

Does Continuity of Care Increase HMO Patients' Satisfaction with Physician Performance?

Karl F. Weyrauch, MD, MPH

Background: This study describes the relation between patient satisfaction with physician performance and seeing one's "own doctor" for a recent office visit.

Methods: A cross-sectional, randomized, computer-assisted telephone interview survey was performed at an urban health maintenance organization; 1146 responses were analyzed.

Results: Patients seeing their own physicians were significantly more satisfied than patients seeing another physician, even after controlling for effects of patient age, sex, reason for visit, clinic attended, satisfaction with appointment making, and interval between scheduling and making the visit. The interaction between getting one's choice of provider and seeing one's own physician was a significant predictor of satisfaction ($P = 0.003$). Among patients who got their choice of provider, seeing one's own physician had a more significant effect on satisfaction than seeing any other physician ($P = 0.0009$ compared with $P = 0.04$). Patients who did not receive their choice of provider but who did see their own physician had the highest satisfaction scores ($P = 0.007$).

Conclusion: To increase patient satisfaction with physician performance, health maintenance organizations should ensure that patients see their "own doctor" whenever possible for routine office visits. (J Am Board Fam Pract 1996; 9:31-36.)

Managed competition depends on market forces acting on organizations of health care providers, such as health maintenance organizations (HMOs), to reduce health care costs. This concept is fundamental in health care reform. Managed competition has been described as a potential threat to continuity of care and patient-physician relationships that develop over a long time.^{1,2} This concern is especially relevant today, because since 1992 HMOs have grown to provide care for more than one fifth of America's population.³ Continuity of care has been studied as a variable affecting patient satisfaction,⁴⁻⁶ but there have been no reports on whether continuity of care is important for patient satisfaction among patients who receive their health care in HMO settings.

The Medical Outcomes Study showed that patient ratings of solo or single-specialty groups (with greater continuity of care) were significantly more likely to be excellent than were the

ratings of multispecialty groups or HMOs (with less continuity of care),⁷ but the study did not directly examine the effect of continuity of care on patient satisfaction. A meta-analysis found that satisfaction with continuity of care ranked 6th of 11 correlates of consumer satisfaction,⁸ but this analysis did not consider the effect of practice type. Visits to physicians that are longer⁹ and that include psychosocial issues¹⁰ and nonmedical problems¹¹ are associated with higher levels of patient satisfaction; but again, these findings might not be generalizable to populations served by HMOs, because they were obtained in either community-based practices or university settings. Continuity of care has also been shown to be related to physician satisfaction. For example, Blankfield et al¹² found that continuity of care as measured by the usual provider continuity method was highly correlated with provider satisfaction as measured on a practice satisfaction scale; but again, this study was not done in an HMO setting.

Because family physicians are becoming the keystone of primary care delivery in HMOs, and because the issue of continuity of care is a fundamental principle of family medicine,⁴ it is impor-

Submitted, revised, 28 September 1995.

From the Group Health Cooperative of Puget Sound, and the Department of Psychiatry and Behavioral Science, University of Washington, Seattle. Address reprint requests to Karl F. Weyrauch MD, MPH, 4545 49th Avenue NE, Seattle, WA 98105-3827.

Table 1. Content Areas of Interview Questionnaire.

Health care center attended
Health care provider seen
Satisfaction with ease of seeing desired provider
Time interval in days between making and keeping the appointment
Overall satisfaction with ease of appointment making
Satisfaction with telephone scheduling (10 questions)
Reason for the appointment (routine health screening, acute problem, nonacute condition, check-back visit)
Coordination between members of the medical team
Ability to get specialist referral
Time spent with the provider
Thoroughness and competence of the provider
Explanation given about care
Friendliness and caring of the provider
Preventive care focus of the provider
Friendliness and caring of the nurses
Thoroughness and competence of the nurses
Overall visit satisfaction, overall satisfaction with the health maintenance organization

tant to ascertain whether continuity of care matters to HMO patients as well. This study was done to test whether HMO patients who saw their own physician at their last office visit were more satisfied with physician performance than patients who saw another physician.

Methods

A computer-assisted telephone interview was conducted between 16 February and 11 May 1994 on a randomly selected sample of enrollees of Group Health Cooperative of Puget Sound (GHC), a staff-model HMO in Washington State with approximately 350,000 enrollees. Patients were randomly selected from HMO members who made a primary care visit to one of nine medical centers in the central region of GHC in January, February, or March 1994. For children the accompanying parent was interviewed about the child's last visit. The time interval between patient visit and interview was between 1 week and 5 months.

The interview questionnaire contained 44 questions and had been developed as part of an ongoing project to monitor patient satisfaction with care. The questionnaire was developed in 1989 as a joint project of the Group Health Association of America and the HMO group. To maximize content validity, John Ware, Jr., PhD,^{14,15} was enlisted as a content specialist in the design phase. No

other specific validity testing was performed, although the questionnaire used in this study had been revised from the original 1989 instrument based on cumulative experience with its administration. Questionnaire reproducibility was determined by inspecting the stability of responses to selected questions used within the past 4 years, during which the questionnaire had been administered on eight separate occasions. In addition to demographic information, patients were asked to rate their satisfaction with various aspects of care on a 5-point Likert scale (poor, fair, good, very good, excellent). General content areas included are presented in Table 1.

Patients' satisfaction with the performance of their physician or other health care provider was measured using the same 5-point scale. Patients were asked to rate time spent with the provider, the thoroughness and competence of the provider, the explanation given about their care, the friendliness and caring of the provider, the support they received from the provider on ways to avoid illness and stay healthy, and their overall satisfaction with the visit.

Statistical Analysis

The dependent variable for satisfaction with physician performance was calculated as the sum of consumer evaluations of three of the five dimensions of physician performance: thoroughness and competence, explanation given about care, and physician support for ways to avoid illness and stay healthy. In this way, a 15-point scale was created for this variable: poor, 0 to 3; fair, 4 to 6; good, 7 to 9; very good, 10 to 12; excellent, 13 to 15. This summary variable was chosen because it was both the most specific assessment of discrete physician behavior, and it was approximately normally distributed. Other possible groupings of the physician satisfaction variables were less appropriately distributed to fulfill the parametric assumptions of multivariate regression analysis.

Independent variables were selected for both theoretical reasons (age, sex, reason for visit, clinic attended) and through forward and backward stepwise regression methods to find particularly salient features of the process of obtaining medical care (ease of appointment making by telephone, delay in days between requesting appointment and actually being seen). Dummy variables were used to evaluate the effect of clinic at-

Table 2. Calculated Percentage of Change in Satisfaction Score (15-Point Scale) for Regression Model Variables.*

Variable	Percent Change	P Value
Age (change per 1-year interval)	- 0.07	0.46
Sex (1= female, 2= male)	3.1	0.10
Ease of appointment making	8.0	<0.000
Each day between scheduling and keeping appointment	0.33	<0.000
Reason for visit compared with health maintenance visit	(Any reason)	0.01
Acute illness	4.3	0.09
Nonacute illness	6.5	0.02
Follow-up visit	7.3	0.004
Clinic attended (1 of 9 clinics)	(Any clinic)	<0.000
Physician seen and choice of provider, compared with least satisfied group	(Any combination)	0.003
Saw own physician, got choice of provider	10.0	0.0009
Saw other physician, got choice of provider	9.3	0.04
Saw own physician, did not get choice of provider	21.3	0.007
Saw other physician, did not get choice of provider	Reference group	

*Regression model $R^2 = 0.24$; F test value 19.5, degrees of freedom 1135, significance of F test value $P < 0.000$

tended, reason for visit, having one's request to see a specific provider met, and seeing one's own versus another physician. Because receiving one's choice of provider was highly correlated with the provider actually seen, the relation between satisfaction and these two variables is presented as a stratified analysis.

The data were analyzed using chi-square tests to test associations between nominal variables, two-tailed t-tests to test for differences in means of continuous variables, multiple analysis of variance (MANOVA) to test for significance of age and sex as covariates, and multiple regression analysis to control for confounders while testing for associations between independent and dependent variables.

Results

A total of 1939 persons were contacted, and 1447 interviews were completed, with approximately 150 members interviewed from each medical center, for an overall response rate of 70 percent. There were 572 (33 percent) male and 875 (67 percent) female patients, with an age range of 0 to 96 years. After excluding persons seen by a nurse, physician's assistant, or other nonphysician and incomplete responses, the responses of 1146 patients were included in the final regression analysis; 468 (41 percent) from male, and 678 (59 percent) from female respondents.

Interestingly, 90 percent of total respondents reported having gotten their appointment when

they wanted it. Chi-square analysis revealed that satisfaction with physician thoroughness and explanation was highly related to whether the patients got an appointment with the provider they requested ($P = 0.00001$ for thoroughness; $P = 0.0008$ for explanation). Likewise, these satisfaction scores were also significantly related to whether patients saw their own physician ($P = 0.0008$ for thoroughness; $P = 0.05$ for explanation). Although seeing one's requested provider was more highly correlated with excellent satisfaction than seeing one's own physician, both were significantly related to levels of excellent satisfaction. The mean score for the dependent variable for satisfaction was significantly higher for subjects who saw their own versus another physician (10.72, very good, compared with 9.70, good; $P = 0.01$ by two-tailed t-test).

Patient age was significantly related to satisfaction scores, with increasing satisfaction among older consumers ($P = 0.004$ by MANOVA). Sex was also significantly related ($P = 0.04$ by MANOVA). Both sexes were equally likely to see their own physician ($P = 0.4$ by two-tailed t-test).

Multiple regression analysis was used to control for the effects of patient age, sex, clinic attended, reason for visit (health maintenance, urgent condition, nonurgent condition, follow-up), overall satisfaction with ease of appointment making, and time in days between making and keeping an appointment. Calculated percentage of change in score on the 15-point satisfaction scale for vari-

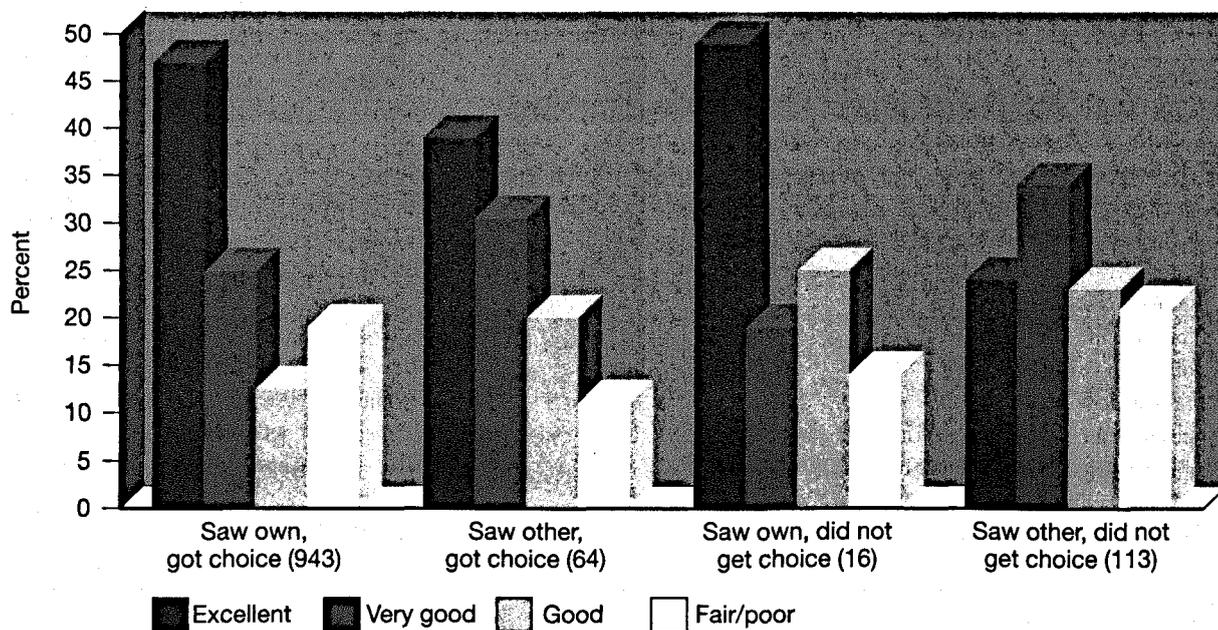


Figure 1. Satisfaction by physician and choice of provider.

ables in the final regression model is shown in Table 2. These values show that after controlling for variables in the model, consumers were more satisfied with physician performance when they saw their own physician for a clinic appointment than when they saw another physician. The interaction of getting an appointment with a requested physician and seeing one's own physician was a significant predictor of patient satisfaction ($P < 0.003$). Compared with the least satisfied consumers who neither saw their own physician nor received their choice of provider (ie, the reference group), patients who either saw their own physician or received their choice of provider were more satisfied. Among patients who got their choice of provider, seeing one's own physician had a more significant effect on satisfaction than seeing any other physician ($P = 0.0009$ compared with $P = 0.04$). Patients who were able to see their own physician, but who did not receive their choice of provider, had the highest calculated satisfaction score, with a calculated 21.3 percent increase in satisfaction compared with the reference group. This change equates to an increase of more than one complete satisfaction group on the Likert scale.

Figure 1 presents the distribution of patients based on physician seen and choice of provider. Approximately 40 percent of consumers reported excellent satisfaction in the three strata that either saw their own physician or got their choice of

provider. In contrast, only 23.9 percent of consumers reported excellent satisfaction in the least satisfied stratum (ie, the reference group).

Discussion

Continuity of care in this HMO, defined as patients seeing their own physician versus someone else, was significantly related to patient satisfaction with physician performance. This relation remained statistically significant even after controlling for patient age, sex, clinic attended, reason for visit, overall satisfaction with appointment making, and timing of the appointment. In addition, this study shows that whether patients receive their choice of providers is also significantly related to satisfaction with physician performance. Among patients who received their choice of provider, seeing one's own physician had a larger and more significant effect on patient satisfaction than seeing any other physician. These findings are consistent with those of DiMatteo and Hays,¹⁶ which showed higher levels of patient satisfaction associated with higher levels of continuity of care, but they did not control for potential confounders.

Patients who did not choose to see their own physician but did so anyway were more satisfied than any other subgroup in this sample (a calculated satisfaction score increase from the reference group of 21.3 percent compared with 9 to

10 percent). This finding suggests that patients were pleasantly surprised by the chance to see their own physician, perhaps for hastily scheduled or walk-in appointments, when they had chosen to see the first available provider rather than requesting their own physician. In contrast, patients who requested to see their own physician but were unable to do so were clearly the least satisfied group in this sample. Interestingly, compared with satisfaction levels with health maintenance visits, patients were more satisfied with nonurgent visits and follow-up visits than with urgent visits. This finding might relate to patient expectations associated with different types of visits, but would require additional study to evaluate.

The mechanism by which continuity of care is associated with patient satisfaction and with physician performance might be through the effect of personal knowledge of family physicians for their patients.¹⁷ Personal knowledge is a personal information network that family physicians develop through working with patients. It is a detailed portrait of the patient as a person, consisting of medical facts, the physician's experience and intuition, and the ethics and psychodynamics of the relationship between patient and physician. The physician's personal knowledge of the patient allows the physician to tailor communication for each patient, a process that has been shown to promote patient satisfaction.¹⁸ In addition, personal knowledge of the patient has many other important influences on physicians' daily clinical practice.¹⁹

The development and use of personal knowledge by physicians require both time and interest on the part of physicians and patients alike. Gabel et al²⁰ found that the physician's knowledge of the patient and the patient's familiarity with the physician were the two main factors contributing to the maintenance of a continuous care relationship between patients and physicians. Their results were not from a managed care setting but were noteworthy because the patient-physician relationships studied were of at least 15 years' duration. Similarly, many physicians in our study had practiced for more than 15 years at GHC. It is possible that patient satisfaction is increased among patients who enjoy such long-term relationships with their physicians compared with patients with less established relationships; but

these data do not permit further clarification of this point.

One drawback of this study is that the measure of continuity of care was a single question asking whether patients saw their own physician rather than another physician or other health care provider at their last visit. Thus, it is not entirely clear whether follow-up from one visit to the next or an ongoing relationship between provider and patient was being assessed. The former is sometimes regarded as continuity, the latter, longitudinality, as Dietrich and Marton⁵ point out. Because a response to this question implies that patients understood who their own physician was, the concept of continuity measured seems more similar to longitudinality rather than to follow-up visit continuity. Further work using similar questionnaires would benefit from more precise measurement of these aspects of continuity of care.

This study was performed in a staff-model HMO in which approximately two thirds of patients saw their own physician at the visit studied. In private practice preferred provider organizations near the study region, approximately 80 percent of patients saw their own physician at their last visit.²¹ Thus these data show the same pattern of increased continuity in single-specialty groups, compared with HMO clinics, that was present in the Medical Outcomes Study.⁷ The findings of this analysis suggest that this pattern is not the result of a preference of HMO patients for decreased continuity, but rather a consequence of the managed care system itself. Because health care reform and market forces are moving Americans toward managed care, because managed care is associated with decreased continuity of care, and because continuity of care affects patient satisfaction, as well as utilization of health resources²² and emergency services,²³ we need further research to explore how the move to managed care might adversely affect other aspects of health care utilization than patient satisfaction.

Conclusion

To increase patient satisfaction with physician performance, HMOs should increase the chance that patients see their own physicians whenever possible for follow-up and nonacute office visits. Administrative decisions that interfere with continuity in relationships between HMO patients and

their self-defined "own" physician could adversely affect patient satisfaction with their health care.

The Quality of Service Department of Group Health Cooperative of Puget Sound, and Russ Riddle of Decision Data Inc., Kirkland, Wash., provided data collection and entry. The Biostatistics Consultation Service of the University of Washington provided statistical advice.

References

1. Emanuel EJ, Brett AS. Managed competition and the patient-physician relationship. *N Engl J Med* 1993; 329:879-82.
2. Emanuel EJ, Dubler NN. Preserving the physician-patient relationship in the era of managed care. *JAMA* 1995;273:338-9.
3. Eckholm E. While Congress remains silent, health care transforms itself. *New York Times* 1994 Dec 18;sect A:1(col 4), A24.
4. Freeman GK, Richards SC. Is personal continuity of care compatible with free choice of doctor? Patients' views on seeing the same doctor. *Br J Gen Pract* 1993;43:493-7.
5. Dietrich A, Marton K. Does continuous care from a physician make a difference? *J Fam Pract* 1982;15: 929-37.
6. Hjortdahl P, Laerum E. Continuity of care in general practice: effect on patient satisfaction. *BMJ* 1992; 304:1287-90.
7. Rubin HR, Gandek B, Rogers WH, Kosinski M, McHorney CA, Ware JE Jr. Patients' ratings of outpatient visits in different practice settings. Results from the Medical Outcomes Study. *JAMA* 1993;270:835-40.
8. Hall JA, Dornan MC. What patients like about their medical care and how often they are asked: a meta-analysis of the satisfaction literature. *Soc Sci Med* 1988;27:935-9.
9. Smith CK, Polis E, Hadac RR. Characteristics of the initial medical interview associated with patient satisfaction and understanding. *J Fam Pract* 1981;12: 283-8.
10. Bertakis KD, Roter D, Putman SM. The relationship of physician medical interview style to patient satisfaction. *J Fam Pract* 1991;32:175-81.
11. Martin FJ, Bass MJ. The impact of discussion of non-medical problems in the physician's office. *Fam Pract* 1989;6:254-8.
12. Blankfield RP, Kelly RB, Alemagno SA, King CM. Continuity of care in a family practice residency program. Impact on physician satisfaction. *J Fam Pract* 1990;31:69-73.
13. Wall EM. Continuity of care and family medicine: definition, determinants, and relationship to outcome. *J Fam Pract* 1981;13:655-64.
14. Ware JE Jr, Hays RD. Methods for measuring patient satisfaction with specific medical encounters. *Med Care* 1988;26:393-402.
15. Ware JE Jr, Davis AR, Rubin HR. Patients' assessment of their care. In: *The quality of medical care: information for consumers*. Washington, DC: US Congress, Office of Technology Assessment, 1988: 231-247 (OTA-H-386).
16. DiMatteo, MR, Hays R. The significance of patients' perceptions of physician conduct: a study of patient satisfaction in a family practice center. *J Community Health* 1980;6(1):18-34.
17. Weyrauch KF. The personal knowledge of family physicians for their patients. *Fam Med* 1994;26: 452-5.
18. Rowland-Morin PA, Carroll JG. Verbal communication skills and patient satisfaction, a study of doctor-patient interviews. *Evaluation and the Health Professions* 1990;13:168-85.
19. Weyrauch KF, Rhodes L, Psaty BM, Grubb D. The role of physicians' personal knowledge of the patient in clinical practice. *J Fam Pract* 1995;40:249-56.
20. Gabel LL, Lucas JB, Westbury RC. Why do patients continue to see the same physician? *Fam Pract Res J* 1993;13:133-47.
21. Group Health Cooperative, Outpatient satisfaction survey quarter 2, 1994. Seattle, Wa: Group Health Cooperative of Puget Sound, 1994.
22. Hjortdahl P, Borchgrevink CF. Continuity of care: influence of general practitioners' knowledge about their patients on use of resources in consultations. *BMJ* 1991;303:1181-4.
23. Wasson JH, Sauvigne AE, Mogielnicki RP, Frey WG, Sox CH, Gaudette C, et al. Continuity of outpatient medical care in elderly men. A randomized trial. *JAMA* 1984; 252:2413-7.