

The Effect of Practitioner Compensation On HMO Consumer Satisfaction

JOHN F. SCOGGINS, PHD, SENIOR ECONOMIST
Research and Planning Consultants, Tampa

ABSTRACT

Purpose: To test the hypothesis that a health maintenance organization (HMO) consumer's satisfaction depends on the way his or her health plan compensates practitioners.

Design: Consumer Assessment of Health Plans (CAHPS) survey data from 1999 and 2000 were provided by the Office of Public Insurance Counsel for the state of Texas. These data were combined with the Health Plan Employer Data and Information Set (HEDIS) quality measures of managed care health plans in Texas published by the Texas Health Care Information Council.

Methodology: The study fitted the CAHPS survey data to an ordered-probit model. The dependent variable was customer satisfaction with the health plan, using a rating scale from 0–10. The independent variables included the percentage of health plan practitioners compensated with capitated fees, the percentage compensated with a bonus

or withholding incentive, and other health plan and consumer characteristics.

Principal findings: Consumer satisfaction with HMOs is negatively correlated with the percentage of practitioners who are compensated on a capitated-fee basis and positively correlated with the percentage of practitioners compensated with a fee-withholding incentive (e.g., a fraction of fees that are withheld until specific quality and cost-control goals are reached). Neither the percentage compensated under a bonus incentive system nor the percentage of general practitioners with board certification correlated with HMO consumer satisfaction.

Conclusion: A managed health plan's method of practitioner compensation can affect participant satisfaction in a predictable manner.

Key terms: consumer satisfaction, capitated fees, fee-withholding

INTRODUCTION

The need to restrain spiraling health care costs has made managed care a dominant form of health insurance in the United States. While there is evidence that managed care has helped curb costs, questions abound relative to its effects on health care quality. These quality concerns have led to a greater emphasis on health plan accountability and quality measurements.

The Consumer Assessment of Health Plans (CAHPS) is a set of survey questions that ask health plan customers to rate their health plans. The CAHPS has quickly become a widely accepted patient-based method for the assessment of health plan quality.

The Health Plan Employer Data and Information Set (HEDIS) established by the National Committee for Quality Assurance (NCQA) comprises guidelines that commercial health plans are asked to follow when deriving measures of health plan quality. The purpose of these guidelines is to assure that the data from different organizations are collected in a uniform manner and are therefore useful in making relevant comparisons.

Several published articles have used these types of data sets to study how member satisfaction varies with certain health plan characteristics, such as type of ownership,¹⁻³ type of beneficiaries,⁴ and type of health plan.⁵ These articles compared customer satisfaction levels with broad classifications of health plans, such as managed care versus traditional health insurance or for-profit organizations versus not-for-profit organizations.

Nevertheless, within just one type of managed care plan — commercial health maintenance organizations (HMOs) — there are several reported quality measures that vary with each plan. The current study analyzes the effects on customer satisfaction that are associated with differences in these commercial health plan quality measures.

Financial incentives. Traditional health plans provide no incentive for participating practitioners to restrain the growth of health care costs, so managed care organizations have devised various financial incentives towards this end. One type of incentive rewards participating practitioners who meet specific goals. The reward can be in the form of a bonus to reg-

Author correspondence:

John F. Scoggins, PhD

Senior Economist
Research and Planning
Consultants
3507 Frontage Rd., Suite 190
Tampa, FL 33607
Phone: (813) 387-0490
Fax: (813) 387-0493
E-mail:
jscoggin@rpcconsulting.com

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ular fees or payment of an amount that is initially withheld from the practitioner. The percentage of practitioners who are compensated in this manner varies from 0 to 100 percent, depending on the health plan.

Another way of providing financial incentives to practitioners is through fee capitation. By accepting capitated (i.e., fixed per patient) fees, practitioners incur the insurance risk of providing health services to patients. Therefore practitioners who operate under capitated-fee agreements pocket any income that is made available by general reductions in expenditures. Some plans pay nearly all their practitioners capitated fees.

The potential downside of these financial incentives is the possible compromise of health care quality. These compromises could come in many different forms, such as longer waiting periods or even simply as poorer health outcomes. If health plans that employ these kinds of incentives suffer lower customer satisfaction, then CAHPS data sets from different health plans might reflect this.

The percentage of board-certified practitioners participating in a health plan is also reported in HEDIS quality measures. A plan with a large percentage of practitioners who are board-certified is thought to be superior to other plans. If it is true that board-certified practitioners provide better health care than non-board-certified practitioners, then this difference might be reflected in higher patient satisfaction.

DATA AND METHODS

Survey data. The Office of Public Insurance Counsel for the state of Texas provided CAHPS survey data from years 1999 and 2000. Data from customers of 59 different commercial managed care health plans were collected from over 40,000 survey respondents during the 2-year period. In addition to standard questions about age, health status, education,

race, gender, and ethnicity, each respondent was asked to rate his or her health plan on a scale from 0–10, with 10 being the highest rating. The response rates for the 1999 and 2000 surveys were 39 percent and 45 percent, respectively.

Plan quality measures. The Texas Health Care Information Council (THCIC) publishes an annual report card of commercial health care organizations in Texas.^{6,7} The quality measures reported for each health plan are stated in terms of the percentage of participating practitioners who: 1) are paid capitated fees (*capitated*); 2) are paid on a fee-for-service basis (*FFS*); 3) are paid on some other compensation basis (*other fee plan*); 4) have withholding clauses (*withholding*); 5) have bonus clauses (*bonus*); and 6) are board certified (*certified*). The *certified* variable refers only to the percentage of primary care practitioners who are board certified. Descriptive summary statistics for these measures are provided in Table 1.

Analysis. The data from the 2 years of surveys were combined and fitted to an ordered-probit model. In a binary-probit model, the dependent variable has only two possible values — 0 and 1. The dependent variable in an ordered-probit model has several possible integer values, where each value represents an ordered grouping. The customer’s rating (from 0–10) of his or her health plan was regressed onto the health plan quality measures from the THCIC report cards. In addition to the quality measures, several

other answers to the survey questions concerning race, gender, ethnicity, age, educational status, and health status were used as dichotomous regressors.

RESULTS

Regression analysis. The results from fitting the data to an ordered-probit model are given in Tables 2 and 3. Table 2 presents the results for the model that includes all explanatory variables. Table 3 includes only those explanatory variables that meet a conventional test of statistical significance. Because *capitated*, *FFS*, and *other fee plan* sum to 1 for each plan, one of the variables had to be omitted from the model. *FFS* was the omitted variable. The coefficients for *other fee plan*; *bonus*; *certified*; *Asian*; *other nonwhite race*; *age: 25–34*; *age: 35–44*; *edu. — some high school*; and *male* were not statistically significant. These variables therefore were excluded from the final results shown in Table 3.

Both models were estimated using STATA, a statistical software package. The 59 different health plans were grouped into 118 “clusters,” one for each plan for each year. This is a specification that is allowed in STATA that accounts for the possible non-independence of responses within the health plans and calculates robust variance estimates.

Plan quality measures. As noted above, neither *certified* nor *bonus* was statistically significant. Consequently, there is no evidence that health plans with a relatively high percentage of

TABLE 1 Texas Health Plan quality variable statistics 1999–2000

Variable	Mean (%)	Minimum	25th Percentile	Median	75th Percentile	Maximum
Capitated	37.8	0.0	0.0	21.0	75.0	100.0
FFS	49.0	0.0	6.0	50.0	90.0	100.0
Other fee plan	6.7	0.0	0.0	0.0	0.0	100.0
Withholding	9.0	0.0	0.0	0.0	0.0	100.0
Bonus	13.2	0.0	0.0	0.0	4.0	100.0
Certified	73.9	27.9	69.1	74.5	78.8	90.7

TABLE 2 Ordered-probit model estimates — all variables

A positive value in the coefficient column indicates that an increase in the value of the variable is associated with an increase in the consumer's rating of his or her health plan.

Variable	Coefficient	Standard error	p-value*	Cut points	Coefficient	Standard error
Capitated	-0.1752	0.0774	.024	1	-2.9788	0.3275
Other fee plan	0.0734	0.0654	.262	2	-2.7271	0.3250
Withholding	0.2252	0.0615	<.001	3	-2.4821	0.3232
Bonus	0.0060	0.0745	.936	4	-2.2305	0.3211
Certified	0.0072	0.3893	.985	5	-2.0215	0.3208
Male	-0.0189	0.0126	.133	6	-1.5910	0.3198
African-American	0.2130	0.0480	<.001	7	-1.3381	0.3177
Hispanic	-0.0184	0.0044	<.001	8	-0.9424	0.3169
Asian	-0.0651	0.0583	.264	9	-0.3414	0.3163
Other nonwhite race	0.0734	0.0654	.262	10	0.2032	0.3146
Age: 25-34	-0.0283	0.0302	.347	Log likelihood		-81,234
Age: 35-44	0.0068	0.0288	.814	No. of observations		40,368
Age: 45-54	0.1250	0.0296	<.001	Wald chi-squared(16)		2682.30
Age: 55-64	0.3159	0.0294	<.001	Prob >chi-squared		0
Age: 65-74	0.5984	0.0796	<.001			
Age: ≥75	0.9181	0.1269	<.001			
Edu. — some high school	-0.0430	0.0633	.497			
Edu. — high school graduate	-0.2578	0.0581	<.001			
Edu. — some college	-0.5039	0.0567	<.001			
Edu. — college graduate	-0.6853	0.0586	<.001			
Edu. — graduate degree	-0.8028	0.0607	<.001			
Health — very good	-0.2213	0.0202	<.001			
Health — good	-0.4160	0.0213	<.001			
Health — fair	-0.6453	0.0278	<.001			
Health — poor	-1.0444	0.0719	<.001			

*p<.05 is significant

participating practitioners who are board certified are rated any higher than other health plans.

Additionally, health plans that offer bonuses to a large percentage of their participating practitioners who meet certain goals are not rated any more highly than health plans that offer bonuses to only a few practitioners. On the other hand, health plans that threaten to withhold payments from a large percentage of their practitioners who fail to meet certain goals are rated more highly than other health plans.

Finally, the coefficient for *capitated* is negative and statistically significant. Therefore, health plans that pay

a large percentage of their practitioners on a capitated-fee basis are not rated as highly as plans that pay a large percentage of their practitioners on a fee-for-service or other basis.

Respondent characteristics. In general, African-Americans rate their health plans more highly than non-African-Americans. Hispanics rate their health plans lower than non-Hispanics. As a survey respondent's age increases or health status improves, so does the rating of his or her health plan. Finally, the respondent's rating decreases as his or her educational attainment increases.

DISCUSSION AND POLICY IMPLICATIONS

Quality measures of commercial health plans were developed to help employers make better-informed choices and to monitor the quality effects of cost-containment practices. Although the quality of a health plan is best measured by the health outcomes of its customers, objective measures of those outcomes and unambiguous cause-and-effect relationships are hard to identify. Plan ratings based on customer surveys are an indirect measure of quality.

Cost-containment strategies such as fee capitation and bonus/withholding clauses may have quality ef-

TABLE 3 Ordered-probit model estimates — statistically significant variables

Variable	Coefficient	Standard error	p-value*	Cut points	Coefficient	Standard error
Capitated	-0.1839	0.0736	.012	1	-2.9340	0.0560
Withholding	0.2277	0.0610	<.001	2	-2.6819	0.0517
African American	0.2135	0.0453	<.001	3	-2.4354	0.0499
Hispanic	-0.0184	0.0045	<.001	4	-2.1833	0.0482
Age: 45-54	0.1330	0.0149	<.001	5	-1.9752	0.0476
Age: 55-64	0.3243	0.0185	<.001	6	-1.5462	0.0463
Age: 65-74	0.6068	0.0829	<.001	7	-1.2941	0.0445
Age: ≥75	0.9362	0.1322	<.001	8	-0.8983	0.0442
Edu. — high school graduate	-0.2179	0.0296	<.001	9	-0.2964	0.0441
Edu. — some college	-0.4625	0.0287	<.001	10	0.2499	0.0453
Edu. — college graduate	-0.6531	0.0311	<.001			
Edu. — graduate degree	-0.7688	0.0326	<.001			
Health — very good	-0.2183	0.0196	<.001			
Health — good	-0.4125	0.0207	<.001			
Health — fair	-0.6400	0.0278	<.001			
Health — poor	-1.0332	0.0723	<.001			
					Log likelihood	-83,571
					No. of observations	41,508
					Wald chi-squared(16)	2494.87
					Prob >chi-squared	0

*p<.05 is significant

fects that are revealed through customer surveys. Survey data from Texas health plan customers indicate that heavy usage of fee capitation, as opposed to fee-for-service arrangements, is linked to lower plan ratings, but heavy use of withholding clauses is associated with higher ratings.

Fitting survey responses to an ordered-probit model can identify correlations between customer ratings and health plan characteristics, but it cannot explain why the correlations exist. Explaining the correlations necessitates further study.

Perhaps incentives from bearing the insurance risk induces practitioners who are paid on a capitated-fee basis to cut services so much that their patients notice the difference. Determining the efficient rate of fee capitation is a complicated problem even for insurance experts. The rigors of medical school do not specifically prepare practitioners for this task. Even when fee capitation is set at an efficient rate (i.e., a level that gives adequate compensation to maintain a high quality of care), risk-averse practitioners might behave differently

under fee capitation than they would under withholding/bonus clauses.

On the other hand, withholding clauses provide practitioners with clearly stated goals using quantifiable criteria. With that kind of incentive, the penalty for poor performance is fairly predictable. Under fee capitation, however, the penalty for poor performance is much less certain. It is possible that the theoretical benefits of a fee capitation are thwarted by its inherent uncertainty. Furthermore, fee-withholding goals can be stated in terms of both cost and quality. fee capitation provides practitioners with a clear incentive to minimize costs, but the incentive to maintain health care quality and patient satisfaction is less clear.

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