Changing Nature of Physician Satisfaction with Health Maintenance Organization and Fee-for-Service Practices

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BACKGROUND. Managed care practice arrangements, or health maintenance organizations (HMOs), are sufficiently mature to examine whether physicians' level of satisfaction has changed as managed care has developed. This study compares Dane County, Wisconsin, physicians' satisfaction with HMO and fee-for-service (FFS) practices in 1986 with that of 1993 and examines factors that contribute to satisfaction in an HMO-dominated environment.

METHODS. Cross-sectional surveys were mailed to all Dane County physicians in active practice in 1986 and 1993. Physician overall support for HMO development and satisfaction with work situation was measured with single items. Overall satisfaction and clinical freedom within HMO and FFS practices were measured using statistically reliable scales.

RESULTS. Significantly more physicians were supportive of the development of HMOs in 1993 than in 1986, and more than two thirds of physicians in 1993 were satisfied in their current work situation. Primary care physicians were significantly more satisfied than subspecialists across most dimensions of satisfaction. Perceived clinical freedom and satisfaction with income continued to be major predictors of satisfaction in 1993 as in 1986. While physicians' satisfaction with HMO practice remained stable, their satisfaction with FFS practice was significantly lower in 1993 than in 1986. Satisfaction with Medicare practice, which was not measured in 1986, was significantly less than with HMO or FFS practice in 1993.

CONCLUSIONS. Analyses suggest that primary care physicians are more satisfied than subspecialists with their HMO practice because of their greater satisfaction with HMO-generated income and the expanded clinical freedom they have in HMO practice . An across-the-board decline in satisfaction with FFS practice may be attributable to diminishing clinical freedom resulting from indemnity carriers' increasing micromanagement of patient care.

KEY WORDS. Managed care programs; job satisfaction; professional autonomy; physician's practice patterns; physicians, family. *(J Fam Pract 1997; 45:321-330)*

The rise of managed care organizations has been championed as an effective health care cost-containment strategy, at least in the short run. Care provided by health maintenance organizations (HMOs), which are prepaid managed care organizations that offer patients limited provider choice, is paid for on a prepaid capitated basis and is usually orchestrated by a primary care physician. Although HMOs have become the dominant form of managed care, predictions abound that HMOs will deprive physicians of prized autonomy and significantly reduce their work satisfaction.[1-3] Some surveys support these predictions, suggesting that the practice of medicine is less desirable than it used to be, in part because the physician's role in today's HMO-dominated health care environment is changing and is less well-defined.[1,4,5]

Our previous research in Dane County, Wisconsin, found that physicians did not experience a significant drop in autonomy as a result of

Submitted, revised, May 23, 1997.
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their early experience with HMOs.[6-8] The current study examines physician satisfaction with managed care arrangements over time to determine whether physicians' perceptions of clinical freedom would decline as HMOs become more powerful and how increasing practice restrictions imposed by fee-for-service (FFS) insurers would affect physician autonomy. Understanding how managed care arrangements affect physician satisfaction and what factors make managed care more or less palatable to physicians is an important step in assuring a successful transition to what appears to be an increasingly common form of medical practice.

Research suggests that physician satisfaction is not a one-dimensional construct. Therefore, separating it into components facilitates an understanding of how managed care arrangements affect physicians.[9,10] Our prior studies indicate that in Dane County, physician autonomy moderates the relationship between satisfaction and practice organization and that physician involvement in managerial decisions is positively associated with satisfaction.[6-8,11] Further, in comparison with physicians in private practice, physicians surveyed in California, Massachusetts, New York, Florida, and other states with a high penetration of managed care tended to give HMOs higher marks for job security, working hours, and freedom from administrative hassles[10,12-15] but lower marks for remuneration and resource availability.[1,2,8,12]

METHODS

The study site, Dane County, has a population of approximately 400,000 and is the state capital and home to the University of Wisconsin. As the major employer in Madison, state government was able to implement a sudden and rapid change to HMO care in 1984 by placing a comprehensive employee insurance package out for direct provider bidding. Physicians responded by joining or establishing an HMO plan with competitive prices. Employees had the option of joining an HMO at either low or no premiums or staying with an FFS plan at a higher cost.[6] As a result, enrollment of state employees in closed panel HMOs in Dane County jumped from 22% to 85% in a 1-month period during 1984. Overall enrollment in the four competing HMOs has continued to grow.

In our 1986 survey, 70% of primary care physicians, 62% of hospital-based physicians, and 68% of referral specialists were satisfied with their current work situation. In 1993, a similar survey aimed at measuring physician satisfaction was conducted, with a response rate of 57%. Those results are presented herein and compared with the results of the earlier survey.

In 1993, there were four major competing HMO groups in Dane County. This is one less than in 1986, as the Independent Practice Association (IPA) representing independent practitioners in 1986 subsequently merged with the smaller group model HMO. Between 1986 and 1993, there was a decline of solo practitioners from 43 (8% of the sample) to only 20 (3%), and a substantial increase (from 45% to 73%) in physicians reporting that at least 25% of their patients were in HMOs. Table 1 presents the ownership and practice characteristics of the four major practice groups in Dane County at the time of the 1993 survey. Group A represents the merger of the IPA and the smaller group practice from the 1986 survey. Group B represents the larger group model from the 1986 survey and serves as the comparison group for the regression analysis.

1993 Survey Sample

As with the 1986 survey,[6-8] we mailed questionnaires to all physicians with active hospital staff membership in Dane County (N=1196). This was determined to be the most accurate way to define physicians in active practice in the county because virtually all physicians with an active practice had an affiliation with one of the local hospitals. This method excluded physicians practicing exclusively at the Veterans Administration Hospital and residents and fellows in training programs.

Each physician to whom a questionnaire was sent was assigned an identifying code to allow follow-up and to ensure confidentiality. One primary and three follow-up mailings were sent out. A final attempt was made to contact nonrespondents by telephone to request the return of the questionnaire.

In addition to the mailed questionnaires, the elected leader and the HMO medical director of each group were interviewed. These interviews uncovered no major internal or environmental change or controversy, other than continued HMO growth and competition, that may have caused changes in physician satisfaction between 1986 and 1993. According to the interviewees, turnover among younger physi-

cians was small and the major source of turnover in general was retirement.

MEASURES

Identical items and scales from the 1986 study were used in the 1993 survey.[8] The primary dependent variables relate to satisfaction and perceived clinical freedom with HMO and FFS practices. Parallel items on satisfaction with Medicare practice were added in the 1993 survey.

Overall satisfaction with each practice type (HMO, FFS, Medicare) was measured using a 10-item Likert scale ranging from 1 (very dissatisfied) to 7 (very satisfied). Coefficient alphas for each practice were ≥.85, and means for each practice type ranged from 5.1 to 5.9 (standard deviation [SD], 0.7 to 1.1). Questionnaire items related to physician satisfaction with their ability to refer patients, autonomy to treat patients as desired, ability to order whatever they believe will help their patients, ability to

TABLE 1

Characteristics of Dane County, Wisconsin, Group Practices Included in the 1993 Survey

Practice Type	Ownership of Practice and Method of Income Distribution	No. of Physicians in Group Practice	% of Primary Care Physicians in Practice	No. of Subscribers in Own HMO	% of Income from Managed Care	% of Income Medicare/ FFS/Other Self-pay	% of Income from Medicare*
A: Group Practice	*Ownership:* 70% by 155 physician shareholders; 30% by primary hospital. *Physician Income:* formula based on production.	220	47	80,000	45	40	15
B: Group Practice	*Ownership:* 100% by 250 physician shareholders. *Physician Income:* formula based on production, longevity, equality.	250+	42	140,000	60	29	11
C: Staff Model	*Ownership:* 100% by subscribers to nonprofit cooperative. *Physician Income:* salary.	22	72	40,000	98	1	1
D: Staff Model	*Ownership:* 50% by University Hospital, 40% by physician practice plan, 10% by medical school. *Physician Income:* by department formula, small % from HMO, balance university salaries and other practice income.	420	18	22,000	27	66	12

* Group practice administrators report that the number of office visits per Medicare patient is approximately double that of other patient groups.
HMO denotes health maintenance organization; FFS, fee-for-service.

provide continuity of care, time available for each patient, relationships with patients, kinds of patients and clinical problems, potential for improving health status of patients, amount of income received, and amount of paperwork.

Perceived clinical freedom with each practice type was measured with six items on a 4-point Likert scale ranging from 1 (rarely have freedom) to 4 (almost always have freedom). Coefficient alphas for each practice type were >.67. Means for each practice ranged from 2.4 to 3.0, (SD, 0.6 to 0.7). Questions were related to physicians' freedom to order whatever they believe would help patients, to ignore cost of care, to reject patients, to decide what services nurses should provide, to charge whatever they believe is reasonable, and patients' freedom to choose a doctor.

Secondary scales tapped satisfaction with resources and with professional relationships, without distinguishing between HMO and FFS practices. All scales were recoded for directionality so that high scores would reflect higher degrees of satisfaction or clinical freedom; for interpretability, these scores are reported in the same metric as the original items. Values reported in the tables represent the mean on the original metric across items making up the scales, adjusted for omitted and missing items.

In addition to scales, several single-item measures were analyzed, including overall support for the development of HMOs, satisfaction with income, satisfaction with work situation, and perception of relative cost-effectiveness of HMOs.

Since there were no common identifiers to link individual physician's responses between the 1986 and 1993 surveys, and because of turnover and an expanded pool, physicians were not matched longitudinally. Fifty-seven percent of the 1993 respondents indicated they had started practicing in Dane County in 1986 or earlier and thus would have had the opportunity to respond to the 1986 survey. The analysis is treated as a repeated cross-sectional design. Chi-square, multiple regression, and two-way analysis of variance (ANOVA) were utilized to analyze the data.

RESULTS

The response rate in the 1993 survey was 737 of 1196 or 62% of the physicians surveyed. Sixty-one of the responses in 1993, however, were discarded as unusable, primarily because of missing data, leaving 676 usable responses, or a 57% response rate. This compares with 545 responses for a 64% response rate in the 1986 survey. This level is similar to physician response rates in studies nationwide[16] and is consistent with rates commonly obtained among elite professionals, including the fields of medicine, law, and business.[17] Comparing age (mean, 45.3; SD, 9.5), sex (82% male), and medical specialty groups, respondents to the 1993 survey are similar to the overall distribution of physicians in Dane County, as reported in the 1993 American Medical Association Master File.[18] Thirty-six percent of our respondents were primary care physicians, compared with 38% of all Dane County physicians practicing in 1993; 10% were hospital-based respondents, compared with 12% practicing physicians, and 55% were referral specialists, compared with 51% of all AMA Master File physicians practicing in Dane County.

Responses to Satisfaction Items

A significantly higher percentage of physicians were supportive of HMO development in Dane County in 1993 than in 1986 (Figure). In both surveys, primary care physicians were significantly more supportive of HMOs than their subspecialty counterparts, but the difference appears to be dwindling. In 1986, support for HMOs among primary care physicians was 32 percentage points higher than among specialists. In 1993, the difference was only 24 percentage points.

Table 2 reports levels of satisfaction on key single-item measures in 1986 and 1993. There was a significant and substantially higher rate of support for HMO development in Dane County across all specialty categories in 1993 compared with the 1986 rate (Figure). There were no significant differences over time in the percentage of physicians reporting satisfaction with their current work situation, believing that HMOs have provided more cost-effective care than fee-for-service, and expressing satisfaction with the amount of income they received from HMO patient care. The percentage who were satisfied with income received from FFS patient care was significantly higher in 1993 than in 1986.

Interesting differences between primary and specialty care physicians emerged from this analysis. In both 1986 and 1993, primary care physicians were significantly more likely than other specialists to be

supportive of HMO development, to perceive HMOs as more cost-effective than FFS, and to be satisfied with income received for HMO patients. Satisfaction with income among primary care physicians was significantly higher in 1993 than in 1986, while the percentage of subspecialty physicians who were satisfied with income was lower in 1993 than in 1986, although not significantly so. This change may reflect a reported steeper rate of increase in HMO remuneration to primary care physicians relative to other specialties.

Effects of Time and Specialty on Satisfaction Scales

Less dramatic yet similar findings emerge from the multi-item scales. Table 3 provides scale means, by time and practice type, and summarizes the results of two-way ANOVAs, which tested for main and interaction effects of time and practice on each of the satisfaction scales. Significant main effects of time were detected on the scales of overall satisfaction and perceived clinical freedom associated with FFS practice. These effects reflect lower FFS satisfaction and freedom in 1993 than in 1986. There was no corresponding significant main effect of time on satisfaction and perceived clinical freedom with HMO practices.

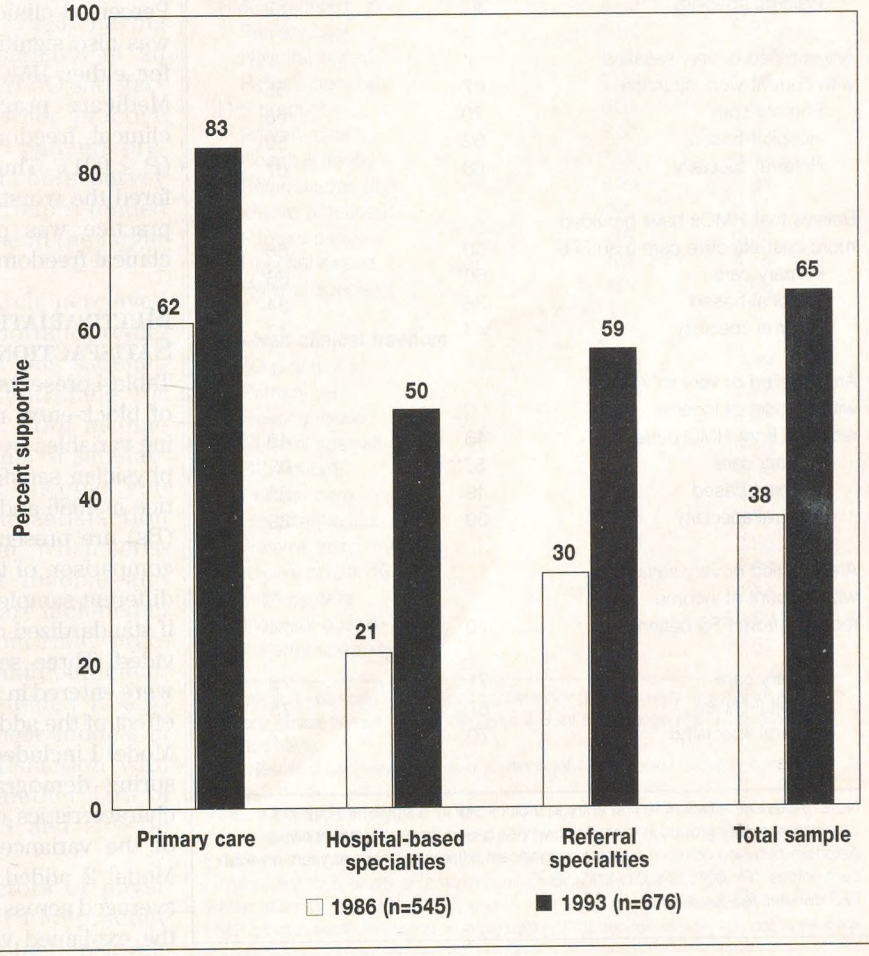
A significant main effect for time was also present on the measure of satisfaction with resources, again indicating lower levels of satisfaction in 1993 than in 1986. Satisfaction with professional relationships did not differ significantly from 1993 to 1986.

In both 1986 and 1993, primary care physicians were significantly more satisfied than one or both of the subspecialty groups on the scales of overall satisfaction with HMO practice, perceived clinical freedom in HMO practice (Table 3), and satisfaction with autonomy and resources. Hospital-based specialists tended to have the lowest levels of satisfaction in both surveys.

Two interaction effects were also detected in this analysis. Primary care physicians' perceptions of clinical freedom in their HMO practices

FIGURE

Percentages of primary care physicians, hospital-based specialists, and referral specialists who indicated being "supportive" or "very supportive" of the development of health maintenance organizations. Percentages represent the results of two cross-sectional surveys administered to physicians in Dane County, WI, in 1986 (n=545) and 1993 (n=676).



increased as others decreased over time. This result was marginally significant (P = .065). Perceived freedom with FFS practice was also significantly lower in 1993 than in 1986 for both hospital-based and referral specialists, while it did not differ for primary care physicians.

TABLE 2

Physician Responses to 1986 and 1993 Survey Items Regarding Health Maintenance Organizations (HMOs), by Specialty Group and Survey Year

Physician Responses to Survey Items	% of Responding Physicians 1986 Survey (n=545)		1993 Survey (n=676)
Are supportive or very supportive of HMO development in Dane County	38	*	65
Primary care	62*	*	83*
Hospital-based	21	*	50
Referral specialty	30	*	59
Are satisfied or very satisfied with current work situation	67		65
Primary care	70		68
Hospital-based	62		59
Referral specialty	68		67
Believe that HMOs have provided more cost-effective care than FFS	50		56
Primary care	66*		66*
Hospital-based	36		34
Referral specialty	47		47
Are satisfied or very satisfied with amount of income received from HMO patients	46		48
Primary care	57**		65***
Hospital-based	49		35
Referral specialty	39		39
Are satisfied or very satisfied with amount of income received from FFS patients	70	***	74
Primary care	71		76
Hospital-based	67		75
Referral specialty	70		77

NOTE: Asterisks adjacent to first entry in a block signify a significant difference between specialty groups in that year's survey, based on chi-square analysis. Asterisks between columns indicate a significant difference between years on adjacent entries. *P<.001; **P<.01; ***P<.05.
FFS denotes fee-for-service.

SATISFACTION WITH FFS, HMO, AND MEDICARE PRACTICE

Although the gap between HMO and FFS practice with respect to satisfaction and perceived clinical freedom narrowed substantially from 1986 to 1993, mean levels of satisfaction with FFS practice remained higher than that with HMO practice on these measures in 1993 (Table 3). Interestingly, physicians are significantly less satisfied with their Medicare practice (Table 3) than with either HMO or FFS arrangements. Paired t tests comparing overall satisfaction with HMO, FFS, and Medicare practices in 1993 indicated that satisfaction with FFS practice was significantly higher (P < .001) than satisfaction with either HMO or Medicare practice, and satisfaction with HMO practice was significantly higher than satisfaction with Medicare practice (P <.001). Perceived clinical freedom for FFS practice was also significantly higher (P <.001) than for either HMO or Medicare practice, and Medicare practice was rated higher for clinical freedom than was HMO practice (P <.001). Thus, while Medicare practice fared the worst in overall satisfaction, HMO practice was perceived to have the least clinical freedom.

MULTIVARIATE ANALYSIS OF OVERALL SATISFACTION WITH HMO PRACTICE

Table 4 presents the final results from a series of block-entry regression models investigating variables hypothesized to explain overall physician satisfaction with their HMO practice in 1986 and 1993. Structural coefficients (Bs) are presented in order to allow direct comparison of the coefficients from the two different samples. These would be precluded if standardized coefficients (betas) were provided. Three sequential blocks of variables were entered in planned order to examine the effect of the additional variables at each step. Model 1 included independent variables measuring demographics, specialty type, and characteristics of practice. It explained 13% of the variance in 1986 and 34% in 1993. Model 2 added perceived clinical freedom, averaged across practice types, and increased the explained variance to 28% in 1986 and

44% in 1993. The final model, presented in Table 4, added single items measuring satisfaction with HMO income and with total income. This model explains 50% of the variance in satisfaction with HMO practice in 1986 and 56% in 1993.

Neither age nor sex was significantly related to satisfaction with HMO practice. In both years, hospital-based and referral specialists were significantly less satisfied with their HMO practice than were primary care physicians, the omitted reference category. These differences remain significant even when clinical freedom and income are subsequently entered into the equation. In 1993 only, physicians in a group practice were significantly more satisfied with their HMO practices than were those in hospital-based or solo practice, even when clinical freedom and satisfaction with income were included. In 1993, having more than 25% of one's patients in an HMO was also predictive of HMO satisfaction. In 1986, however, neither practice type nor proportion of HMO patients predicted HMO satisfaction. In both survey years, those in the smaller group A tended to be less satisfied than those in the larger group B.

In accord with past research, perceived clinical freedom was an important predictor of HMO satisfaction, as was satisfaction with HMO income, controlling for overall income satisfaction. Both income questions were asked in terms of satisfaction with "the amount of income you receive," using the 7-point satisfaction scale as the response option. When satisfaction with both overall income and income from HMO practice are included in the 1993 model, income from HMO practice emerges with a significant coefficient. Perceived clinical freedom added 12% to the variance explained in these models in 1993 and 15% in 1986. Satisfaction with income items also added another 12% in explained variance in 1993 and 23% in 1986.

We also analyzed predictors of physicians' satisfaction with their FFS practice in 1993. In contrast to satisfaction levels with HMOs, referral specialists were significantly more satisfied with their FFS practice than were primary care physicians (B = .14, P <.05). Perceived clinical freedom was again a significant predictor (B = .36, P <.001) and added 10% to the variance explained. Overall satisfaction with income was also a significant predictor (B = .07, P <.05), but added only 4% to the total R^2 of .20 for the full model.

TABLE 3

Mean Physician Responses to Satisfaction and Freedom Scales, by Specialty Group and Year

Scale Items	Mean Physician Responses to Satisfaction/Freedom Scales* 1986 Survey (n=545)	1993 Survey (n=676)
Overall satisfaction		
HMO practice†	5.38	5.43
Primary care	5.90	5.91
Hospital-based	5.33	4.86
Referral specialty	5.08	5.16
FFS practice‡	6.31	5.93
Primary care	6.37	5.95
Hospital-based	6.04	5.67
Referral specialty	6.34	5.98
Medicare practice§	NA	5.10
Primary care	NA	5.28
Hospital-based	NA	4.75
Referral specialty	NA	5.08
Perceived clinical freedom		
HMO practice ||	2.48	2.43
Primary care	2.64	2.72
Hospital-based	2.45	2.27
Referral specialty	2.40	2.28
FFS practice¶	3.21	2.99
Primary care	3.16	3.08
Hospital-based	3.15	2.78
Referral specialty	3.24	2.98
Medicare practice§	NA	2.53
Primary care	NA	2.64
Hospital-based	NA	2.32
Referral specialty	NA	2.51

* Satisfaction was scaled on a 7-point scale ranging from 1 (very dissatisfied) to 7 (very satisfied); clinical freedom was scaled on a 4-point scale ranging from 1(rarely) to 4 (almost always).

NOTE: Results of two-way analyses of variance (ANOVAs) found following significant effects (P < .05).

† Main effect for specialty only.

‡ Main effect for year and specialty but no interaction.

§ One-way ANOVA effect for specialty in 1993 (P < .001)

|| Main effect for specialty and marginal effect for interaction (P =.065).

¶ Main effect for year and specialty and for interaction of year and specialty.

HMO denotes health maintenance organization; FFS, fee-for-service; NA, not applicable.

DISCUSSION

Results from these surveys demonstrate that primary care physicians can be quite satisfied working in an environment dominated by HMO practice, such as Dane County, but the experience of other specialists within HMOs is less clear cut.

Across all specialty types, however, support for the development of HMOs was markedly higher in 1993 than it had been in 1986, and mean overall satisfaction with HMO practice was stable in the two surveys, while mean satisfaction with FFS practice declined. Additionally, most physicians reported being at least somewhat satisfied with their income from HMO patients. This was supported by interviews with group leaders who reported that increases in take-home income exceeded the rate of inflation between 1986 and 1993. Most physicians also reported being at least somewhat satisfied with their perceived level of clinical freedom.

There are some marked differences in satisfaction, however, depending on specialty type. Our results indicate that primary care physicians are significantly more satisfied, particularly with HMO practice, than are other specialists. Primary care physicians are more likely than other subspecialties to be supportive of HMO development, to perceive HMOs to be more cost-effective than FFS, and to be more satisfied with the income they receive from their HMO practice. In fact, satisfaction with HMO practice income increased over time for primary care while it decreased for referral physicians. Additionally, primary care physicians were more satisfied than other subspecialists with their overall HMO practice and with their clinical freedom within HMOs. As with practice income, perceived clinical freedom for their HMO practices increased over time for primary care physicians while it decreased for other specialists. Primary care physicians also reported significantly greater clinical freedom and overall satisfaction with their FFS practices than did hospital-based physicians. These differences between clinical specialties in the 1993 survey run counter to the findings of previous studies,[19,20] but are even more convincing than those of our 1986 survey. We attribute the differences to primary care physicians' central role in authorizing referrals, increased influence over hospital-based and referral practitioners in negotiating discounts, and the increased demand for primary care physicians, which is reflected in rising recruitment salaries and benefits.

In addition to differences among specialty types, our 1993 survey also revealed significant differences among practice types with respect to overall satisfaction and perceived clinical freedom. While increased oversight may be reducing clinical freedom for FFS patients, it is still greater than for Medicare

TABLE 4

Regression of Overall Satisfaction with HMO Practice on Selected Variables, Based on Dane County Physician Samples in 1986 and 1993

Independent Variables*	1986 Coeff B (SE)	1993 Coeff B (SE)
Demographics		
Age	−.006 (.005)	.000 (.004)
Sex (1=male)	−.156 (.165)	.244 (.119)
Medical specialty:		
Hospital-based†	−.332 (.165)‡	−.520 (.146)§
Referral specialty	−.339 (.119) ||	−.416 (.108)§
Practice characteristics:		
Solo practitioner¶	.194 (.239)	−.829 (.268) ||
Group practice	.146 (.148)	.520 (.119)§
> 25% HMO patients	.010 (.110)	.316 (.110) ||
Group A#	−.257 (.148)	−.260 (.116)‡
Group C	−.023 (.289)	−.063 (.185)
Group D	−.037 (.146)	−.042 (.125)
Group E**	.687 (.242) ||	NA
Perceived clinical freedom* **	.676 (.095)§	.577 (.089)§
Satisfaction with income		
HMO patients	.455 (.038)§	.282 (.033)§
Overall	−.095 (.044)‡	.018 (.034)
Constant	2.11 (.410)§	1.97 (.368)§
Adjusted R^2	.503	.562

*Block entry of independent variables. Coefficients reported are structural coefficients (Bs) and standard errors (SEs); *t* tests can be calculated by dividing the Bs by their SEs.

†Hospital and referral specialties as compared to primary care.

‡$P<.05$

§$P<.001$

|| $P<.01$

¶ Solo and group practices compared with hospital-based practices.

Groups A, C, D and E compared with Group B.

** Group E was merged with Group A prior to 1993.

*** Perceived clinical freedom averaged across HMO, fee-for-service arrangements (FFS), and Medicare practice.

NOTE: Overall satisfaction scaled without the satisfaction with income item for this analysis.

HMO denotes health maintenance organization; NA, not applicable.

or HMO practice, with HMOs faring the worst of the three. Physicians' overall practice satisfaction is also greater for FFS than for the other practice types, with Medicare being the least satisfying.

Looking at the issue of what contributes to physicians' satisfaction with their HMO practice, regression analysis (Table 4) showed that satisfaction with income and perceived clinical freedom were strong predictors of satisfaction with HMOs. Being in a group practice was another strong variable contributing to satisfaction, whereas being in solo practice was a strong negative factor. Dane County has had a rich history of competing group practices, thus facilitating the transition of physicians into competitive closed-panel HMOs. In contrast, physicians remaining in independent practice have faced a particularly difficult competitive environment as HMOs have consolidated their share of the market between 1986 and 1993.

Having a higher percentage of HMO patients was found to contribute to physicians' satisfaction with HMO practice. As market incentives, employer mandates, and changes in Medicaid and Medicare policy move increasing numbers of consumers from FFS to HMO health insurance plans, physicians will lose patients if they cannot attract them to their HMO. As with any human service, having a sufficient number of patients is critical to work satisfaction and to organizational survival.[21]

This study has several limitations that must be acknowledged. While the response rates of around 60% are typically the best that can be achieved in surveys of physicians, there is a possibility of response bias in which, for instance, particularly dissatisfied physicians may fail to respond. Our data, however, suggest that the respondents reflect the characteristics of all physicians practicing in Dane County. Furthermore, if there is a response bias, we would expect that the same bias would have existed in both the 1986 and the 1993 surveys. If this were the case, the results we report could exaggerate the overall levels of satisfaction, but the comparisons over time would nonetheless remain valid in reflecting true trends. Another limitation is our inability to directly link individuals who responded to both surveys. Our protocol to protect confidentiality by handling the data anonymously without common identifiers precludes direct linkage of the samples, requiring analysis of the data as repeated cross-sectional surveys rather than as a more powerful panel study, in which individual rather than group change can be assessed.

The final limitation is that of generalizability. Dane County differs from some settings because physicians, in most cases, have to deal with only one HMO—their own. In other settings, such as California, independent physicians have to contract with a number of managed care organizations, all extracting discounts in addition to surveillance procedures. While Dane County may be unique in many aspects of the development of its health care market structure, it nonetheless provides a benchmark case study that may provide insights applicable to other markets and one against which trends in other settings can be compared.

IMPLICATIONS

Findings from this study suggest that primary care is increasingly attractive as a specialty choice. Rising demands for primary care physicians, increasing incomes, and the increasing role of primary care physicians in controlling the total health care services of their patients contribute to increased satisfaction among primary care physicians. The findings of this study do not support the concern that conflicts inherent in the central coordinating role of primary care physicians would decrease their job satisfaction.[1] Even over time, the levels of satisfaction for primary care physicians in Dane County have remained significantly higher than those of other specialties across a broad range of dimensions. Clinical freedom is the best example of higher satisfaction among primary care physicians: the mean level of perceived freedom actually increased over time for primary care while decreasing for other specialty groups. The findings suggest that primary care physicians' increased authority over referrals created through their coordinating and managing function within HMOs has enhanced rather than reduced satisfaction.

This study also suggests opportunities for maintaining physician satisfaction in an increasingly managed health care environment. Clinical freedom continues to be a very important aspect of physician work satisfaction. Past research has found that involving physicians in important decisions that will affect them tends to increase both their commitment to the goals of the organization and their satisfaction with their work environment.[11,22,23] Research and theory suggest that one way to achieve a high level of

commitment and satisfaction may be through physician ownership and control over HMOs, or at the least, by assuring physician influence on HMO policies and practices.[2,6,7,24]

While we cannot determine from this study whether the organization and management of Dane County HMOs was a contributing factor to perceptions of clinical freedom, we do know that through 1994, physicians maintained ownership and control of three of the four HMOs and participated in HMO decisions. While the consumer-controlled HMO (group C) is not under physician ownership or control, it strives to give physicians a voice in management. These ownership characteristics may be related to the relatively high levels of overall support for HMOs in Dane County. Future studies should compare satisfaction across HMOs with different levels of physician participation in organizational decisions.

As in other communities, the health care market of Dane County continues to be a dynamic one. HMO penetration continues to increase, the ownership structure of the various provider groups is in flux reflecting regional consolidation, and incentive structures and production expectations for physicians are evolving. We plan to continue tracking how these changes affect physician satisfaction.

ACKNOWLEDGMENTS

The research for this study was supported in part by grants from The Dean Foundation and University Health Care Inc, Madison, Wisconsin.

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