



Does Career Dissatisfaction Affect the Ability of Family Physicians to Deliver High-Quality Patient Care?

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■ **OBJECTIVES** A usual source of care is associated with better health outcomes. Dissatisfaction among family physicians and general practitioners (FP/GPs) may compromise the accessibility of a usual source of care and the quality of services. We examined the association between FP/GP dissatisfaction and an inability to deliver high-quality care.

■ **STUDY DESIGN** We performed a secondary data analysis of the Community Tracking Study (CTS) Physician Survey (1996–1997).

■ **POPULATION** The study included a nationally representative sample of more than 12,000 non-federal physicians practicing direct patient care in the United States.

■ **OUTCOMES MEASURED** We measured associations of career dissatisfaction with physicians' perceptions of their ability to provide high-quality care as defined by 6 survey items. Multivariate analyses controlled for the effects of personal, professional, and practice characteristics.

■ **RESULTS** Among FP/GPs in 1996–1997, more than 17% were dissatisfied. Age was the most significant personal factor associated with dissatisfaction; 25.1% of those aged 55 to 64 years reported dissatisfaction compared with only 10.1% of those younger than 35 years. Other personal or professional characteristics significantly associated with FP/GP dissatisfaction included osteopathic training, graduation from a foreign medical school, full practice ownership, and an income of less than \$100,000. Physicians dissatisfied with their careers were much more likely to report difficulties in caring for patients, strongly disagreeing (vs strongly agreeing, odds ratio [OR] 1.0) that they had enough clinical freedom (OR 7.89; 95% confidence interval [CI], 4.86–12.83); continuous patient relationships (OR 7.11; 95% CI, 4.90–10.33); no financial penalties for clinical decisions (OR 4.44; 95% CI, 3.13–6.31); adequate time with patients (OR 4.42; 95% CI, 2.84–6.87); ability to provide quality care (OR 4.26; 95% CI, 2.88–6.31); and sufficient communication with specialists (OR 3.57; CI, 2.20–5.80).

KEY POINTS FOR CLINICIANS

- The proportion of family physicians and general practitioners (FP/GPs) dissatisfied with their overall medical careers (17.3%) was similar to that of specialists (18.0%), less than that of general internists (20.6%), and greater than that of general pediatricians (12.6%).
- Only 1 in 10 FP/GPs aged younger than 35 years were dissatisfied with their medical careers; 1 in 4 of those aged 55 to 64 years were dissatisfied.
- More than half of FP/GPs who strongly disagreed with the statement “I have the freedom to make clinical decisions that meet my patients' needs” were dissatisfied with their medical careers.

■ **CONCLUSIONS** An inability to care for patients is significantly associated with career dissatisfaction. This relationship has implications for the achievement of policy objectives related to access, having a usual source of care, and quality.

■ **KEY WORDS** Physician job satisfaction; career satisfaction; quality of care; professional autonomy; physician–patient relations. (*J Fam Pract* 2002; 51:223–228)

Primary care is the foundation of the American health care system. The delivery of high-quality primary care contributes to improved health outcomes.^{1,2} Patients perceive primary care as an integral aspect of the health care system and appreciate the role of primary care providers in coordinating quality care.³ In addition to coordination of care, continuity with the same health care provider is highly

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valued by patients.⁴ Family physicians and general practitioners (FP/GPs) play a crucial role in providing coordinated and continuous primary health care. Of Americans reporting an individual provider as their usual source of care in 1996, 62% named a family physician or a general practitioner (compared with 16% naming an internist and 15% naming a pediatrician).⁵

A potential threat to the continued reliance on this vital FP/GP workforce is physician dissatisfaction. Physician dissatisfaction affects patient satisfaction⁶⁻⁸

and dissatisfied physicians can adversely influence patient behavior (eg, adherence to medical treatment),⁹ leading to a reduction in quality of care. A decrease in satisfaction among physicians can also affect access to care, since it can lead to physician attrition and higher turnover, which in turn can lead to disruption of care and inaccessibility of providers. The cost to hire a new physician is estimated to be \$240,000 to \$265,000.¹⁰

Dissatisfaction among today's FP/GPs also has the potential to contribute to future shortages. The extent to which physicians voice dissatisfaction can dissuade medical school graduates from choosing careers in primary care.¹¹ Some concerns are already being raised about a decrease in the number of new doctors seeking residencies in family practice for the fourth consecutive year. Information from the National Resident Matching Program indicates that only 11.2% of US seniors matched in family practice in 2001, compared with 13.6% in 2000.¹² If this downward trend continues, it will exacerbate the problems of access to a usual source of care, especially in areas where the loss of FP/GPs will result in a drastic increase in the number of health professional shortage areas. In 1995, if FP/GPs had been removed from the 2298 US counties considered to have adequate numbers of primary care physicians, 1332 of these urban and rural counties would have been designated as shortage areas. In comparison, the simultaneous removal of internists, pediatricians, and obstetricians from these same counties would have created only 176 whole-county shortage areas.¹³

Most studies reporting physician dissatisfaction have identified high levels of physician concern over a perceived loss of autonomy.¹⁴⁻¹⁷ Additionally, physicians are dissatisfied about the potential adverse effects on patient care resulting from system barriers, including restricted access for patients, increased administrative burdens for providers, and the lack of a comprehensive approach to provision of services.¹⁴⁻²² These studies, however, have generally been limited to a specific geographic region¹⁴⁻²⁰ or a specialty group other than FP/GPs.^{21,22} In addition, other physician dissatisfaction reports have contained only narrow analyses of how specific factors, such as income, financial incentives, or autonomy, influence satisfaction levels.²³⁻²⁶

To our knowledge, the possible relationship of physician dissatisfaction with the inability to care for patients has been examined only in limited studies (eg, those that compare capitated

TABLE 1
PATIENT CARE CHARACTERISTICS ASSOCIATED WITH FP/GP DISSATISFACTION (N = 3166)

Statement	Multivariate Odds Ratio (95% CI)
The level of communication I have with specialists about the patients I refer to them is sufficient to ensure the delivery of high-quality care. (n = 3102)	1.0
Agree strongly	1.25 (1.01-1.55)
Agree somewhat	1.15 (0.48-2.74)
Neither agree nor disagree	2.37 (1.67-3.37)
Disagree somewhat	3.57 (2.20-5.80)
Disagree strongly	
It is possible to maintain the kind of continuing relationships with patients over time that promote the delivery of high-quality care. (n = 3082)	1.0
Agree strongly	1.89 (1.39-2.58)
Agree somewhat	3.17 (1.38-7.29)
Neither agree nor disagree	4.90 (3.71-6.46)
Disagree somewhat	7.11 (4.90-10.33)
Disagree strongly	
I can make clinical decisions in the best interests of my patients without the possibility of reducing my income. (n = 3074)	1.0
Agree strongly	1.23 (0.92-1.65)
Agree somewhat	1.51 (0.89-2.58)
Neither agree nor disagree	2.61 (1.91-3.56)
Disagree somewhat	4.44 (3.13-6.31)
Disagree strongly	
I have adequate time to spend with my patients during typical office/patient visits. (n = 3104)	1.0
Agree strongly	0.81 (0.58-1.14)
Agree somewhat	1.15 (0.58-2.30)
Neither agree nor disagree	1.39 (1.02-1.88)
Disagree somewhat	4.42 (2.84-6.87)
Disagree strongly	
I have the freedom to make clinical decisions that meet my patients' needs. (n = 3100)	1.0
Agree strongly	1.55 (1.25-1.93)
Agree somewhat	3.25 (1.50-7.02)
Neither agree nor disagree	3.73 (2.84-4.89)
Disagree somewhat	7.89 (4.86-12.83)
Disagree strongly	
It is possible to provide high-quality care to all my patients. (n = 3099)	1.0
Agree strongly	1.20 (0.94-1.52)
Agree somewhat	0.98 (0.37-2.61)
Neither agree nor disagree	2.70 (1.88-3.89)
Disagree somewhat	4.26 (2.88-6.31)
Disagree strongly	

NOTE: A higher odds ratio indicates that this response is more strongly associated with physician dissatisfaction. Ns vary because not all physicians answered every item on the survey.
FP/GP denotes family physician/general practitioner.

TABLE 2
PERSONAL, PROFESSIONAL, AND PRACTICE-RELATED FACTORS ASSOCIATED WITH FP/GP DISSATISFACTION (N = 3166)

PERSONAL/PROFESSIONAL CHARACTERISTICS	Multivariate Odds Ratio (95% CI)
Age in years (n = 2965)	
<35	1.0
35–44	1.43 (0.94-2.16)
45–54	1.89 (1.20-2.98)
55–64	2.46 (1.56-3.88)
64	2.30 (1.40-3.80)
Sex (n = 3106)	
Women	1.0
Men	1.28 (0.92-1.78)
Type of medical training (n = 3106)	
Allopathic	1.0
Osteopathic	1.74 (1.34-2.25)
Graduate of foreign medical school (n = 3106)	
Puerto Rico	1.0
Other	1.33 (1.03-1.73)
Board certification (n = 3063)	
Board certified	1.0
Board eligible	1.15 (0.82-1.63)
Neither	0.93 (0.69-1.25)
Net income in 1995 (\$) (n = 3103)	
0–49,000	2.31 (1.29-4.14)
50,000–99,999	1.83 (1.20-2.79)
100,000–149,999	1.45 (0.98-2.14)
150,000–199,999	1.41 (0.91-2.16)
200,000–249,999	1.0
250,000–299,999	1.82 (0.98-3.38)
300,000 +	1.93 (0.98-3.81)
PRACTICE CHARACTERISTICS	
Practice type (n = 3106)	
1 or 2 physicians	1.19 (0.74-1.93)
3+ physicians	1.14 (0.70-1.85)
HMO	1.35 (0.82-2.22)
Medical school	1.01 (0.52-1.93)
Hospital based	1.0
Other	1.16 (0.74-1.83)
Community size (n = 3106)	
Large metropolitan area (>200,000)	1.42 (0.81-2.49)
Small metropolitan area (<200,000)	1.0
Nonmetropolitan area	1.07 (0.55-2.08)
Ownership (n = 3106)	
Full owners	1.57 (1.11-2.21)
Part owners	1.0
Not an owner	1.01 (0.72-1.43)
Percentage of patients for whom you serve as gatekeeper (n = 3106)	
0	2.20 (1.44-3.37)
1–9	1.59 (1.06-2.40)
10–19	1.0
20–29	1.47 (0.98-2.20)
30–59	1.83 (1.29-2.60)
60–89	2.31 (1.62-3.28)
90–100	2.29 (1.44-3.64)
NOTE: Ns vary because not all physicians answered every item on the survey. FP/GP denotes family physician/general practitioner; HMO, health maintenance organization.	

and noncapitated care).²⁷ Moreover, few studies have systematically reviewed predictors of dissatisfaction among FP/GPs. In this paper, we report findings related to these important issues using data from a

recent national survey in which more than 12,000 primary care physicians and specialists commented on their current experiences as medical professionals in the US health care system. We hypothesized that FP/GPs who identify difficulties in providing quality care to patients also report higher levels of dissatisfaction. We also expected that physician dissatisfaction would relate to access to care, particularly for very needy populations whose care is government regulated. Therefore, we ascertained the extent to which dissatisfied FP/GPs who stay in the workforce are less likely to serve the poor and the elderly by accepting new Medicaid and Medicare patients when compared with their satisfied counterparts.

METHODS

Data Source

Data for this study were from the Community Tracking Study (CTS) Physician Survey (1996–1997).²⁸ This survey, sponsored by the Robert Wood Johnson Foundation, was part of a major project by the Center for Studying Health System Change, a Washington, DC–based organization affiliated with Mathematica Policy Research, Inc. Information for the survey was collected from a nationally representative sample of nonfederal physicians performing direct patient care.

The sample frame of physicians was obtained from master files of the American Medical Association and the American Osteopathic Association. The sample included office-based and hospital-based physicians who spend at least 20 hours per week in direct patient care in the continental United States. Residents and fellows were excluded, as were physicians in certain specialties such as radiology, anesthesiology, and pathology. The survey followed a complex design of 60 sites supplemented by a small, independently drawn national sample.^{28,29} Telephone interviews were conducted with 12,291 physicians from August 1996 to August 1997 with a 65% response rate.^{30,31} The rate of nonresponse to individual survey items was very low, typically less than 3%. Primary care physicians were oversampled. The 3166 FP/GPs accounted for 44.3% of primary care doctors surveyed and 25.8% of the total sample.

Study Variables

Dependent Variable: Career Satisfaction. The dependent variable for most analyses was medical career dissatisfaction. Respondents were asked, “Thinking very generally about your overall career in medicine, would you say that you are currently very satisfied, somewhat satisfied, somewhat dissatisfied,

TABLE 3

EXTENT OF PHYSICIAN DISSATISFACTION			
Type of Physician	Satisfied or Very Satisfied n (%)*	Dissatisfied or Very Dissatisfied n (%)*	Neither Satisfied nor Dissatisfied n (%)*
Total physicians	10,093 (80.7)	2198 (17.7)	212 (1.6)
Specialists	4316 (80.5)	953 (18.0)	87 (1.6)
Total primary care	5777 (81.0)	1245 (17.4)	125 (1.6)
FP/GPs	2537 (81.9)	569 (17.3)	60 (1.7)
Pediatricians	1403 (86.2)	206 (12.6)	17 (1.3)
Internists	1837 (77.5)	470 (20.6)	48 (1.9)

*Unweighted number of survey respondents and weighted percent of US FP/GPs. FP/GPs denotes family physicians/general practitioners.

very dissatisfied, or neither satisfied or dissatisfied?" For comparative analysis, those reporting "neither satisfied or dissatisfied" were eliminated and the 4 remaining responses were collapsed into 2 categories. Physicians who reported feeling very satisfied or somewhat satisfied were classified as "satisfied"; those who reported feeling somewhat dissatisfied or very dissatisfied were classified as "dissatisfied."

Independent Variables. The explanatory variables of primary interest were indicators to assess physicians' perceptions of their ability to provide high-quality medical care. This determination was measured by 6 survey questions with 5-point response categories that ranged from "strongly agree" to "strongly disagree." Table 1 presents the measures of quality of care. Physician dissatisfaction was also potentially influenced by other factors assessed in the survey. Analyses were statistically controlled for the personal, professional, and practice characteristics that appear in Table 2 to examine the relationship of physicians' dissatisfaction with the perception of their ability to provide high-quality care.

Analytical Strategy

Two sets of logistic regression were performed. In the first, adjusted odds ratios were derived to measure the association of personal, professional, and practice characteristics with dissatisfaction (Table 2). Next, the relationship of dissatisfaction with each of the indicators of quality of care was assessed with 6 separate multivariate logistic regression procedures (Table 1). The adjusted odds ratios in Table 1 are the products of that analysis and represent the association of perceived ability to deliver quality of care after controlling for the effects of personal, professional, and practice variables. SUDAAN software, version 7.5.3 (Research Triangle Institute, Research Triangle Park, NC), was used to conduct statistical tests and make national estimates with variance adjustment for the complex survey sample design and physician nonresponse.

RESULTS

Nearly 18% of physicians report being dissatisfied with a career in medicine. The rate of dissatisfaction among FP/GPs is similar to that for all physicians, specialists, and primary care physicians as a group. However, there is some variability among primary care specialties, with internists reporting more dissatisfaction (chi-square = 14.8, $P < .01$) and pediatricians (chi-square = 25.9, $P < .01$) reporting less dissatisfaction than FP/GPs (Table 3).

Factors Associated with FP/GP Dissatisfaction

Many characteristics were associated with the dissatisfaction reported by 17.6% of FP/GPs. The associated characteristics are included in 3 domains. The first 2 domains, personal/professional and practice characteristics, reveal significant factors associated with dissatisfaction (Table 2). The data in the third domain, patient care characteristics, represent results after we had statistically controlled for all factors in the first 2 (Table 1).

Personal/Professional Characteristics. A higher level of dissatisfaction was related to being older; only 10.1% of physicians younger than 35 years of age reported dissatisfaction versus 25.1% of physicians aged 55 to 64 years (odds ratio [OR] 2.46; 95% confidence interval [CI], 1.56-3.88). FP/GPs more likely to be dissatisfied were those who had osteopathic training and those who had been graduated from foreign medical schools. Levels of dissatisfaction were also higher among FP/GPs earning less than \$100,000 per year.

Practice Characteristics. Physicians who fully owned their practice were more likely to express dissatisfaction with their careers than were physicians who either shared ownership or did not own their practice (OR 1.57; 95% CI, 1.11-2.21). The pattern of dissatisfaction related to gatekeeping (ie, providing permission for their patients to seek specialty care) was similar to that related to income. FP/GPs serving as gatekeepers for less than 10% or more than 30% of their patients were the most dissatisfied.

Patient Care Characteristics. After we had controlled for the effects of personal, professional, and practice characteristics, we found that FP/GP career dissatisfaction was, without exception, consistently and strongly associated with a perceived inability to provide high-quality care as assessed by physician responses to each of 6 statements (Table 1). Dissatisfied physicians were much more likely to "disagree strongly" than to "agree strongly" with the

TABLE 4
RELATIONSHIP OF FP/GP DISSATISFACTION TO ACCESS FOR MEDICAID AND MEDICARE PATIENTS

Characteristic	Satisfied FP/GPs (N = 2537) n (%)*	Dissatisfied FP/GPs (N = 569) n (%)*	P Value
Taking all new Medicaid patients	1024 (43.4)	198 (34.6)	<.01
Taking no new Medicaid patients	665 (23.7)	198 (33.5)	<.01
Taking all new Medicare patients	1519 (61.5)	325 (57.9)	0.13
Taking no new Medicare patients	227 (8.6)	70 (11.3)	0.04

*Unweighted number of survey respondents and weighted percent of US FP/GPs. FP/GPs denotes family physicians/general practitioners.

statements about clinical freedom (OR 7.89; 95% CI, 4.86-12.83), continuity of care (OR 7.11; 95% CI, 4.90-10.33), clinical decisions free of financial penalties (OR 4.44; 95% CI, 3.13-6.31), adequacy of time with patients (OR 4.42; 95% CI, 2.84-6.87), ability to provide high-quality care (OR 4.26; 95% CI, 2.88-6.31) and sufficient communication with specialists (OR 3.57; 95% CI, 2.20-5.80). The most notable differences found between dissatisfied and satisfied FP/GPs were related to a lack of clinical freedom and difficulty maintaining continuing relationships with patients.

Physician Dissatisfaction Influences Medicare and Medicaid Care

Dissatisfaction correlates with the percentage of physicians who are willing to care for Medicare and Medicaid patients. A lower percentage of dissatisfied FP/GPs are accepting all new Medicaid patients than are their satisfied counterparts (34.6% vs 43.4%; $P < .01$); and a higher percentage of dissatisfied FP/GPs are taking no new Medicaid patients (33.5% vs 23.7%; $P < .01$). Similarly, a higher percentage of dissatisfied FP/GPs are accepting no new Medicare patients (11.3% vs 8.6%; $P = .04$) (Table 4).

DISCUSSION

A substantial proportion of family physicians, approximately 1 in 5, were dissatisfied with their careers in 1996-1997. Associated characteristics of the dissatisfied group were older age, osteopathic training, and graduation from a foreign medical school. Neither type nor location of practice was a factor, although being a full owner of the practice was associated with greater dissatisfaction. Physicians earning less than \$100,000 per year and FP/GPs for whom less than 10% or more than 30% of patients were in gatekeeping arrangements were more dissatisfied.

The strongest factors associated with dissatisfaction, however, were not personal or practice characteristics but the perceptions of family physicians about their ability to take good care of their patients. After we had

controlled for personal and practice characteristics, dissatisfaction was much more likely when the family physicians felt they did not have (1) the freedom to make clinical decisions that met their patients' needs, (2) a sufficient level of communication with specialists, (3) enough time with their patients, (4) the ability to provide high-quality patient care, (5) the freedom to make clinical decisions without financial conflicts of interest, or (6) the ability to maintain continuing relationships with their patients. More than half of FP/GPs who strongly disagreed with the statement "I have the freedom to make clinical decisions that meet my patients' needs" were dissatisfied with their medical career.

These findings are consistent with previous findings concerning physician autonomy and the widespread backlash against constraints associated with managed care and gatekeeping. The findings draw attention from financial considerations toward clinical decision making as a critical factor in physicians' career satisfaction. Understanding the basis of physician dissatisfaction is important because of the adverse effects of such dissatisfaction. It is difficult to imagine patients preferring to see a dissatisfied physician or to envision a visit with a dissatisfied FP/GP as superior to one with a satisfied physician. In addition, this analysis specifically demonstrates that dissatisfaction among family physicians can negatively affect groups of patients by impeding access to care for Medicaid and Medicare patients. Perhaps the key implication of these findings is the need for serious efforts to revise practice arrangements so that FP/GPs can make the best possible decisions for their patients.

Limitations

There are important limitations to our analysis. The CTS Physician Survey is cross-sectional. While we do not know whether these physicians are more or less satisfied than they were in the past, recent evidence from surveys of primary care physicians in Massachusetts suggests that dissatisfaction has increased since 1986.¹⁷ As in all surveys, responses are subject to reporting error and response bias not accounted for by statistical adjustments. Our findings are associations between variables and do not establish causal relationships.

CONCLUSIONS

The finding that family physician dissatisfaction, after study results are controlled for personal and practice variables, is associated most strongly with a perceived inability to care for patients raises significant concerns. Dissatisfaction among a large proportion of

family physicians threatens the well-being of patients. Given the extent to which the US health care system relies on family physicians, understanding why these physicians are dissatisfied and responding to these problems are important. This cross-sectional snapshot of dissatisfaction among family physicians suggests that patients would benefit from strategies that support rather than disrupt their ongoing relationships with family physicians and that permit their family physician to spend enough time with them to make decisions that are not constrained by financial or other conflicts of interest.

REFERENCES

- Safran DG, Taira DA, Rogers WH, Kosinski M, Ware JE, Tarlov AR. Linking primary care performance to outcomes of care. *J Fam Pract* 1998; 47:213-20.
- Donaldson MS, Yordy KD, Lohr KN, Vanselow NA, eds. Primary care: America's health in a new era. Washington DC: National Academy Press; 1996.
- Grumbach K, Selby JV, Damberg C, et al. Resolving the gatekeeper conundrum: what patients value in primary care and referrals to specialists. *JAMA* 1999; 282:261-6.
- Mainous AG, Baker R., Love MM, Gray DP, Gill JM. Continuity of care and trust in one's physician: evidence from primary care in the United States and the United Kingdom. *Fam Med* 2001; 33:22-7.
- Robert Graham Center for Policy Studies in Family Practice and Primary Care. The importance of having a usual source of health care. *Am Fam Physician* 2000; 62:477.
- Haas JS, Cook EF, Puopolo AL, Burstin HR, Cleary PD, Brennan TA. Is the professional satisfaction of general internists associated with patient satisfaction? *J Gen Intern Med* 2000; 15:122-8.
- Patricelli RE. Providing universal and affordable health care to the American people. In: *Providing universal and affordable health care*. Washington DC: Institute of Medicine; 1989.
- Linn LS, Yager J, Cope D, Leake B. Health status, job satisfaction, job stress, and life satisfaction among academic and clinical faculty. *JAMA* 1985; 254:2775-82.
- DiMatteo MR, Sherbourne CD, Hays RD, et al. Physicians' characteristics influence patients' adherence to medical treatment: results from the medical outcomes study. *Health Psychol* 1993; 12:93-102.
- Buchbinder SB, Wilson M, Melick CF, Powe NR. Estimates of costs of primary care physician turnover. *Am J Managed Care* 1999; 5:1431-8.
- Lewis CE, Prout DM, Chalmers EP. How satisfying is the practice of internal medicine? A national survey. *Ann Intern Med* 1991; 114:1-5.
- FP Report. Worrisome trend continues: specialty, primary care lose ground in 2001 match. *FP Report* 2001; 4:7.
- Robert Graham Center for Policy Studies in Family Practice and Primary Care. The United States relies on family physicians unlike any other specialty. *Am Fam Physician* 2001; 63:1669.
- Conte SJ, Imershein AW, Magill MK. Rural community and physician perspectives on resource factors affecting physician retention. *J Rural Health* 1992; 8:185-96.
- Donelan K, Blendon RJ, Lundberg GD, et al. The new medical marketplace: physicians' views. *Health Affairs* 1997; 16:139-48.
- Schulz R, Scheckler WE, Moberg DP, Johnson PR. Changing nature of physician satisfaction with health maintenance organization and fee-for-service practices. *J Fam Pract* 1997; 45:321-30.
- Murray A, Montgomery JE, Chang H, Rogers WH, Inui T, Safran DG. Doctor discontent: a comparison of physician satisfaction in different delivery system settings, 1986 and 1997. *J Gen Intern Med* 2001; 16:451-9.
- Skolnik NS, Smith DR, Diamond J. Professional satisfaction and dissatisfaction of family physicians. *J Fam Pract* 1993; 37:257-63.
- Pathman DE, Williams ES, Konrad TR. Rural physician satisfaction: its sources and relationship to retention. *J Rural Health* 1996; 12:366-77.
- Kerr EA, Mittman BS, Hays RD, Zemencuk JK, Pitts J, Brook RH. Associations between primary care physician satisfaction and self-reported aspects of utilization management. *Health Serv Res* 2000; 35(1 pt 2):333-49.
- Petrozzi MC, Rosman HS, Nerenz DR, Young MJ. Clinical activities and satisfaction of general internists, cardiologists, and ophthalmologists. *J Gen Intern Med* 1992; 7:363-7.
- Kitai E, Kushnir T, Herz M, Melamed S, Vigiser D, Granek M. Correlation of work structure and job satisfaction among Israeli family physicians. *Israeli Med J* 1999; 1:236-40.
- Hueston WJ. Family physicians' satisfaction with practice. *Arch Fam Med* 1998; 7:242-7.
- Hadley J, Mitchell JM, Sulmasy DP, Bloche MG. Perceived financial incentives, HMO market penetration, and physicians' practice style and satisfaction. *Health Serv Res* 1999; 34:307-21.
- Bates AS, Harris LE, Tierney WM, Wolinsky FD. Dimensions and correlates of physician work satisfaction in a midwestern city. *Med Care* 1998; 36:610-7.
- Grumbach K, Osmond D, Vranizan K, Jaffe D, Bindman AB. Primary care physicians' experience of financial incentives in managed-care systems. *N Engl J Med* 1998; 339:1516-21.
- Kerr EA, Hays RD, Mittman BS, Siu AL, Leake B, Brook RH. Primary care physicians' satisfaction with quality of care in California capitated medical groups. *JAMA* 1997; 278:308-12.
- Kemper P, Blumenthal D, Corrigan JM, et al. The design of the Community Tracking Study: a longitudinal study of health system change and its effects on people. *Inquiry* 1996; 33:195-206.
- Metcalfe CE, Kemper P, Kohn LT, Pickreign JD. Site definition and sample design for the Community Tracking Study (technical publication no. 1). Washington, DC: Center for Studying Health System Change; 1996.
- Keil L, Chattopadhyay M, Potter F, Reed MC. Community Tracking Study Physician Survey round 1 survey methodology report (Technical Publication No. 9). Washington, DC: Center for Studying Health System Change; 1998.
- Reschovsky JD, Edson D, Sewall A, et al. Community Tracking Study physician survey public use file: user's guide, round 1, release 1. Technical publication no 10. Washington, DC: Center for Studying Health System Change; 1998.

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