

A Comparison of Patient Satisfaction Among Prepaid and Fee-For-Service Patients

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This study compares levels of patient satisfaction (a valid, indirect measurement of quality of care) between prepaid and fee-for-service patients. A chart audit approach was used to determine whether prepaid and fee-for-service patients seen in an academic family health center at the end of the first six months of a new cost-containment program were comparable in terms of demographic characteristics and indirect measures of health and health behavior. Next, using a 26-item patient satisfaction questionnaire, 436 patients from a single group of providers in the same family health center seen six months after the programs began were randomly surveyed. Sociodemographic and health-related characteristics of prepaid and fee-for-service patients were similar for both groups in the chart audit. There was no statistically significant difference between the overall satisfaction levels of prepaid and fee-for-service patients. Individual constructs that comprise general satisfaction were also statistically similar except for an unexpected finding of dissimilar levels of satisfaction with "physician conduct/humaneness" ($P < .05$). Assessed from at least one standpoint, cost containment does not seem to affect overall quality of care, but further investigation is needed, especially in the realm of "physician conduct/humaneness."

Although prepaid care organizations appear to have been successful in stemming rising health care costs in many instances,¹⁻⁴ it remains unclear whether cost reductions have occurred at the expense of quality of care. One particularly important measure of the latter is patient satisfaction,⁵ but thus far studies of what impact prepaid care has had on patient satisfaction have yielded conflicting results.^{1,6-10} No published studies have reported consumer satisfaction with providers whose case mix includes prepaid and fee-for-service patients.

This article reports the results of a patient satisfaction survey administered in a major teaching institution that offers a number of differing insurance plans within a single clinic site and physician group, and compares satisfaction of patients in a prepaid care plan with that of patients in a more traditional fee-for-service plan. Because both groups have the same providers and have similar medical problems and demographic characteristics, it is hypothesized that satisfaction levels would be equal for the two

groups unless process of quality of care was different. Satisfaction level differences may subtly reflect different behaviors or providers in response to cost-containment pressures.

METHODS

This study evaluates a natural experiment. Two new health insurance plans were introduced in January 1984 for employees and their families at the University of California at Los Angeles: a prepaid program and a fee-for-service program. The prepaid program is free of charge to enrollees and provides complete medical coverage within the university including all diagnostic tests (laboratory tests and x-ray examinations), consultations, office visits, and prescribed therapy. The university pays for 100 percent of the premium, and services must be provided at the institution through the direction of the primary care physician only. In exchange for a monthly capitation, providers assume the costs of patients' diagnostic tests and consultations and avail themselves to patients for acute and chronic care. Individual providers, the Family Practice Clinic, and the Division of Family Medicine, all

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share a significant portion of risk. In this situation the burden of cost lies on the provider, not on the patient, making cost-effective behavior essential for the provider.

Enrollees in the fee-for-service program also receive comprehensive benefits but must pay a monthly premium. This entitles them to complete coverage within the university and almost complete coverage when receiving services outside the university. Neither the provider nor the patient is responsible for cost, thereby reducing cost-conscious incentive for the provider. A major difference between the prepaid and fee-for-service patients is that providers participate in risk-sharing for prepaid patients (100 percent of the risk for diagnostic test and consultations).

The clinic physical environment and personnel are identical for both insurance groups, and all patients enter and leave the Family Health Center in the same manner and during the same time, so that the structure aspect of quality of care is the same for both groups. Providers are either house staff (physicians in training) or full-time physician faculty. They distinguish prepaid and fee-for-service patients by their charge documents, which must be completed by the provider at each visit. Cost-containment motivation is encouraged through (1) extensive provider education about risk-sharing consequences, (2) utilization review, and (3) financial reward (more capitation is available to providers when less is used to pay for patient care). About 25 providers (all family practice residents and faculty) participate, and 10 to 40 percent of their individual practices consist of prepaid patients.

The study involved two different facets: a chart audit to determine demographic, health, and health behavior characteristics; and a satisfaction survey. Both facets examined prepaid and fee-for-service patients seen in the Family Health Center six months after the programs began.

To assess the similarity of the two study groups, 343 charts of a larger sample of prepaid and fee-for-service patients seen during the first three months were randomly audited for independent variables: age, sex, employment status, number of major problems on the list, number of medications taken on a regular basis, number of visits to the provider during the three-month period of enrollment, types of medical problems, number of cancellations, and number of no-shows. The two groups were derived from relatively healthy, working, university employees and their families.

Patient satisfaction was studied using a 26-item Likert scale questionnaire modified from previous work in the Rand Health Insurance Experiment.^{11,12} The spectrum of answers included five choices ranging from 1 (very dissatisfied) to 5 (very satisfied). Positive and negative questions were arranged so that they alternated with each other. Items referable to specific constructs were randomly distributed. Research assistants administered questionnaires

to patients in the Family Health Center of the University of California at Los Angeles Medical Center about six months after the institution of the prepaid and fee-for-service programs, and questionnaires were distributed on days of the week chosen at random. The survey included 447 patients. Questionnaires were not administered to individuals who were unable to read and understand English. Of the 436 patients who satisfactorily completed questionnaires, 87 belonged to the prepaid group and 78 belonged to the fee-for-service group. Patients in these two groups chose that plan in which they wanted to enroll.

Power analysis indicated sample sizes of at least 60 patients in each group were necessary to show a clinical difference at 0.3 at an alpha level of 0.05 and beta level of 0.20.

To ascertain whether bias would be introduced by the timing of distribution, some patients received the questionnaire just before and the remainder after seeing their provider. Satisfaction levels were also compared in terms of amount of exposure to the providers (as measured by the number of visits).

RESULTS

Three hundred forty-three charts were audited for demographic variables and indirect measures of health status and health behavior (Table 1). The mean age for the prepaid group was 30.0 years compared with 34.1 years for the fee-for-service group ($P = .01$). The majority of patients in the prepaid and fee-for-service study groups was female (67.7 percent vs 68.3 percent, respectively), and most were employed full time (62.7 percent vs 65.9 percent, respectively).

General measurements of health status and health behavior demonstrate that minor, clinically insignificant differences exist: Prepaid patients compared with fee-for-service patients have fewer major problems on the problem list (2.4 vs 2.7 [$P < .05$]), take fewer medications (0.8 vs 1.1 [$P < .05$]), have more visits to the provider (2.2 vs 1.8 [$P < .01$]), fail to show up for appointments more often (no-show rate 6.8 percent vs 3.3 percent), and have a higher appointment cancellation rate (10.9 percent vs 5.7 percent). Smoking habits tend to be similar, but this behavior was not consistently recorded in charts.

Of 447, a total of 436 forms were suitably completed for analysis, and response rate was over 97.5 percent (Table 2). The overall satisfaction score for all 436 patients for all items was 3.49 (standard deviation, 0.57; 95 percent confidence interval: 3.44 to 3.54). All individual insurance groups attained scores greater than 3.00. Scores ranged from 3.30 (no insurance) to 3.79 (Medicaid). There was no significant difference between the mean overall score

TABLE 1. DEMOGRAPHIC AND HEALTH-RELATED CHARACTERISTICS

	Prepaid	Fee-For-Service
Age (yr)		
Mean	30.0	34.1
Standard deviation	12.8	14.9
Range	1-68	0-63
Sex (%)		
Male	32.3	31.7
Female	67.7	68.3
Employment (%)		
Full time	62.7	65.9
Part time	2.3	0.8
Housewife	1.8	4.9
Student	17.3	13.0
Unemployed	4.5	4.9
Unknown	11.4	10.6
Problems on problems list		
Mean	2.4	2.7
Standard deviation	1.2	1.3
Number of medications		
Mean	0.8	1.1
Standard deviation	1.0	1.4
Type of problems (%)		
No problem listed or family planning	48.6	48.0
Upper respiratory tract infection	15.5	26.8
Urinary tract infection	1.8	1.6
Vaginitis	1.4	0.8
Hypertension	3.2	4.9
Routine health maintenance	26.4	16.3
Headache	1.8	1.6
Otitis media	1.4	0
Visits (in 6 months)		
Mean	2.2	1.8
Standard deviation	1.5	1.3
Cancellation rate (%)	10.9	5.7
"No-show" rate (%)	6.8	3.3

TABLE 2. PATIENT GROUPS AND SATISFACTION SCORES

Insurance Group	Number of Patients	Satisfaction Scores	Standard Deviation
All patients	436	3.49	0.57
Prepaid	87	3.48	0.58
Fee-for-service	78	3.55	0.51
Medicare	30	3.46	0.54
Medicaid	55	3.79	0.50
Medicare and Medicaid	29	3.59	0.65
Insurance*	52	3.35	0.54
No coverage	34	3.30	0.60
Other	71		

* Third party coverage for fee for service, such as Blue Cross, Prudential, etc

TABLE 3. SATISFACTION SCORES FOR INDIVIDUAL CONSTRUCTS

Construct	Prepaid		Fee For Service	
	Mean	SD*	Mean	SD*
Access	3.51	0.73	3.46	0.70
Availability	3.23	0.89	3.33	0.94
Continuity	3.67	0.75	3.64	0.79
Finances**	3.86	1.16	3.56	1.15
Doctor conduct	3.45	0.70	3.57	0.59
VA Humaneness***	3.54	0.77	3.73	0.68
Vb Q/competence	3.43	0.68	3.51	0.59
General Satisfaction	3.21	0.76	3.36	0.71

* SD, Standard deviation; ** P = .1; *** P = .04

for prepaid vs fee-for-service patients: 3.48 and 3.55, respectively.

Analysis of subdimensions of patient satisfaction demonstrates that prepaid and fee-for-service group scores were similar for "access" (3.52 vs 3.46), "availability" (3.23 vs 3.33), "continuity" (3.68 vs 3.65), and "general satisfaction" (3.22 vs 3.37). Differences were found for "finances" (3.86 vs 3.56) and a significant difference was found for "humaneness" (3.54 vs 3.73; P < .05) (Table 3).

Prepaid patients who answered the questionnaire before seeing their provider had a satisfaction score of 3.55 compared with those who took it after, 3.44. Fee-for-service patients who answered the questionnaire before the visit scored 3.71 compared with a score of 3.48 for those who

took it after the visit. (Table 4). Patients demonstrated equal levels of overall satisfaction when grouped by number of visits.

DISCUSSION

Since the Flexner report of 1910,¹³ standards of quality of care have risen but have not paralleled a disproportionately higher rise in health care costs; therefore, regulation and competition have been advocated to curtail the rising costs. So far these efforts have not achieved significant success. Intensive educational interventions can reduce physician ordering,¹⁴ but educational costs may ex-

TABLE 4. ANALYSIS BY TIME OF ADMINISTRATION

Insurance	Time Administered	Number of Patients	*SAT Score
Prepaid	Before	32	3.55
	After	55	3.44
Fee for service	Before	25	3.71
	After	53	3.48

* SAT: Satisfaction score based on all 26 questions

ceed the saving.¹⁵ Further, education appears useful only when given in feedback format.¹⁶ more recently, capitation patients have been introduced into teaching hospitals, which have been shown in other studies to promote cost-containing behavior by shifting the cost burden from patients to provider. While it is clear that prepaid systems reduce costs by reducing providers' utilization of services (eg, diagnostic tests, hospitalizations^{2,17}), it is not known whether this occurs at the expense of quality of care.

Following Donabedian's argument¹⁸ that the ultimate validator of quality of care is its effectiveness in achieving or producing health and satisfaction, investigators have emphasized patient satisfaction as one important indicator of quality of care. According to Donabedian's definition, patient satisfaction per se is one aspect of quality and describes the process and outcomes of care. Moreover, this position is strengthened by evidence suggesting that patient satisfaction has some correlation with outcome as measured by continuity of care.^{19,20}

Patient satisfaction may be further assessed by scrutinizing its distinct subdimensions.²¹⁻²³ Several ideas known as constructs have been recognized as different yet related components of general satisfaction with health care. One investigator suggests that patient satisfaction variables fall into at least five major categories: (1) accessibility or convenience of services, (2) availability of medical services, (3) continuity of care for self, (4) physical environment, and (5) quality (process) of care, or "doctor conduct."²⁴ In this study, the construct "physical environment" is excluded and a "financial" category is added. "Doctor conduct" includes two further subdimensions, "humaneness" (art of care) and "technical competence." Two examples of the questions used in the survey that relate to the subdimension "humaneness" are as follows: (1) Doctors always treat their patients with respect. (2) Doctors respect their patients' feelings.

This study demonstrates that based on a 26-item survey instrument, prepaid patients are as satisfied with their health care delivery as fee-for-service patients in an academic family health center. The overall satisfaction scores for the prepaid and fee-for-service groups did not differ clinically or statistically (3.48 vs 3.55).

Of special interest in this study is the effect of cost containment on the subdimensions of global satisfaction, as individual constructs may differ individually, yet cancel each other out in summing up the final score. Humaneness as perceived by the patient was found to be higher for the fee-for-service group. One explanation is that providers may not be as motivated to satisfy patients for whom they have already received payment, because patient satisfaction does not enter into the equation for reimbursement. Moreover, prepayment's built-in cost-containment incentives may encourage providers to behave differently so that costs are reduced, but at the expense of a noncostly item such as humaneness.

Clearly a significant potential difference between study groups could result from nonrandomized allocation to payment plans. Selection of insurance programs was performed by the individual, and reasons for enrollment in a certain program were not ascertained. The impact this bias has on satisfaction scores is unknown, but certainly it could be avoided if randomization were possible. The literature on this subject is conflicting.²⁵⁻²⁸ Some argue that people most concerned about the expected costs of medical care (and who probably are the sickest) will choose the prepaid option.¹ Other studies²⁹⁻³¹ indicate that individuals with a higher probability of prepaid program enrollment are likely to be married, older, and have young children, while still other studies demonstrate no differences.

In this study, clinical differences were small or did not exist for age, sex, or employment status, and the population from which the samples were drawn was the same for both. Differences in scores should be a function, therefore, of a variable that is different for the two groups, ie, participation in a cost-containing program. While it is clear that a prepaid system provides cost-containment incentives, this study was designed to specifically evaluate only levels of satisfaction. Perhaps the reason there was no difference between the two groups is because there was no cost containment. Nonetheless, unpublished data for these particular patient groups do in fact indicate significant savings for the prepayment group.

Bias can also be introduced by a patient's previous health care experience, the effect of which on the study groups is not known. If patients have been part of prepaid systems in the past and have the option to choose in favor of one program over another, then it is likely that a selection bias may be introduced that can be eliminated only by randomization.

The patients' satisfaction scores could have possibly been affected by when the questionnaire was administered (ie, before or after having seen the provider). This possibility was measured, and indeed, satisfaction scores tended to be lower for those given the questionnaire just after seeing the provider. Both study groups, however, showed

the same direction and magnitude of this tendency, although larger sample sizes are needed to draw firm conclusions.

This study demonstrates that when prepaid patients are subject to providers who are motivated to behave in a more cost-containing way, they perceive an equal level of global satisfaction with health care delivery as compared with fee-for-service patients who promote less cost-containing provider behavior. Assessed from at least the standpoint of patient satisfaction, cost containment does not seem to affect overall quality of care. Of clinical significance, however, this study demonstrates that while overall satisfaction levels do not seem to be affected, the humaneness of the provider may be compromised by cost-containment pressures. Further studies to specifically address this issue are needed.

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