

Physician Satisfaction in a Changing Health Care Environment: The Impact of Challenges to Professional Autonomy, Authority, and Dominance*

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For some time, sociologists have debated whether physicians still retain dominance in the health care world, public faith in their moral and scientific authority, and the autonomy to set work conditions and make clinical decisions. Using ideas derived from this debate, we analyze the impact of changes in the health care environment on physician satisfaction. Our data come from a mailed survey of 510 Arizona physicians. Our results show that background physician attributes did not predict satisfaction, nor did most organizational attributes. However, participation in IPAs (Individual Practice Associations) predicted higher satisfaction, while payment according to a third party payer's fee-for-service schedule predicted lower satisfaction. In addition, physicians were more likely to be satisfied if they wrote the orders that non-physicians had to follow, were paid what they wanted, did not need to subordinate their clinical judgment to that of non-physicians, and believed that their patients had confidence in physicians. Our conclusions discuss both theoretical and policy implications of our findings.

From at least the turn of the century until the mid-1970s, medicine seemed the consummate example of a profession-an occupational group characterized by specialized technical knowledge, public faith in its moral and scientific authority, the autonomy to make decisions and regulate its work conditions and members,

and dominance over other occupations in its work sphere (Freidson 1970, 1994; Parsons 1951; Starr 1982). However, changes during the last twenty years-especially the rise of patients' rights and managed care plans (in which medical treatment is closely supervised to control costs)-have led some sociologists to argue that medicine has lost much of its status as a profession (e.g., Haug 1977; Haug and Lavin 1981; McKinlay 1988; McKinlay and Arches 1985; McKinlay and Stoeckle 1989). Others, on the other hand (e.g., Freidson, 1986, 1994; Hafferty and Light 1995) have argued that medicine's professional status remains largely intact and that medicine remains the dominant profession in the health care field. (For an excellent summary of this debate, see Light and Levine 1988).

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Curiously, these debates about the professional status of physicians have rarely been grounded in data on physicians' assessments of their situation. Of course, these theories were developed to explain the status of medi-

cine as a profession, not the situations of individual physicians. Nevertheless, each of these theories provides us with valuable concepts for understanding the situation of contemporary physicians. In this paper, we use concepts taken from these theories to identify factors that may increase or decrease physician satisfaction in this rapidly changing healthcare environment. Using these theories in this way seems particularly appropriate as their proponents sometimes have linked changes in the professional status of medicine to physician satisfaction (e.g., Haug 1988; McKinlay 1988; Stoeckle 1988).

Physician satisfaction is a critical topic not only for physicians but also for patients and healthcare administrators. When physicians are satisfied, they are significantly more likely to stay in a given practice (Lichtenstein 1984; Mick et al. 1983). As a result, plan administrators are saved the financial costs associated with high turnover, as well as the decline in patient satisfaction that often accompanies high turnover. Patients, meanwhile, may receive not only greater continuity of care but also a higher quality of care (Skolnik, Smith, and Diamond 1993). This may explain why physician satisfaction and patient satisfaction are strongly correlated (Lien et al. 1985). Finally, when patients are satisfied, they are less likely to leave a plan, which is obviously a benefit for any healthcare administrator.

In this study, we look specifically at the impact on physician satisfaction of changes in patient/physician relationships and of changes associated with the rise of managed care. Managed care was developed as a way to contain costs without sacrificing quality of care in the absence of a national healthcare system. Given the large and growing role played by managed care in the United States, it is critical that we learn how managed care affects physician satisfaction and what factors can ameliorate any negative effects of managed care.

As others have noted (Lammers 1992; Linn et al. 1985; Schulz, Girard, and Scheckler 1992), surprisingly few recent studies have looked at physician satisfaction. Moreover, none have looked at the impact of changing patient/physician relationships, and almost none have looked at the impact of managed care (Hadley and Mitchell 1997). Studies conducted in the last two decades, during which managed care has flourished, suggest that satisfaction may be correlated with self-employment (Baker and

Cantor 1993); perceived intellectual rewards (Chuck et al. 1993); working in group rather than solo practice (Skolnik et al. 1993); control over the work environment and lack of bureaucratic regulations (Chuck et al. 1993; Lammers 1992); and, for those working in staff model HMOs, participation in organizational decisions on such issues as hiring, adopting new services, or resolving patient grievances (Barr and Steinberg 1983). Age and sex have not been found correlated with satisfaction.

These results must be considered very tentative, however, given the small number of studies on these issues and the limitations of those studies. Two of these studies (Baker and Cantor 1993; Chuck et al. 1993) present only bivariate relationships and use no control variables. A third compares doctors in markets with high versus low managed care penetration rather than comparing doctors with high versus low proportions of patients from managed care (Hadley and Mitchell 1997). As a result, this last study is more useful for understanding the market than for understanding the situation of physicians.

The best data on how managed care affects physician satisfaction comes from two cross-sectional studies of physicians in the Madison, Wisconsin metropolitan area conducted in 1986 and 1993 (Schulz et al. 1992, 1997). About 85 percent of patients in that area belong to managed care plans, so physicians essentially cannot avoid participating in managed care. Both studies found that satisfaction with HMO work was higher among primary care physicians, those in group practice, and those who obtained more than 25 percent of their patients from HMOs (probably because those with lower percentages faced severe economic difficulties). In addition, satisfaction with HMO work was highest among those who believed they had substantial clinical autonomy and who were satisfied with their income. Neither age nor sex was correlated with satisfaction in these studies.

THEORETICAL OVERVIEW

According to John McKinlay and his colleagues John Stoeckle and Joan Arches (McKinlay 1988; McKinlay and Arches 1985; McKinlay and Stoeckle 1989; Stoeckle 1988), contemporary physicians have far less autonomy than physicians in past decades. From their

perspective, physicians have lost control over who become their patients, the terms and content of their work, the equipment and facilities needed for their work, and the amount and rate of remuneration for their labor. These changes stem primarily from two sources: (1) the increasing attempts by the federal government to control healthcare costs, such as through the Diagnosis Related Groups system and the Resource-Based Relative Value Scale, and (2) the rise in managed care plans, which enrolled six million Americans in 1976 but 51 million in 1995 (Group Health Association of America 1995). Under managed care, physicians' clinical autonomy may be compromised, as they often must obtain approval before beginning care, prescribe only authorized drugs, or follow specified treatment plans for given ailments (Hafferty and McKinlay 1993; Light 1993; Schneller, Hughes, and Hood-Szivek 1994). In addition, managed care has threatened physicians' autonomy to make everyday decisions about work conditions; it has pressed them to abandon entrepreneurial solo practices and their own fee-for-service schedules and to accept working in ever-larger group practices and receiving payment via capitation, salary, or third parties' fee schedules. Finally, under managed care physicians have considerably less control over their patient pool, as patients enter and leave their practices based on the contracts with managed care firms that physicians and employers sign. For all these reasons, then, McKinlay and his colleagues argue that physicians have lost professional autonomy.

Marie Haug and Bebe Lavin (Haug 1977, 1988; Haug and Lavin 1981) also believe that physicians' status as professionals is threatened, but emphasize the role played by challenges to professional authority. They define authority as "the right to influence and direct behavior, such right having been accepted as valid and legitimate by others in the relationship" [emphasis in original] (Haug and Lavin 1981:212). They argue that in past decades, the public assumed physicians had a wealth of knowledge far beyond that available to consumers and trusted physicians to use that knowledge for the public's good. With the rise of the patient rights and medical self-care movements, however, public knowledge of and involvement in medical matters has increased while public trust in physicians has decreased. As a result of these challenges to professional

authority, physicians are becoming only expert consultants whose advice may be taken or left, rather than members of a profession, as earlier sociologists (e.g., Freidson 1970) had defined that term.

Eliot Freidson (1994), on the other hand, argues that despite any changes in physicians' work environment or relationships with patients, they retain their dominance in the healthcare world. This position is also supported by various other observers, such as Frederic Hafferty and Donald Light (1995). According to Freidson, "the [medical] profession is accepted as the authoritative spokesman on affairs related to its body of knowledge and skill, and so its representatives serve as expert guides for legislation and administrative rules bearing on its work. Furthermore, the profession has an administrative or supervisory monopoly over the practical affairs connected with its work; its members fill the organizational ranks that are concerned with establishing work standards, directing and evaluating work. 'Peer review' rather than hierarchical directive is the norm"-even if that peer review is based partly on data from modern information systems established and administered by non-physicians (Freidson 1994: 163-164). Thus, although the position of individual physicians may have changed, and their autonomy and authority may be threatened, the dominance of the profession remains intact.

METHODS

Study Site

Data for this study come from a mailed survey conducted by the authors in Maricopa County, Arizona. Maricopa County is home to the city of Phoenix and to 59 percent of Arizona's physicians. This area was chosen as research site both for logistical reasons and because the impact of managed care has been particularly acute here. Eighty-six percent of physicians in Arizona have at least one contract with a managed care plan (Group Health Association of America 1995). All Arizonans who belong to AHCCCS (the state's substitute for Medicaid) are enrolled in managed care plans. So are 72 percent of commercially insured persons residing in the Phoenix metropolitan area (Edlin 1994), as compared to 52.6 percent of Americans nationally (Edlin 1994).

Finally, Arizona is tied with California for having the highest proportion of Medicare recipients enrolled in managed care programs: 37 percent, compared with 13 percent nationally (Health Care Financing Administration 1997).

Sample

The survey was mailed in 1995 to a random sample of 1070 licensed medical doctors in active, federal or nonfederal, clinical practice in Maricopa County, stratified by primary versus specialty care. Seventy-nine individuals were later removed from the sample because they had retired, died, or moved. Final response rate was 51.5 percent ($n = 510$) of the 991 potential respondents. There were no significant differences in gender, age, group size, or participation in various types of managed care plans between our respondents and Maricopa County respondents to the 1994 Arizona Board of Medical Examiners (BOMEX) survey; that survey is required for licensure and was answered by more than 95 percent of Arizona physicians.

Eighty-two percent of survey respondents were male, compared to 79.2 percent of physicians nationally (Randolph, et al. 1997). Respondents ranged in age from 28 to 78 with a mean of 46. Arizona physicians were somewhat younger than physicians nationwide; 81 percent were under age 55, compared to 70 percent nationally (Randolph, et al. 1997). Twenty-four percent of respondents practiced as solo practitioners, compared to 29 percent nationally (Kletke, Emmons, and Gillis 1996). Thirty-seven percent practiced in groups of three or more compared to 33 percent of non-federal physicians nationally. An average of 11 physicians practiced per group, as was the case nationally (Kletke et al. 1996). Almost all respondents to our survey (97%) indicated that they participated in at least one type of managed care plan, and many reported participating in more than one type.

Measures

Table 1 shows all variables used in this study. Items were recoded if necessary so that higher scores would reflect greater perceived challenges to professional autonomy, authority, or dominance. The dependent variable, sat-

isfaction, was measured using responses (on a Likert scale from 1 = strongly disagree to 5 = strongly agree) to this item: "I am satisfied with being a physician today." In this paper, those who disagreed or strongly disagreed are referred to as the percentage dissatisfied.

TABLE 1. Survey Questions Used For Variables

Physician Attributes

1. In what year were you born?
2. In what year did you begin practice?
3. Are you male or female? (coded female = 1, male = 0)
4. Are you a primary care physician? (coded yes = 1, no = 0)

Organizational Attributes

5. In addition to you, how many physicians work in your practice?
6. About what percentage of your patients are from managed care plans?

In which types of managed care plans do you participate:

7. PPOs? (coded yes = 1, no = 0)
8. IPA HMOs? (coded yes = 1, no = 0)
9. Group/Staff HMOs? (coded yes = 1, no = 0)

I am paid by:

10. the fee-for-service schedule I set. (coded yes = 1, no = 0)
11. the fee schedule set by third parties. (coded yes = 1, no = 0)
12. capitation. (coded yes = 1, no = 0)
13. salary. (coded yes = 1, no = 0)

Attitudinal Measures^a

Challenges to professional autonomy

14. I own or rent my office.*
15. I own most of the diagnostic technology (from low to high tech) I use in daily practice.
16. By and large, I am paid what I want to be paid for my services.*
17. Sometimes I must ignore my own clinical judgment and follow the directives of non-physicians regarding patient care.
18. I do not determine my work schedule.
19. In order to get new patients, I generally must sign managed care contracts.
20. Third party payers have considerable effect on how I treat my patients.

Challenges to professional authority

21. In general, my patients have a great deal of medical knowledge.
22. Most of my patients do not want to participate in their treatment decisions.*
23. My patients have little confidence in physicians.

Challenges to professional dominance

24. I write the orders that nonphysician healthcare workers must follow when treating my patients.*

Satisfaction

25. I am satisfied with being a physician today.

^aResponses to attitudinal questions ranged from 1 = strongly disagree to 5 = strongly agree. Items marked with an asterisk were reverse coded.

Note: IPA = individual practice association. PPO = preferred provider organization.

Data Analysis

Because this research is based on a cross-sectional survey, we cannot directly investigate how changes over time in the practice of medicine have affected physician satisfaction. Instead, the data analysis is designed to compare levels of satisfaction between physicians whose working conditions are more like those prevailing in the past (e.g., solo practice, low percentage of patients from managed care) to those whose working conditions are more like those expected in the future (e.g., group practice, high percentage of patients from managed care).

We first present bivariate correlations with satisfaction for all physician and organizational attributes and for all variables measuring perceived challenges to professional autonomy, authority, or dominance. We then present five multiple regression models. The first model looks at the impact on satisfaction of the physician and organizational attributes. Each of the next three models adds to this the variables derived from one of the three sets of challenges to physicians' professional status. The final model includes all physician and organizational attributes plus all variables measuring challenges to physicians' professional status.

Due to problems with multicollinearity, we use only age and not first year in practice in the multiple regressions. No other variables presented problems with multicollinearity.

RESULTS*Satisfaction*

Just over half of our respondents (56.5%) describe themselves as satisfied or very satisfied with being a physician today. Mean satisfaction was 3.457 with a standard deviation of 1.178. In contrast, other surveys have found higher levels of satisfaction with between 65 percent and 87 percent considering themselves satisfied or very satisfied. These studies all used Likert-type scales, but each used a different measure of satisfaction. As a result, it is very difficult to compare these findings and to try to understand why-or if-our respondents were more dissatisfied than those answering other surveys.

Bivariate Analysis

Physician and organizational attributes. Before looking at the theoretical models, we first looked at the impact of physician and organizational attributes on physician satisfaction. To do this, we used t-tests for differences between means for dichotomous variables and Pearson correlations for continuous variables (Table 2).

Neither age, first year in practice, nor gender are significantly related to satisfaction, nor are primary care physicians more satisfied than specialists.

Organizational attributes proved better predictors of satisfaction than physician attributes. Satisfaction is positively correlated with size of practice. The percentage dissatisfied drops from 33 percent among solo practitioners, to 29 percent among those in groups of two to four. It drops further to 14 percent among those in groups of 5 to 10. However, dissatisfaction rises somewhat (to 24 percent) among those in groups of more than 10.

Satisfaction is inversely correlated with percentage of patients from managed care. Seventeen percent of those with less than one-quarter of patients from managed care and 18 percent of those with 25-49 percent of patients from managed care are dissatisfied. In contrast, 29 percent of those with 50-74 percent of patients from managed care and 31 percent of those with three-quarters or more of patients from managed care are dissatisfied.

Satisfaction is less likely if one is paid by a third party's fee schedule. Twenty-eight percent of those paid by a third party's fee schedule are dissatisfied compared to 21 percent of those who are not. Conversely, satisfaction is more likely if one is paid by salary: twenty-three percent of those paid by salary are dissatisfied compared to 27 percent of those who are not.

Challenges to professional autonomy, authority, and dominance. Table 2 also shows bivariate relationships between satisfaction and challenges to professional autonomy, authority, and dominance. Seven items on the survey measure challenges to professional autonomy. Two of these looked at the entrepreneurial aspects of medical practice: owning or renting one's office or owning most of one's diagnostic equipment. Neither item was significantly correlated with physician satisfaction. However, the remaining items, which mea-

TABLE 2. Descriptive Statistics and Bivariate Relationships with Physician Satisfaction (Using Pearson Correlations for Continuous Variables and Mean Difference T-Tests for Dichotomous Variables).

Independent Variables	All Variables			Continuous Variables	Dichotomous Variables			Mean Difference T-value
	N	Mean	Standard Deviation	Pearson Correlation with Satisfaction	Mean Satisfaction among those Answering "Yes" (N)	Mean Satisfaction among those Answering "No" (N)		
<i>Physician Attributes</i>								
Age	504	46.545	9.956	-.082				
First Year in Practice	505	80.229	9.662	.064				
Female	507	.183	.387		3.444 (90)	3.459 (414)	-.105	
Primary Care Physician	505	.546	.498		3.504 (274)	3.395 (228)	1.031	
<i>Organizational Attributes</i>								
Size of Practice	506	10.598	28.352	.101*				
Percentage Patients from Managed Care	491	53.947	28.819	-.098*				
Participate in PPOs	507	.791	.407		3.445 (398)	3.500 (106)	-.439	
Participate in IPAs	507	.723	.447		3.473 (364)	3.414 (140)	.498	
Participate in HMOs	507	.437	.496		3.473 (222)	3.443 (282)	.282	
Paid by Own Fee Schedule	507	.447	.497		3.529 (225)	3.398 (279)	1.249	
Paid by Third Party Fee Schedule	507	.696	.460		3.360 (350)	3.675 (154)	-2.777**	
Paid by Capitation	507	.351	.477		3.528 (176)	3.418 (328)	1.045	
Paid by Salary	507	.398	.490	---	3.617 (201)	3.350 (303)	2.488*	
<i>Challenges to Professional Autonomy</i>								
Don't Own or Rent Office	490	2.557	1.796	.029				
Don't Own Diagnostic Equipment	496	3.526	1.645	.040				
Not Paid What I Want	503	3.725	1.220	-.319***				
Must Ignore Clinical Judgment	503	2.501	1.279	-.295***				
Don't Set Work Schedule	505	2.439	1.327	-.166***				
Must Sign Contracts to Get Patients	497	3.621	1.380	-.148***				
Third Parties Affect Treatment	501	3.351	1.385	-.188***				
<i>Challenges to Professional Authority</i>								
Patients Have Medical Knowledge	503	2.636	.951	.119**				
Patients Want to Participate	503	3.681	.928	.036				
Patients Lack Confidence in Physicians	503	2.685	.886	-.302***				
<i>Challenges to Professional Dominance</i>								
Don't Write Orders for Nonphysicians	491	2.145	1.097	-.130**				

* $p < .05$; ** $p < .01$; *** $p < .001$

sured physicians' perceptions of loss of control over work conditions and clinical autonomy, were all significantly and negatively correlated with physician satisfaction. The strongest challenges to satisfaction come from not being paid what one wanted for one's services and having to yield one's clinical judgment to non-physicians. One-third (33%) of those who are not paid what they want are dissatisfied, compared to only 10 percent of those who are paid what they want. Similarly, 44 percent of those who sometimes must yield their clinical judgment to nonphysicians are dissatisfied, compared to only 18 percent of those who need not do so.

In addition, the percentage dissatisfied was higher among those who do not set their own work schedule, must sign managed care contracts to get patients, and believe that third party payers affect their treatment of patients. One-third (32%) of those who do not set their work schedules are dissatisfied compared to 20 percent of those who do. Similarly, 29 percent of those who must sign managed care contracts to get patients are dissatisfied compared to 19 percent of those who do not need to do so, while 31 percent of those who agree that third party payers have considerable effect on how they treat their patients are dissatisfied compared to 19 percent of those who disagree.

Three items measured challenges to professional authority. Surprisingly, those who agree that their patients have a great deal of medical knowledge are *less* likely to be dissatisfied than those who disagree (18 percent versus 32 percent). Whether one's patients want to participate in treatment decisions had no impact on physician satisfaction. However, those who agree that patients lack confidence in physicians are considerably more likely to be dissatisfied than those who disagree (47% versus 18%).

Only one item in this study measures challenges to professional dominance. One-third (34%) of those who do not write the orders for nonphysicians to follow are dissatisfied compared to less than one-quarter (23%) of those who do write such orders.

Regression Analysis

To further explore the sources of physician satisfaction, we used multiple regression (Table 3). The relative stability of the regres-

sion coefficients across the table indicates few problems with interactions in the data.

Model 1 tests only for the impact of physician and organizational attributes. In this model, size of practice, participation in IPAs, and payment by one's own fee-for-service schedule are predictors of higher satisfaction ($p < .05$) while percentage of patients from managed care contracts and payment by third party payers' fee schedules are predictors of lower satisfaction ($p < .05$ and $p < .01$ respectively). The effect of the last variable is particularly strong. The explanatory power of the equation ($R^2 = .05$) is low but significant ($p < .01$).

Model 2 includes the items measuring challenges to professional autonomy and the items on physician and organizational attributes. In this model, neither size of practice, percentage of patients from managed care contracts, or payment by own fee schedule have a significant effect. However, participation in IPAs remains a predictor of higher satisfaction ($p < .05$), and payment according to a third party payer's fee-for-service schedule remains a predictor of lower satisfaction ($p < .01$). In addition, those who do not set their own work schedule are significantly less likely to be satisfied ($p < .05$) as are those who are not paid what they want to be paid and those who believe they must ignore their clinical judgment ($p < .001$). The percentage of explained variance is higher ($R^2 = .166$) than in Model 1 and remains significant at $p < .01$.

Model 3 includes the items measuring challenges to professional authority and the items on physician and organizational attributes. As in Model 1, physicians in larger practices report higher satisfaction while satisfaction is lower for those with higher percentages of patients from managed care ($p < .05$). As in Models 1 and 2, satisfaction is lower for those who are paid according to a third party payer's fee-for-service schedule ($p < .05$ and $p < .001$ respectively). However, participation in IPAs is not related to satisfaction. In addition, believing that patients lack confidence in physicians is a significant predictor of lower satisfaction ($p < .001$). On the other hand, whether respondents believe that their patients have much medical knowledge or want to participate in their own care has no effect on satisfaction. The percentage of explained variance ($R^2 = .13$) is lower than in Model 2, but higher than in Model 1, and remains significant at $p < .01$.

TABLE 3: Multiple Regression of Physician Satisfaction (N = 440)8

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Physician Attributes					
Age	-.007 (.006)	-.008 (.006)	-.008 (.006)	-.007 (.006)	-.007 (.005)
Female	.022 (.151)	-.029 (.145)	.121 (.148)	.080 (.150)	.086 (.144)
Primary Care Physician	.018 (.121)	.032 (.115)	-.003 (.117)	.023 (.120)	.016 (.111)
Organizational Attributes					
Size of Practice	.004* (.002)	.003 (.002)	.005* (.002)	.004* (.002)	.003 (.002)
Percentage Patients from Managed Care	-.005* (.002)	-.002 (.002)	-.004* (.002)	-.005* (.002)	-.001 (.002)
Participate in PPOs	.064 (.185)	.088 (.175)	.146 (.178)	.111 (.183)	.191 (.171)
Participate in IPAs	.347* (.161)	.390* (.154)	.265 (.155)	.365* (.159)	.351* (.150)
Participate in HMOs	-.085 (.118)	-.053 (.113)	-.046 (.114)	-.080 (.117)	-.033 (.110)
Paid by Own Fee Schedule	.263* (.127)	.098 (.123)	.187 (.122)	.290* (.126)	.083 (.120)
Paid by Third Party Fee Schedule	-.687*** (.201)	-.568** (.203)	-.710*** (.194)	-.711*** (.199)	-.590*** (.197)
Paid by Capitation	.219 (.141)	.167 (.132)	.254 (.135)	.205 (.139)	.194 (.129)
Paid by Salary	-.013 (.161)	-.059 (.157)	-.039 (.154)	.005 (.159)	-.060 (.153)
Proletarianization Model					
Don't Own or Rent Office		-.004 (.049)			-.001 (.048)
Don't Own Diagnostic Equipment		-.015 (.041)			-.013 (.040)
Not Paid What I Want		-.176*** (.046)			-.164*** (.045)
Must Ignore Clinical Judgment		-.196*** (.042)			-.148*** (.041)
Don't Set Work Schedule		-.096* (.042)			-.061 (.041)
Must Sign Contracts to Get Patients		-.034 (.045)			-.051 (.044)
Third Parties Affect Treatment		-.041 (.039)			-.049 (.038)
Patient Empowerment Model					
Patients Have Medical Knowledge			.050 (.057)		.026 (.054)
Patients Want to Participate			-.039 (.061)		-.030 (.059)
Patients Lack Confidence in Physicians			-.381*** (.062)		-.288*** (.061)
Dominance Model					
Don't Write Orders for Nonphysicians				-.172*** (.050)	-.126** (.047)
Intercept	4.071	5.574***	5.081***	3.280***	5.594***
Adjusted R ²	.050	.166	.130	.074	.221

*Unstandardized regression coefficients are reported. Standard errors are in parentheses.

* p < .05; **P < .01; ***P < .001

Model 4 includes both the item measuring challenges to professional dominance and the items on physician and organizational attributes. In this model, as in Model 1, size of practice, participation in IPAs, and payment by one's own fee-for-service schedule are signifi-

cant predictors of higher satisfaction ($p < .05$) while percentage of patients from managed care contracts and payment by third party payers' fee schedules predict lower satisfaction ($p < .05$ and $p < .001$ respectively). In addition, those who believe they do not write the orders

for nonphysicians to follow are less satisfied than those who do ($p < .001$). The percentage of explained variance is higher than in Model 1 ($R^2 = .074$) and is significant ($p < .01$). However, it is lower than in Models 2 and 3, perhaps because this model has fewer variables than the other theoretical models.

The final model, Model 5, includes all the variables and has the greatest predictive value ($R^2 = .221$, $p < .001$). In this model, size of practice, payment by own fee schedule, and percent of patients from managed care are no longer significant predictors of satisfaction. However, participation in IPAs once again predicts higher satisfaction ($p < .05$) while payment according to a third party payer's fee-for-service schedule predicts lower satisfaction ($p < .001$). In addition, each of the theoretical items that had proven statistically significant in the previous models remains significant in this model except whether one sets one's own work schedule. As in the other models, physicians are more satisfied if they believe they write the orders that nonphysicians must follow ($p < .01$), are paid what they want for their services ($p < .001$), do not need to ignore their clinical judgment and follow the advice of nonphysicians ($p < .001$), and believe that their patients have confidence in physicians ($p < .001$).

CONCLUSIONS

Theoretical Implications

We began this project by looking at the theories of Eliot Freidson, John McKinlay, Marie Haug, and their colleagues. Each of these theories pointed to specific changes in the health-care environment that may have affected the status of medicine as a profession. In this paper, we tested whether these same changes may play a role in enhancing or reducing satisfaction for individual physicians. The results suggest that some but not all of these changes do have clear and measurable consequences for physicians.

To Eliot Freidson, professional dominance is the critical factor in physicians' professional status. In a recent work (1994), Freidson has argued that so long as physicians as a group remain dominant in the division of labor in healthcare, they will retain their status as professionals even if individual physicians lose

some of their clinical autonomy. Our research suggests as well that retaining dominance is critical to physician satisfaction.

Whereas Freidson deemphasizes individual clinical autonomy, McKinlay and his colleagues consider it a central aspect of physicians' professional status. And, indeed, our research suggests that clinical autonomy plays an important role in physician satisfaction. In addition, John McKinlay and his colleagues also have argued that medicine's status as a profession has declined due to physicians' loss of autonomy in setting work conditions. Our research suggests that only some of these changes affect physician satisfaction: so long as physicians retain control over their work schedule and are paid what they want to be paid, they do not care whether they must sign managed care contracts to get patients or whether they own or rent their own offices or equipment.

Finally, Marie Haug and Bebe Lavin argue that physicians' professional status has declined because patients now have more medical knowledge, want to participate in treatment decisions, and lack confidence in physicians. Our research suggests that only the last of these three variables affects physician satisfaction.

The context in which physicians practice has changed dramatically in the last twenty years. Our data suggest that this context has changed to such an extent that regardless of age or years in practice, many physicians accept a somewhat more collaborative relationship with patients as the norm rather than invidiously comparing their positions to those of physicians in some ideal past. Similarly, whereas physicians twenty years ago may have been horrified at the prospect of managed care, physicians now accept it as the rules of the game—at least in areas in which high percentages of patients belong to such plans—and recognize that the price of refusing to play by those rules is bankruptcy. As a side-effect, physicians may now view the entrepreneurial aspects of medical practice—owning or renting one's office or equipment as an unnecessary nuisance rather than as a professional prerogative. Similarly, physicians now accept that patients will seek medical knowledge and desire to participate in medical decisions and thus do not find such patients an impediment to work satisfaction. We cannot say from our data, however, whether changes in patient/

physician relationships have had little effect on physician satisfaction because physicians have learned to manage such patients without spending much time or giving up clinical autonomy or because physicians have concluded that educated patients are easier to work with and have better outcomes.

Practical Implications

From a practical perspective, probably the most useful conclusion to be drawn from this study is that participation in managed care does not have to lead to physician dissatisfaction (cf., Schulz et al. 1997). Percentage of patients in managed care plans appears not to affect satisfaction so long as doctors retain clinical autonomy and control over their work schedule and are paid what they want to be paid for their services. Interestingly, even if physicians ultimately are paid what they want, they find it particularly unsatisfying (or perhaps just aggravating) to be paid according to a third party's fee schedule. Conversely, they find it particularly satisfying to work in IPAs, which offer more clinical autonomy, entrepreneurial autonomy, and control over work conditions than any other options available under managed care. Finally, the beliefs that patients lack confidence in physicians and that physicians do not write orders for nonphysicians both reduce satisfaction, independently of the effect of percentage of patients from managed care.

Managed care plans cannot afford to ignore physician satisfaction as it affects both quality of care and patient satisfaction. Our results suggest several steps that managed care programs can take to protect physician satisfaction. First, managed care administrators can review the limits they place on clinical autonomy—such as requiring physicians to obtain prior authorization before offering or recommending certain treatments—and can explore whether plans can offer physicians greater latitude without sacrificing financial or health-care goals. Second, managed care administrators can strive to increase patient confidence in physicians while increasing physicians' belief that their patients have confidence in them. Plans can take such steps as informing patients of the strategies they use to select high quality physicians and to ensure that their physicians offer high quality care and then informing

physicians of these actions. Third, managed care administrators can involve physicians in the processes of setting reimbursement and work schedules. Finally, given that managed care plans will have to continue to limit clinical autonomy and control work conditions, physician satisfaction may be increased if (1) physicians play a larger role in setting those limits (including establishing parameters for data collection and analysis) and (2) plans better educate physicians regarding how patients and physicians benefit from those limits. It is particularly crucial that for-profit managed care plans do so as physicians might otherwise reasonably conclude that the sole purpose of these limits is to benefit stockholders.

In an ideal managed care scenario, contracts between managed care plans and physicians would link physician pay to patient outcomes. Those outcomes would include both medical indicators (such as number of hospital admissions) and patient-satisfaction indicators (such as survey responses and number of patient-initiated malpractice complaints or suits). These contracts would give both the most clinical autonomy and the most reimbursement to physicians with the best outcomes-satisfied, healthy patients. Thus physicians who use referrals, diagnostic tests, and medical interventions wisely-offering patients neither too much nor too little care—and those who have a good bedside manner that engenders patient confidence will receive both the most income and the most autonomy from managed care plans. In such a scenario, physicians, patients, and managed care plans will all benefit.

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