Physician Workforce and Healthcare Markets

Employed Family Physician Satisfaction and Commitment to Their Practice, Work Group, and Health Care Organization

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Objective. Test a model of family physician job satisfaction and commitment.

Data Sources/Study Setting. Data were collected from 1,482 family physicians in a Midwest state during 2000–2001. The sampling frame came from the membership listing of the state's family physician association, and the analyzed dataset included family physicians employed by large multispecialty group practices.

Study Design and Data Collection. A cross-sectional survey was used to collect data about physician working conditions, job satisfaction, commitment, and demographic variables.

Principal Findings. The response rate was 47 percent. Different variables predicted the different measures of satisfaction and commitment. Satisfaction with one's health care organization (HCO) was most strongly predicted by the degree to which physicians perceived that management valued and recognized them and by the extent to which physicians perceived the organization's goals to be compatible with their own. Satisfaction with one's workgroup was most strongly predicted by the social relationship with members of the workgroup; satisfaction with one's practice was most strongly predicted by relationships with patients. Commitment to one's workgroup was predicted by relationships with one's workgroup. Commitment to one's HCO was predicted by relationships with management of the HCO.

Conclusions. Social relationships are stronger predictors of employed family physician satisfaction and commitment than staff support, job control, income, or time pressure.

Key Words. Job satisfaction, commitment, working conditions, family physicians

“The reality of the growing dissatisfaction with the practice of medicine has reached a crisis level” (Weinstein and Wolfe 2007). This belief has led to the growing number of studies of physician job satisfaction (Breslau, Novack,

and Wolf 1978; Pasternak, Tuttle, and Smith 1986; Schulz and Schulz 1988; Buciuniene, Blazeviciene, and Bludziute 2005; Scott et al. 2006; Van Ham et al. 2006; Whalley et al. 2006; Keeton et al. 2007). Job satisfaction studies are important because they have identified outcomes linked to satisfaction, such as turnover (Beasley et al. 2004; Misra-Hebert, Kay, and Stoller 2004; Landon et al. 2006; Joseph et al. 2007; Wright and Bonett 2007), cutting back hours (Landon et al. 2006), mental health (Williams et al. 2002), quality of care (Grembowski et al. 2005), and burnout (Linzer et al. 2001). Satisfied physicians also appear to engender greater satisfaction, trust, and confidence in their patients (Grembowski et al. 2005). Satisfaction studies are also important because they have identified job and organizational predictors of satisfaction (Gaertner 1999; Freeborn 2001; Duffy and Richard 2006; Van Ham et al. 2006) that can be changed to improve satisfaction, and they decrease the likelihood of subsequent bad outcomes such as burnout or turnover.

While physician satisfaction continues to receive attention, physician commitment has received far less (Lakin 1998; Burns et al. 2001; Freeborn 2001). Outside of health care, commitment and satisfaction are considered among the two most important employee attitudes because both lead to a variety of important behaviors such as performance, turnover, absenteeism, and helping behaviors (Currivan 1999; Meyer and Herscovitch 2001; Wagner 2007; Solinger, van Olffen, and Roe 2008). But for some reason, commitment has been largely ignored in studies of physicians.

Commitment has been defined in many ways, but a common theme is that commitment to something can be thought of as the force that binds a person to something, where the “something” is typically a behavior (e.g., “I am committed to providing better care”) or an entity (e.g., “I am committed to my practice”) (Meyer and Herscovitch 2001). Commitment has cognitive, emotional, and behavioral components (Solinger, van Olffen, and Roe 2008). Low commitment can lead to behaviors such as turnover, but high commitment can lead to helping behaviors directed to patients or colleagues (Solinger, van Olffen, and Roe 2008), making the study of physician commitment an important gap to fill.

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Another important gap in the literature on physician attitudes, in addition to the omission of commitment, is that studies have not examined satisfaction and commitment directed to the entities that physicians most associate themselves with: one's practice, one's workgroup (people with whom you take call), and one's employer, which we refer to as the physician's health care organization (HCO) or parent organization.¹ Instead, existing research has typically only focused on the latter (Schulz, Girard, and Scheckler 1992; Burdi and Baker 1997; LePore and Tooker 2000; Linzer et al. 2000; Sturm 2001; Beasley et al. 2004, 2005). Results show that HMO employed and non-HMO physician satisfaction varies widely, as do the predictors of satisfaction. But these studies have not compared measures of satisfaction (or commitment) with entities that physicians affiliate. This is an important omission for at least two reasons: (a) satisfaction with or commitment toward these different entities may differentially predict outcomes such as turnover and job performance and (b) different variables may predict each type of satisfaction and commitment. If (a) and (b) are true, then current efforts to improve physician satisfaction and/or commitment may need to be redirected. This study is an attempt to fill that gap. The purpose of this study was to compare satisfaction and commitment scores among family physicians toward their practice, workgroup, and HCO and to determine what work factors predict the different types of satisfaction and commitment. The sample consisted of family medicine physicians employed by large multispecialty group practices, a group for whom this may be especially important in light of the low numbers of medical students intending to pursue a career in primary care (Hauer et al. 2008).

METHOD

Design and Sample

A cross-sectional survey of family physicians ($n = 1,482$) in a Midwest state was conducted. The sampling frame came from the membership listing of the state's family physician association, which includes approximately 90 percent of all family physicians in the state. Residents were excluded. No other inclusion or exclusion criteria were applied. The analyzed dataset included family physicians employed by large multispecialty group practices. Eleven of the surveys came back as "undeliverable" and eight surveys were returned by physicians who were not family physicians.

Procedure

Focus groups and literature reviews were used to develop the content of the survey. Previous studies on physician quality of working life were examined to extract measures. Three focus group phone conferences were conducted with six family physicians in order to discuss other issues important to family physicians that should be measured. It was agreed upon that the survey instrument should be no longer than four single-sided pages long. The final survey instrument contained items from both previously used questionnaires and focus group generated concerns and covered the broad areas of working conditions, medical records systems, job satisfaction, commitment, and demographics.

The mailing procedure followed a modified Dillman (2000) method. A postcard was mailed out to each physician that announced the study, explained its purpose, and described the U.S.\$100 incentive (i.e., a random drawing). A week later the survey was mailed out with a cover letter and consent form. Ten days later a reminder postcard was mailed to nonrespondents, followed by an e-mail reminder to the entire sample 7 days later, and a final reminder postcard to nonrespondents 7 days after that.

Measures

The survey questions were developed using items from the literature and from telephone focus groups of family physicians. The survey included a total of 77 questions with 5-point Likert response scales (scored 0–4, where 4 was the most positive response) except for the commitment variables, which had response scales of 1–7, where 7 was the most positive response after reverse coding. The numbering below, 1–20, corresponds to the numbering in Table 2.

Working Condition Measures. Single-item and multi-item scales were used to measure working conditions (see Appendix SA2 for all question items, response scales, and citations). The six single-item measures were as follows:

1. Continuity of care.
2. Opportunity to fully use skills.
3. Opportunity to stay up-to-date with new medical information.
4. Ability of your primary clinical assistant to support you.

5. The extent to which your HCO's goals were compatible with your own professional goals.
6. How reasonable is the amount of paper work.

Confirmatory factor analysis (CFA) was used to confirm nine multi-item scales, where all items were again measured on five-point Likert scales. The scale names appear here; all scale items and full citations appear in the Appendix SA2.

7. *Control over day-to-day affairs* (five items).
8. *Control over management types of decisions* (five items).
9. *Time pressure in clinic* (three items).
10. *Time pressure—macro-scale* (three items).
11. *Relationships—patients* (two items).
12. *Relationships—with workgroup* (four items).
13. *Relationships—with the HCO* (three items).
14. *Medical record quality* (three items).
15. *Income* (four items).

Satisfaction. There were three measures of satisfaction.

16. *Satisfaction with your practice* (four items).
17. *Satisfaction with your work group* (two items).
18. *Satisfaction with your HCO* (two items).

Commitment. There were two commitment constructs, commitment to one's (#19) workgroup and to one's HCO (#20). Both were four-item scales.

Demographics. The survey included measures of gender, age, race and ethnicity, practice location (urban, rural, suburban), hours per week working, number of employees in one's work group, number of employees in one's practice, number of years practicing medicine, number of years at one's current practice, clinic name, and HCO name.

Data Analysis

Because the study included measures of satisfaction and commitment to a parent organization, only those respondents with a parent organization (not independents) were included in the analysis. Further, because we wanted to test whether there were dependencies based on which HCO a physician belonged to, we could only include respondents from HCOs from which there were at least 10 respondents. This dropped the analyzed sample to 408.

Eleven scales were produced and confirmed using CFA using maximum likelihood estimation. All CFA were conducted using the *Mplus* (Muthen and Muthen 2007) software, and we modeled as either dyad scales (i.e., control, time pressure, technical support/money issue, and commitment) or triad scale (i.e., relationships). This procedure was done to provide sufficient degrees of freedom for fit assessment.

Our analysis used a subset of structural equation modeling known as single composite indicator structure equation modeling (CISE) (McDonald, Behson, and Seifert 2005). This approach is based on item parceling, and it allowed us to examine a recursive set of linear relationships between our exogenous variables (i.e., variables that are not caused by another variable[s] in the model) and endogenous variables (i.e., variables that are caused by one or more variable[s] in the model) using maximum likelihood estimation. CISE was used to (1) improve the normality of the indicators, (2) reduce the number of parameters to be estimated, (3) improve the internal consistency of the parameters, and (4) improve the variable to sample size ratio (Bandalos and Finney 2001; Bandalos 2002). In this approach, measurement error for the composite indicators were fixed to an estimate of the measurement error based on an estimate of reliability ($[1 - \text{Cronbach's } \alpha] \times \sigma^2$ of composite variable) (McDonald, Behson, and Seifert 2005), while measurement error for individual items in the model was set to zero. This provided for disattenuated estimates. Our initial model was a fully saturated model (all paths were estimated between the variables) where (a) all of the working condition variables had direct effects paths to the five endogenous variables, satisfaction with practice, work group, and HCO, and commitment to work group and HCO, (b) all five endogenous variables were allowed to correlate, and (c) we entered the covariates gender, age, hours per week, number of employees in the workgroup, number of employees in the practice, number of years practicing medicine, number of years at current practice, race/ethnicity, practice location, and presence of an electronic medical record at each of the five endogenous variables. Based on the results of the saturated model, nonsignificant paths were dropped, and the model was re-estimated, providing a reduced structure.

Although the data contained missing values, it was determined that they were both missing completely at random (MCAR) and missing at random (MAR). We used the structural equation modeling package *Mplus* Version 5 (Muthen and Muthen 2007) to implement the full-information maximum likelihood (FIML) algorithm (Little and Rubin 2002) so as not to lose respondents to listwise deletion. The FIML algorithm has been shown to produce

unbiased parameter estimates and standard errors under MAR and MCAR (Little and Rubin 2002). Based on the FIML algorithm we had data coverage in the covariance matrix from 71.6 to 100 percent completeness.

Our CISE model was assessed for fit using the following indices: the Tucker–Lewis index (TLI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Hu and Bentler (1999) suggest the following fit index cut-off values for good model fit: $TLI > 0.95$, $CFI > 0.95$, $RMSEA < 0.06$, and $SRMR < 0.08$.

RESULTS

Six hundred and twenty-eight physicians responded (47 percent). In all, 584 respondents could be assigned either as independent physicians or as HCO-employed physicians. Forty-four respondents were in work situations that could not be categorized as either. Seventy-eight (13 percent) of respondents were in the independent group and 506 (87 percent) were in the HCO-employed group. Less than 5 percent listed themselves as being in solo practice. Some who did were actually employed by HCOs. These physicians were included in the HCO group. Among the 506 in the HCO-employed group, 408 belonged to HCOs with at least 10 respondents, representing 18 different HCOs. Sixteen of the 18 HCOs in our sample were large multispecialty groups and the remaining two were also associated with medical schools. At the national level, in 2000, the year of our data collection, approximately 52 percent of family physicians were in HCOs, and in 2008 approximately 60 percent were in HCOs.² There were no respondents from health centers or state hospitals. This was the analyzed sample.

Within-clinic dependencies were assessed using the design effect, which is a function of the intraclass correlation and the average cluster size, as shown as $(1 + [\text{average cluster size} - 1] \times \text{intraclass correlation})$. A design effect > 2 indicates that the clustering in the data needs to be taken into account during estimation (Muthen and Satorra 1995). Our design effects for the five outcome measures ranged from 0 to 1.945, indicating that modeling dependency was not required for appropriate estimates of standard errors.

Table 1 shows demographic characteristics of the entire sample. The physicians reported working an average of 50 hours per week ($SD = 13$), having an average of 14 physicians in their primary work group ($SD = 34$), having an average of 59 employees in their primary practice location ($SD = 269$), practicing an average of 13 years as a physician ($SD = 9$), and practicing an average of 9 years in their current practice ($SD = 7$).

Data from the AAFP³ confirm that the respondents were similar to the general population of Wisconsin family physicians with respect to age (56 percent of respondents versus 56 percent of WAFP members were younger than 45 years), sex (32 percent of respondents versus 28 percent of WAFP members were female), and weekly work hours (mean of 51 hours for respondents versus 48.1 hours for family physicians in the Wisconsin region). Comparisons with national data from the AAFP show our study sample to have similar gender characteristics as current national data, and to be younger than current national data: male gender—AAFP in 2000, 72 percent; AAFP 2008, 64 percent; our study, 65.2 percent and 44 years of age or under—AAFP in 2000, 53.3 percent; AAFP 2008, 43.1 percent; our study, 54.5 percent.

Table 2 shows the means, standard deviations, reliability estimates for multi-item scales, and correlations among the variables. Table 3 shows the standardized and unstandardized parameter estimates of the working condition variables for the final model, with only significant paths. The model fit was very good: χ^2 -test of model fit = 60.14, df = 46, p = .08, CFI = 0.995, TLI = 0.985, RMSEA = 0.027, SRMR = 0.016. The significant standardized estimates between endogenous variables were commitment to HCO with commitment to workgroup = 0.56, commitment to HCO and satisfaction with HCO = 0.45, satisfaction with practice with satisfaction with workgroup = 2.01, and satisfaction with workgroup and satisfaction with HCO = 1.96.

Table 1: Demographic Characteristics of the Responding Sample*

	<i>N</i>	%
Gender		
Male	420	65.2
Female	210	32.6
Age		
34 or less	108	16.8
35–44	243	37.7
45–54	223	34.6
55 or more	49	7.6
Minority status		
White	573	89.0
Nonwhite	44	6.8
Practice location		
Rural	275	42.7
Urban	150	23.3
Suburban	194	30.1

*Percents do not always add up to 100% due to missing data.

Table 2: Reliability Estimates, Means, Standard Deviations, and Correlations* for Study Variables

	Reli [†]	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Continuity	NA	3.3	0.8																			
Skills	NA	3.1	0.9	0.43																		
Up-to-date	NA	2.8	1.0	0.25	0.39																	
Asst. supt	NA	2.8	1.1	0.39	0.32	0.23																
Gol comp	NA	1.9	1.1	0.38	0.37	0.29	0.36															
Paperwork	NA	1.2	1.0	0.26	0.19	0.28	0.25	0.26														
Cnt-affairs	0.71	2.7	0.6	0.41	0.41	0.31	0.28	0.42	0.20													
Cnt-mngt	0.84	1.9	0.8	0.32	0.34	0.22	0.33	0.47	0.16	0.55												
Time clinc	0.68	2.0	0.6	0.43	0.42	0.37	0.35	0.37	0.32	0.60	0.36											
Time mcro	0.79	2.4	0.9	0.27	0.33	0.37	0.21	0.37	0.40	0.32	0.20	0.43										
Rel. patients	0.65	3.4	0.6	0.42	0.39	0.27	0.30	0.23	0.04	0.29	0.21	0.32	0.11									
Rel. wrkgp	0.79	2.9	0.7	0.28	0.40	0.28	0.24	0.38	0.17	0.28	0.33	0.21	0.29	0.27								
Rel. HCO	0.91	2.1	1.1	0.40	0.41	0.34	0.39	0.69	0.30	0.42	0.58	0.38	0.35	0.25	0.49							
Med rec qual	0.72	2.5	0.9	0.28	0.27	0.17	0.30	0.32	0.16	0.31	0.37	0.30	0.18	0.23	0.27	0.35						
Income	0.84	2.5	0.9	0.25	0.37	0.29	0.28	0.47	0.24	0.33	0.30	0.30	0.37	0.27	0.31	0.45	0.23					
Sat practice	0.72	3.1	0.6	0.38	0.40	0.30	0.36	0.42	0.14	0.42	0.39	0.37	0.25	0.49	0.44	0.41	0.35	0.30				
Sat workgroup	0.82	3.0	0.8	0.24	0.35	0.22	0.33	0.50	0.16	0.31	0.33	0.27	0.26	0.28	0.73	0.44	0.26	0.29	0.58			
Sat HCO	0.92	2.3	1.1	0.36	0.37	0.23	0.37	0.78	0.25	0.40	0.52	0.38	0.35	0.20	0.43	0.80	0.38	0.47	0.42	0.52		
Com wrkgp	0.89	5.4	1.5	0.21	0.28	0.17	0.19	0.32	0.07	0.30	0.35	0.20	0.16	0.20	0.66	0.38	0.22	0.20	0.41	0.66	0.37	
Com HCO	0.92	3.9	1.8	0.26	0.27	0.23	0.26	0.59	0.21	0.33	0.48	0.30	0.29	0.11	0.38	0.72	0.34	0.34	0.34	0.36	0.74	0.47

*All correlations > .10 are significant at $p < .05$.[†]Reliabilities provided are Cronbach's α .

Asst. supt, assistant support; Gol comp, goal compatibility; Cnt-affairs, control affairs; Cnt-mngt, control management; Rel. patients, relations with patients; Rel. wrkgp, relations with workgroup; Med rec qual, medical record quality; Sat practice, satisfaction with practice; Sat wrkgp, satisfaction with workgroup; Sat HCO, satisfaction with health care organization; Com wrkgp, commitment to workgroup; Com HCO, commitment to health care organization.

Table 3: Unstandardized and Standardized Direct Effects Model Parameters for Significant Paths

	<i>Standardized Estimate</i>	<i>Unstandardized Estimate</i>	<i>Unstandardized SE</i>	<i>Unstandardized 95% CI</i>
Satisfaction with practice				
Control affairs	0.21	0.20**	0.06	0.08, 0.32
Relations with patients	0.45	0.48***	0.07	0.34, 0.62
Relations with workgroup	0.28	0.22***	0.05	0.12, 0.32
Medical record quality	0.16	0.11*	0.04	0.02, 0.19
Satisfaction with workgroup				
Continuity	−0.08	−0.08*	0.04	−0.15, −0.004
Assistant support	0.11	0.08**	0.03	0.02, 0.13
Goal compatibility	0.32	0.22***	0.04	0.15, 0.29
Relations with workgroup	0.99	1.14***	0.07	1.00, 1.28
Relations with HCO	−0.29	−0.21***	0.05	−0.31, −0.12
Satisfaction with HCO				
Up-to-date	−0.07	−0.08**	0.03	−0.13, −0.02
Goal compatibility	0.35	0.34***	0.04	0.27, 0.41
Relations with HCO	0.65	0.68***	0.04	0.59, 0.76
Urban versus rural	−0.10	−0.23***	0.06	−0.36, −0.11
Suburban versus rural	−0.06	−0.13*	0.06	−0.25, −0.01
Commitment to workgroup				
Relations with workgroup	0.82	1.84***	0.11	1.64, 2.05
Female	0.10	0.29*	0.13	0.04, 0.54
Hours/week	0.10	0.01*	0.01	0.002, 0.02
Commitment to HCO				
Relations with HCO	0.77	1.33***	0.06	1.20, 1.45
Female versus male	−0.10	−0.35**	0.12	−0.59, −0.11

* $p < .05$.

** $p < .01$.

*** $p < .001$.

DISCUSSION

The purpose of the study was to determine whether family physician perceptions of satisfaction and commitment toward practice, workgroup, and HCO differed, and to determine whether different factors predicted each outcome. Mean scores for satisfaction with practice (mean = 0.31, SD = 0.6) and workgroup (mean = 0.30, SD = 0.8) were nearly identical and moderately high, though satisfaction with one's HCO was considerably lower, more variable (mean = 2.3, SD 1.1), and at the midpoint of the scale. Similarly, mean scores for commitment to one's workgroup (mean = 2.6, SD = 1.5) were considerably better than mean commitment scores to the HCO (mean = 4.1,

SD = 1.8). This suggests that physician satisfaction and commitment with respect to these different entities does differ. This has important implications for studies of physician turnover, which tend to rely only on general job satisfaction or satisfaction with HMO scores to predict turnover.

Satisfaction and/or commitment to one of these entities may prove to be a more sensitive predictor of turnover, mental health, performance, or burn-out and future research should explore that. Similarly, while general commitment to one's organization has been demonstrated to also predict turnover, as well as absenteeism and helping behaviors, it may be that commitment toward one's HCO may be more predictive of turnover, while commitment to one's workgroup may be more predictive of helping behaviors.

The structural model developed also yielded interesting results that showed different variables predicted the five outcomes. The variables measuring relationships with physicians in the workgroup and the HCO were the most consistent predictors of the outcomes and had some of the largest standardized effects (by "predicted" we do not mean to imply causality; rather we are simply referring to the implied independent-dependent variable relationship). Both predicted three of the five outcomes. Relationships with members of the workgroup predicted satisfaction with practice and workgroup, as well as commitment to the workgroup. Relationships with management in the HCO predicted satisfaction with workgroup and HCO as well as commitment to the HCO. Inexplicably, the direction of the effect between relationships with management in the HCO and satisfaction with workgroup was negative. The bivariate correlation was positive, suggesting the possible presence of interactions or mediation for which we did not test. The strong social component of satisfaction and commitment may be unique to family medicine physicians. In a recent study of predictors of satisfaction among different specialties (family medicine, internal medicine, OBGYN, pediatrics, psychiatry, and surgery) the construct "interacting with other health care providers" only predicted satisfaction within family medicine physicians (Duffy and Richard 2006). On the other hand, measures of "sense of accomplishment," income, and creativity predicted satisfaction in three or more specialties. Studies of general practitioners and other physician groups have also found social support to be an important predictor of satisfaction (Scott et al. 2006), and even commitment (Freeborn 2001).

Satisfaction with one's ability to provide continuity of care has been previously found to correlate with a global question on satisfaction with the practice of medicine (Gazewood, Longo, and Madsen 2000) or has been shown to be unrelated to work or practice satisfaction (Duffy and Richard 2006). Here it had a

small, but negative relationship with satisfaction with workgroup. Similar to the previously mentioned negative relationship, the bivariate correlation was positive. Our focus group physicians felt the quality of their medical records would in part determine satisfaction, and in fact it predicted satisfaction with practice.

The ability of a physician's primary clinical support person to support him or her appropriately predicted satisfaction with workgroup. To our knowledge this is the first time that either medical record quality or the ability of a doctor's primary clinical support person to support him or her has been studied, and both were found to predict satisfaction. Quality of medical records will continue to be of significant concern as the national push for electronic health records gains momentum. Similarly, clinical assistant support is likely to continue to factor prominently in light of the nursing shortage and new staffing models that pair family physicians with rotating clinical support staff.

Being able to stay up to date with the new information only predicted satisfaction with the HCO, but the effect was small and negative, like the continuity of care finding. While this is the first time to our knowledge that having opportunities to stay up to date with medical information has been identified as a predictor of satisfaction, the direction of the result suggests the need for further research to understand it. The variable measuring the compatibility of a physician's goals with those of management of the HCO predicted satisfaction with workgroup and HCO. This finding appears consistent with a recent qualitative study of factors that promote satisfaction and dissatisfaction among general practitioners (Fairburst and May 2006) and may continue to be important as more family physicians become part of large multispecialty groups with large contingents of practice management employees.

We measured two types of control: control over day-to-day affairs and control over managerial decisions. Only control over day-to-day affairs was a significant predictor, and even then it only predicted satisfaction with practice. The lack of predictive power for both variables was a surprising finding, as both types of control or autonomy have received considerable attention in the physician satisfaction literature and both are consistently shown to predict general job/career satisfaction (Schulz, Girard, and Scheckler 1992; Schulz et al. 1997; Gazewood, Longo, and Madsen 2000; Linzer et al. 2001; McGlone and Chenoweth 2001; Williams et al. 2002; Landon, Reschovsky, and Blumenthal 2003; Duffy and Richard 2006; Scott et al. 2006). Control has even been shown to predict organizational commitment among HMO physicians in one of the few studies to measure a commitment construct (Freeborn 2001). This may again reflect the important differences in the measurement of

satisfaction and commitment or differences in expectations among physicians employed by multispecialty groups, as was our sample.

One interesting finding was that several variables previously found to predict physician job satisfaction did not predict satisfaction with one's practice, workgroup, or HCO, or commitment to one's workgroup or HCO. Physicians have been previously found to rate their satisfaction with their amount of paperwork very low (Ahern 1993), and our results confirmed that it was the lowest ranked variable. However, it did not predict any of the outcomes. Satisfaction with leisure time (Bates et al. 1998; O'Sullivan, Keane, and Murphy 2005; Duffy and Richard 2006) and family time (Linzer et al. 2001; Williams et al. 2002; O'Sullivan, Keane, and Murphy 2005; Duffy and Richard 2006) have previously been shown to relate to general satisfaction, but macrolevel time pressure was not a significant predictor in this study. Opportunities to use one's skills has previously predicted general job satisfaction (Scott et al. 2006), but here the variable was not significant. Finally, income satisfaction, which has previously been associated with satisfaction with Medicaid-managed care (Gazewood, Longo, and Madsen 2000), satisfaction with work and practice environment (Duffy and Richard 2006), job satisfaction (Scott et al. 2006), career satisfaction (Landon, Reschovsky, and Blumenthal 2003), and satisfaction with HMO practice (Schulz et al. 1997; Williams, Zaslavsky, and Cleary 1999) did not predict any of our outcomes. These discrepancies could be artifacts of our sample only being employed family physicians, our measures, or could be due to our different conceptualization of the outcomes measures or the way in which the variables were modeled.

Limitations

Our study has important limitations. First, regarding generalizability, our data are only from employed family physicians in Wisconsin and are from the year 2000. This calls into question whether the data are nationally representative and may give the feeling that they are "old." In the results we showed that our gender distribution was similar to current national family physician distributions. The sample had similar age distributions to national data at that time, but currently the family physician workforce is older. Our sample also had a much higher level of family physicians belonging to HCOs than was the case nationally in 2000 or 2008. However, the national trend is toward more ownership by medical group practices. Our data may not be generalizable to other ownership models. But these data provided the first assessment of whether satisfaction and commitment to different entities to which physicians identify

are predicted by different working conditions. We therefore believe they still provide important contributions to our understanding of family physician satisfaction and commitment. Second, though we used sophisticated structural equations modeling and controlled for a variety of covariates, it is possible we misspecified the model. Model misspecification is always a concern. Others that have specified structural models of physician satisfaction have used different models (Linzer et al. 2001; Williams et al. 2002; Scott et al. 2006) so they all likely suffered from this problem. Third, our response rate was only 47 percent. Even though the responding sample had similar characteristics to the sampling frame, it is possible that we have a biased sample. However, our response rate was in line with other physician satisfaction survey studies (Ahern 1993; Scheckler, Schulz, and Moberg 1994; Williams, Zaslavsky, and Cleary 1999; Gazewood, Longo, and Madsen 2000; Williams et al. 2002; Duffy and Richard 2006; Scott et al. 2006).

Conclusions and Implications

There are a number of important implications of this study. First, the study demonstrates that family physicians have different levels of satisfaction with and commitment toward their practice, their workgroup, and their HCO. That is important because it suggests that future research into outcomes of satisfaction and commitment, such as turnover, burnout, or quality of care may need to study each of the different types of satisfaction and commitment to determine which predict the outcomes of interest. Depending on which types of satisfaction or commitment are important has implications for the types of interventions needed. This brings us to the second important point—different types of satisfaction and commitment are predicted by different variables. If it turns out that, for example, only satisfaction with one's HCO predicts turnover, then the targets for improving that satisfaction are improving the compatibility between the goals of the HCO and those of the physicians, improving the opportunities for physicians to stay up to date with new medical knowledge, and relationships with management. On the other hand, if the more important predictor of turnover was satisfaction with practice, which was a measure most closely related to other measures of general physician job satisfaction, then the targets would instead be control over day-to-day affairs, relationships with patients, and relationships among the workgroup. These are very different targets. However, it is unlikely that only one type of satisfaction or commitment will predict outcomes such as turnover, burnout, and quality of care; rather, all are likely play a role. Even if they did not, we suggest that

satisfaction and commitment in and of themselves are sufficiently important outcomes to warrant further attention. Finally, the strongest predictors of satisfaction and commitment variables were variables representing social relationships, and not time pressure, income, or autonomy. This finding is consistent with other studies of family physicians and may reflect the strong social component of family physician work. It suggests that interventions targeted at improving the social qualities of relationships around family physicians are an important path to better quality of work life.

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Disclaimers: None

NOTES

1. *Note on terminology:* In this paper we use the term “health care organization” (HCO) to refer to the entity to which the physician belongs (i.e., pays the physician). In the survey from which these data came, we used the term “parent organization” to mean the same thing as HCO. This entity may be a managed care organization, a health maintenance organization (HMO), or some other entity that employs physicians. The term “health maintenance organization” (HMO) will be used only to refer to HMOs in the more limited sense of the term.
2. Data from 2000 from AAFP staff who looked up this archived data June 2009. Data from 2008 from <http://www.aafp.org>
3. AAFP staff personal communication, June 2004.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.

Appendix SA2: Survey Items.

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