference)	
Partner	0.264 (0.303)
Total hours per week working as an SCPMG physician (divided by 10)	0.0977 (0.122)
KPSC site	
Site 1 (reference)	
Site 2	-0.336 (0.290)
Site 3	-0.247 (0.371)
Site 4	-0.480 (0.349)
Intercept	1.529 ^b (0.715)
Observations	558

^a Dependent variable was satisfaction with income in 2012; logistic regression model was used.

^b $p < 0.05$.

¹ Source: authors' analysis of SCPMG survey data.

KPSC = Kaiser Permanente Southern California; SCPMG = Southern California Permanente Medical Group.

closed, integrated care delivery systems, as were SCPMG physicians. We thus conclude that there is hope that, as our health care system evolves to look more like the model of care practiced within SCPMG, attaining the high levels of physician satisfaction found in our study may be possible in other settings.

We believe our results should provide hope to both medical students and physicians that practice settings do exist where nearly all physicians across all areas of clinical practice are satisfied not only with their day-to-day professional life but also with their compensation and perceived ability to provide care that is of high quality. Physicians also ought to take from our results that if trying to prioritize professional satisfaction, they should consider both the quality of care they believe they will be able to deliver and the compensation they are being offered. The positive correlation we found between satisfaction with the perceived ability to provide quality care and one's day-to-day professional life points toward a potential benefit of practices giving their physicians the flexibility needed to provide care they perceive as being of high quality.

As health care reform continues to unfold, physician satisfaction should be actively monitored. In this way, the models of care being implemented across the US can be refined in ways that maintain physician satisfaction, particularly among PCPs, while at the same time moving our system toward care that is provided consistently, with high quality and at reasonable cost for all Americans.

CONCLUSION

Our results demonstrate that there are groups of physicians practicing medicine in settings where nearly all physicians across all areas of clinical practice (including primary care) report satisfaction with their day-to-day professional life as a physician. Because the success of health care reform depends largely on PCPs, efforts to maximize their professional satisfaction are required. We hope our findings encourage organizations, including SCPMG, to continue

monitoring the satisfaction of their physicians and to strive to create practice settings where physicians across all areas of clinical practice can experience high levels of professional satisfaction. ♦

^a *The National Committee for Quality Assurance (NCQA) is a private, nonprofit organization dedicated to improving health care quality. The NCQA accredits and certifies a wide range of health care organizations. It also recognizes clinicians and practices in key areas of performance. The NCQA Healthcare Effectiveness Data and Information Set (HEDIS) is the most widely used performance measurement tool in health care.*

Disclosure Statement

Mr Caloyeras is currently an employee and shareholder of Amgen Inc, Thousand Oaks, CA, but was not at the time the study was conducted. Dr Kanter is a Southern California Permanente Medical Group (SCPMG) partner; Ms Ives and Dr Kim are SCPMG employees.

The authors have no other conflicts of interest to disclose.

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References

1. Kanzaria HK, Brook RH. The silent physician. *J Gen Intern Med* 2013 Nov;28(11):1389-91. DOI: <http://dx.doi.org/10.1007/s11606-013-2525-y>.
2. Long T, Khan AM, Chana N. Achieving better value: primary care must lead on population health. *Postgrad Med J* 2015 Feb;91(1072):59-60. DOI: <http://dx.doi.org/10.1136/postgradmedj-2015-133264>.
3. Shanafelt TD, Boone S, Tan L, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med* 2012 Oct 8;172(18):1377-85. DOI: <http://dx.doi.org/10.1001/archinternmed.2012.3199>.
4. Phillips J, Weismantel D, Gold K, Schwenk T. How do medical students view the work life of primary care and specialty physicians? *Fam Med* 2012 Jan;44(1):7-13.
5. Drake D. How being a doctor became the most miserable profession [Internet]. New York, NY: The Daily Beast; 2014 Apr 14 [cited 2015 Dec 8]. Available from: www.thedailybeast.com/articles/2014/04/14/how-being-a-doctor-became-the-most-miserable-profession.html.
6. Friedberg MW, Chen PG, Van Busum KR, et al. Factors affecting physician professional satisfaction and their implications for patient care, health systems, and health policy. Santa Monica, CA: RAND Corporation; 2013. Also available from: www.rand.org/pubs/research_reports/RR439.html.
7. Kanter MH, Lindsay G, Bellows J, Chase A. Complete care at Kaiser Permanente: transforming chronic and preventive care. *Jt Comm J Qual Patient Saf* 2013 Nov;39(11):484-94.
8. Weisz JA, Mohrman SA, McCracken A. It's a great time to be a physician: building a healthcare system that works. Bozeman, MT: Second River Healthcare Press; 2013.
9. Cochran J, Kenney CC. The doctor crisis: how physicians can, and must, lead the way to better health care. New York, NY: PublicAffairs; 2014.
10. The Patient Protection and Affordable Care Act of 2010. Public Law 111-148, 111th Congress, 124 Stat 119, HR 3590, enacted 2010 Mar 23.
11. Chen PG, Curry LA, Nunez-Smith M, Bradley EH, Desai MM. Career satisfaction in primary care: a comparison of international and US medical graduates. *J Gen Intern Med* 2012 Feb;27(2):147-52. DOI: <http://dx.doi.org/10.1007/s11606-011-1832-4>.
12. Leigh JP, Kravitz RL, Schembri M, Samuels SJ, Mobley S. Physician career satisfaction across specialties. *Arch Intern Med* 2002 Jul 22;162(14):1577-84. DOI: <http://dx.doi.org/10.1001/archinte.162.14.1577>.
13. Medicare/Medicaid health plan rankings 2014-2015: top 15 Medicare health insurance plans [Internet]. Washington, DC: The National Committee for Quality Assurance; 2014 [cited 2015 Apr 13]. Available from: www.ncqa.org/ReportCards/HealthPlans/HealthInsurancePlanRankings/Medicare/MedicaidHealthPlanRankings20142015.aspx.
14. NCQA health insurance plan rankings 2014-2015—summary report (private) [Internet]. Washington, DC: The National Committee for Quality Assurance; 2014 [cited 2015 Apr 13]. Available from: <http://healthplanrankings.ncqa.org/2014/>.
15. Scheurer D, McKean S, Miller J, Wetterneck T. US physician satisfaction: a systematic review. *J Hosp Med* 2009 Nov;4(9):560-8. DOI: <http://dx.doi.org/10.1002/jhm.496>.
16. Linzer M, Poplous S, Grossman E, et al. A cluster randomized trial of interventions to improve work conditions and clinician burnout in primary care: results from the Healthy Work Place (HWP) Study. *J Gen Intern Med* 2015 Aug;30(8):1105-11. DOI: <http://dx.doi.org/10.1007/s11606-015-3235-4>.
17. Leigh JP, Tancredi DJ, Kravitz RL. Physician career satisfaction within specialties. *BMC Health Serv Res* 2009 Sep 16;9:166. DOI: <http://dx.doi.org/10.1186/1472-6963-9-166>.