Articles

Satisfaction With Access to and Quality of Health Care Among Medicare Enrollees in a Health Maintenance Organization

YING-YING MENG, DrPH; DARIUS E. JATULIS, MS; JOHN P. McDONALD, DBA; *and* ANTONIO P. LEGORRETA, MD, MPH, *Woodland Hills, California*

This study was designed to determine the levels and predictors of Medicare enrollees' satisfaction with access to medical care and quality of health care in a health maintenance organization. Data collected by an instrument adapted from the Group Health Association of America's Consumer Satisfaction Survey were analyzed after being linked with administrative data. In general, Medicare enrollees reported high satisfaction with both access to and quality of health care. Most members (96%) rated skill, experience, and training of physicians and the friendliness and courtesy of the staff favorably. A lower percentage of members (77%) rated favorably the ability to contact a physician after hours. Levels of satisfaction were essentially not explained by patient characteristics such as age, sex, geographic region, medications, or utilization. Stepwise regression identified the ease of arranging appointments as the strongest predictor of satisfaction, with access to care and outcomes of medical care as the strongest predictor of overall satisfaction with quality of health care. These findings indicate that items that members rated least favorably, such as ability to contact a physician after hours, added little to the prediction of satisfaction with access to and quality of health care.

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Since the early 1980s, health maintenance organizations (HMOs) have provided managed care to Medicare beneficiaries who receive their coverage for fixed prepaid premiums. They have created a favorable situation for both government and Medicare beneficiaries. Because of a prepaid per-member–per-month premium, the costs of care are much more predictable and controllable for the payer, the Health Care Finance Administration, which is the federal administrative agency for the Medicare program. This system has also greatly reduced the financial and administrative burdens of beneficiaries because HMOs usually do not require claims forms and copayment for medical care and pharmacy costs. The involvement of HMOs in Medicare has increased steadily since 1993 and may continue to do so over the next few years.[1] Currently about 3.6 million Medicare beneficiaries—10% of the Medicare population—receive medical benefits through HMOs. A persistent concern about HMOs has been that the cost-control incentives could lead to lower quality of care and service.[1]

Patient satisfaction has emerged as both an indicator and a component of high-quality care and service.[2-4] Several studies have been conducted to compare Medicare beneficiaries' access to and quality of care under HMO and indemnity fee-for-service (IFFS) health plans. One study found that access and quality of care delivered by HMOs were comparable with those provided in IFFS settings.[3] In an investigation of levels of satisfaction with care among elderly Medicare beneficiaries enrolled in an HMO and beneficiaries in IFFS practices in one geographic area,[4] higher satisfaction was found with access to and quality of care among those enrollees in IFFS practices and higher satisfaction with costs among HMO enrollees. In a community survey, satisfaction with the physician-patient relationship and convenience of care was high in private medical care groups, whereas satisfaction with cost was high in the HMO group.[5] In an analysis of the Medicare Current Beneficiary Survey data, satisfaction with medical care was found to be generally high (80% to 90%), but HMO enrollees were less satisfied than IFFS patients.[6]

Little investigation has been done of the levels and predictors of satisfaction among Medicare beneficiaries' in an HMO environment. Furthermore, few studies have examined the satisfaction levels of patients with chronic diseases in an HMO setting. Because of their frequent contacts with the health care system, these patients may be in a good position to judge the quality of access and services. The information is crucial because the future of this popular but expensive Medicare program is still

From the Quality Initiatives Division, Health Net, Woodland Hills, California.
Reprint requests to Ying-Ying Meng, DrPH, Quality Initiatives, Health Net, 21600 Oxnard St, 11th Flr, Woodland Hills, CA 91367.

ABBREVIATIONS USED IN TEXT

GHAA = Group Health Association of America
HMO = health maintenance organization
IFFS = indemnity fee-for-service

under debate. It will also be important to the HMO community, which is interested in improving and expanding its service to the Medicare population.

This study was designed to answer the following questions: How satisfied were Medicare enrollees with access to medical care and overall quality of health care at an HMO? What were the major predictors of their satisfaction? For this study we used the data collected by a survey instrument adapted from the Group Health Association of America (GHAA, now called the American Association of Health Plans) Consumer Satisfaction Survey[7] and data from the membership and pharmacy records of a large HMO in California in 1995. The specific objectives of this study were to examine the effects of demographics, geographical regions, medical groups, and existing health conditions on satisfaction with access to and quality of health care and to determine the most important factors in predicting satisfaction with access to medical care and with overall quality of health care.

Methods

Sample and Data Collection

In November and December 1995, Health Net, a large HMO in California, mailed a Member Satisfaction Survey to 64,013 Medicare members representing about 73% of the Medicare members enrolled with Health Net as of December 1995. This sample included members who were enrolled with Health Net as of September 30, 1995, and who had a contact with this HMO's medical delivery system between January 1 and July 31, 1995. One member per household was randomly selected to receive the survey. A postage-prepaid reply envelope was enclosed so that the completed survey could be sent directly to a data entry company.

Once the data were entered, they were linked with the membership database to obtain information on sex, age, geographical region, medical group type, and plan type. The information on whether they had filled prescriptions for medication for diabetes mellitus, asthma, high cholesterol levels, and hypertension was obtained from pharmacy records.

Survey Instrument

The Member Satisfaction Survey consists of 19 items, 17 of which were taken from the standardized GHAA's Consumer Satisfaction Survey.[8] The GHAA survey instrument is used extensively by health plans and employer groups throughout the country to measure member satisfaction with HMOs. The instrument measured members' perception of quality (satisfaction) on eight attributes of health care: accessibility and availability of services and providers, choice and continuity,

Access: Arranging for and Getting Care

1. Access to medical care whenever needed
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
2. Arrangements for making appointments for medical care
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
3. Length of time spent waiting at the office to see the doctor
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
4. Length of time you wait between making an appointment for routine care and the day of your visit
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
5. Ability to contact a doctor after hours and on weekends
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
6. Access to specialty care if you need it
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
7. Access to medical care in an emergency
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent

Technical Quality

8. Thoroughness of examinations and accuracy of diagnoses
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
9. Skill, experience, and training of doctors
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent

Choice and Continuity

10. Ease of seeing the doctor of your choice when you visit your current medical group
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent

Interpersonal Care

11. Personal interest in you and your medical problems
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
12. Friendliness and courtesy shown to you by the office staff
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent

Outcomes

13. The outcomes of your medical care how much you are helped
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent

Overall

14. Overall, how would you evaluate health care at your current medical group?
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
15. Would you recommend your current medical group to your family or friends if they needed care?
❑ Yes ❑ No
16. Would you recommend Health Net to family or friends?
❑ Yes ❑ No
17. Do you intend to switch to a different health insurance plan when you next have an opportunity?
❑ Yes ❑ No

Health Status and Utilization

18. Would you say your health is
❑ Poor ❑ Fair ❑ Good ❑ Very Good ❑ Excellent
19. How many times have you visited your current primary physician in the last 12 months?
❑ Never Visited ❑ 1–2 Times ❑ 3–4 Times ❑ 5 or More Times

Figure 1.— Member satisfaction survey items are shown.

communication, financial arrangements, interpersonal aspects of care, outcomes of care, technical quality of care, and time spent with providers.

Items were selected from the standardized GHAA instrument to assess the two dimensions of interest—satisfaction with access to medical care and quality of health care. A self-reported health status question asking respondents to rate their health as poor, fair, good, or excellent was also used. Two additional items were "number of physician visits in the past year" and satisfaction with the "ability to contact doctors after hours and on weekends." The specific survey items of each dimension are shown in Figure 1.

Measures

Respondents' satisfaction was rated on a 5-point scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent. We adopted the National Committee for Quality Assurance's definition of satisfaction, which was that respondents were considered to be "satisfied" if they responded good, very good, or excellent. A dichotomous scale (yes or no) was used to report whether respondents would recommend their medical group or their health plan to family and friends and their intention to switch health plans.

To measure the effects of disease or disorder status, four indicator variables were created for asthma, hypercholesterolemia, diabetes mellitus, and hypertension based on pharmacy data. These variables were coded dichotomously, with 1 indicating the presence of a prescription and 0 indicating the absence of such a medication. To examine the effects of region, dummy variables (0, 1) were created for the northern and central region in California, with the southern regions in California as a reference group. A measure of the self-reported number of visits to a primary care physician in the past year was coded as follows: 1 = never visited, 2 = one to two times, 3 = three to four times, 4 = five or more times. For sex, female was used as a reference group. A dummy variable represented the type of medical group, 1 for a member of an independent practice association and 0 for a member of a primary medical group.

Two survey items were used as dependent outcomes. These were ratings of satisfaction with access to medical care (based on the responses to the question, "[Do you have] access to medical care whenever you need it?") and quality of health care (based on the responses to the question, "Overall, how would you evaluate the health care at your current medical group?"). Responses to both items were on a 5-point scale, as described earlier.

Data Analysis

Descriptive analyses were done to depict the average levels of satisfaction (mean scores) and percentage of respondents rating good to excellent for each survey item. Multivariate regression analyses were used to determine whether age, sex, utilization, health status (measured by the presence of a filled prescription for medications for diabetes mellitus, asthma, hypercholesterolemia, or hypertension), region, or type of medical group (independent practice association or primary medical group) had any effects on satisfaction with access to care, and also for overall satisfaction with health care at the medical group. To reduce collinearity, age was centered and then squared before it was used in the models. Both age and squared age were included in the regression models.

To examine which factors were the most important predictors of satisfaction with access to and quality of health care, a forward-stepwise regression procedure was used. The dependent variable for the access-related model was satisfaction with access to medical care whenever needed. In addition to the member characteristics used in the previous models, all other access-related independent variables were candidates for inclusion. They were levels of satisfaction with arranging for and getting care (arrangements for making appointments, time waiting between making an appointment for routine care and day of visit, length of time spent waiting at the office to see a physician, ability to contact a physician after hours and on weekends, access to specialty care if needed, and access to medical care in an emergency), choice (ease to see the physician a person chooses when visiting the current medical group), and utilization (number of visits with current primary care physician this year).

A second stepwise analysis was used to predict overall satisfaction with quality of health care at the primary medical group. This procedure allowed all the items used in the previous access-related model. In addition, it allowed for the inclusion of satisfaction with overall accessibility (access to medical care whenever needed), technical quality of care (thoroughness of examinations and accuracy of diagnoses and skills, experience, and training of physicians), interpersonal care (personal interest in the member and the member's medical problems), and outcomes (the outcomes of the medical care, how much the person helped). All the data were analyzed using the SAS statistical software.[9]

Results

Respondent Characteristics

The survey data collection ended in March 1996. By that time, a total of 30,775 Medicare beneficiaries mailed back their survey instrument, for a response rate of 48.1%. The surveys that were undeliverable were not included in the calculation of the response rate. Mailed surveys have been found to have response rates as high as 40%.[10] In addition, the reported ranges of response rates for satisfaction surveys were 33% to 92%.[11] Given the response rate, there could be positive or negative self-selection bias.[8] A comparison of the age and sex of respondents and nonrespondents found that the respondents were similar to the nonrespondents in terms of age and sex distribution and pharmacy use.

The characteristics of Medicare respondents are presented in Table 1. Female respondents outnumbered male respondents (57.7% versus 42.3%). The age groups were distributed evenly, except the group younger than 64

years (3.1%). More respondents were from the northern region than the southern and central regions. The age, sex, and geographical location of the respondents are comparable with those of all the Medicare enrollees in the HMO.

Medications for the treatment of asthma, hypercholesterolemia, and diabetes mellitus were dispensed to 5.7%, 10.5%, and 7.9% of the respondents, respectively. About 44% of the respondents were using antihypertensive medications. Most of the sample (98.7%) had contacts with their primary care physician in the past year. Around 55% of the respondents were with primary medical groups, and the rest were with independent practice associations.

Levels of Satisfaction

Table 2 presents the average levels (means) and the percentages of respondents who reported satisfaction with each item in the survey. It was evident that, overall, most respondents reported high satisfaction with the items in the survey. The mean satisfaction scores for all predictor items were above 3 on a 5-point scale, indicating that, on average, members were "satisfied." About 50% of the items had mean scores at or around "very good" (3.9 to 4.1). The satisfaction levels with access to medical care and overall quality of health care were both rated 3.9. At the same time, 93.2% and 93.5% of the respondents rated these items good to excellent, respectively.

For access-related items, most respondents (92.6%) were satisfied with the ease of seeing the physician of their choice, arrangements for appointments (92.1%), care in an emergency (91.0%), and specialty care (88.7%). Attributes rated favorably by fewer people include time waiting between an appointment and visit (86.7%), length of time waiting to see a physician (85.3%), and ability to contact a physician after hours (76.6%).

For data items relating to quality of health care, the highest number of respondents (96.0%) were satisfied with the skills of physicians, followed by staff friendliness and courtesy (95.9%). More than 90% of respondents also gave satisfied ratings with the outcomes of the medical care, thoroughness of examinations and accuracy of diagnoses, and personal interest in the patient.

In general, measures relating to quality of care received higher satisfaction ratings than the access-related measures. The highest percentages of respondents' satisfaction were observed for skill of the physician and friendliness and courtesy of staff, and the lowest was for the ability to contact a physician after hours.

A high percentage of respondents would recommend the HMO to family or friends and recommend their medical group to family or friends. Only 4.3% of Medicare enrollees intended to switch to a different health insurance.

Regression Models

For regression analyses, satisfaction measures were not dichotomized. The results of multiple regression analyses showed that age, sex, utilization, medication use, geographical region, and types of medical group explained only 2% (the coefficient of determination [R^2] = 0.02) of the total variance of satisfaction with access to care. The partial correlation coefficients were all consistently close to zero, indicating that none of the variables was especially strong in explaining the total variance.

TABLE 1.—*Characteristics of Medicare Respondents to a Survey (n = 30,775)*

Characteristic	Respondents, No.	(%)
Age, yr		
0–64	957	(3.1)
65–69	7,813	(25.4)
70–74	8,594	(27.9)
75–79	6,759	(22.0)
≥80	6,652	(21.6)
Region		
North	16,328	(53.1)
Central	9,449	(30.7)
South	4,998	(16.2)
Sex		
Female	17,742	57.7
Male	13,033	42.3
Asthma medications		
Yes	1,766	(5.7)
No	29,009	(94.3)
Cholesterol medications		
Yes	3,220	(10.5)
No	27,555	(89.5)
Diabetes medications		
Yes	2,421	(7.9)
No	28,354	(92.1)
Hypertensive medications		
Yes	13,429	(43.6)
No	17,346	(56.4)
Times visited PCP in the past year*		
Never	381	(1.3)
1–2	7,325	(24.2)
3–4	12,178	(40.3)
≥5	10,334	(34.2)
Medical group type		
IPA	13,782	(44.8)
PMG	16,993	(55.2)

IPA = independent practice association, PCP = primary care physician, PMG = primary medical group

*Members who did not respond to this question were excluded from the calculation.

A second regression model was used, with satisfaction with the overall quality of care at the medical group as the dependent variable. The results for satisfaction with the quality of health care model were similar to those of the access model. This model explained only 0.8% of the variance in overall satisfaction (R^2 = 0.008).

Stepwise Regressions: Predictors of Satisfaction

To examine which access- and quality-related factors were the most important predictors of satisfaction with access and overall quality of health care, a forward-stepwise regression procedure was used. Predictors were

TABLE 2.—*Levels and Percentage of Satisfaction for Each Dimension of Care*

Measures	Respondents, No.	Mean*	Rating Good to Excellent, %
Access			
Access to medical care when needed	30,106	3.9	93.2
Arrangements for making appointments	30,253	3.8	92.1
Time spent waiting to see the Dr	30,237	3.5	85.3
Time waiting between appointment and visit	29,669	3.5	86.7
Ability to contact Dr after hours	18,160	3.3	76.6
Access to specialty care if you need it	26,589	3.7	88.7
Access to medical care in an emergency	19,638	3.8	91.0
Ease to see PCP of choice when visiting medical group	28,508	3.9	92.6
Quality of service			
Thoroughness of exam and accuracy of diagnosis	29,380	3.7	91.4
Skill, experience, and training of MD	28,455	4.0	96.0
Personal interest in members' medical problem	29,911	3.8	91.0
Office staff friendly or courteous	30,438	4.1	95.9
Outcomes of medical care	29,383	3.8	92.3
Evaluate health care at medical group	29,701	3.9	93.5
Overall			
Recommend current medical group to family†	29,207	NA	94.9
Recommend HMO to family or friends†	29,078	NA	95.6
Intent to switch to different health insurance†	28,387	NA	4.3

Dr = doctor, HMO = health maintenance organization, MD = physician, NA = not applicable, PCP = primary care physician

*Means are based on a scale where 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.
†No means are calculated for this item; shown are the percentage of persons responding "yes."

included in the model if they were significant at a P value of less than .001 and also increased the model R^2 by at least 0.01.

To predict the satisfaction with access, the first variable selected for inclusion was arrangements for making appointments (R^2 = 0.63) (Table 3). Satisfaction with access to specialty care was selected next and increased the R^2 to 0.69. The ease of seeing the primary care physician of choice and access to emergency care were also selected, increasing the final model R^2 to 0.71. All of the selected aspects of care were positively related to satisfaction with access. The remaining items did not meet the criteria for inclusion mentioned earlier; hence, they were not included in the model.

The effect of the strongest predictor can be further identified through the relationship of satisfaction with access and appointment arrangement. Satisfaction with access increases as the satisfaction with appointment arrangements increases. Almost all (97.3%) of those who were satisfied with appointment arrangements indicated that they were satisfied with access to medical care, but only 45.5% of those who were dissatisfied with arrangements were satisfied with access to care.

A separate stepwise procedure was used to explain the variance in satisfaction with the quality of health care at the current medical group. Table 4 shows that the first predictor that was selected was the satisfaction with the outcome of the medical care (R^2 = 0.60). The next item selected was access to care whenever it is needed (R^2 = 0.67). Personal interest in the member and the member's medical problems and the ease of seeing the physician of choice also significantly improved the fit of the model by at least 1% of R^2 and brought the final model R^2 to 0.72. All of these components were positively related to satisfaction.

TABLE 3.—*Results of a Stepwise Multivariate Regression Model Predicting Satisfaction With Access to Medical Care*

Covariates Included at Each Step	Estimate (SE)	Cumulative Model R^2
1. Arrangements for making appointments	0.45 (0.007)	0.63
2. Access to specialty care	0.17 (0.007)	0.69
3. Ease of seeing physician of choice	0.16 (0.006)	0.70
4. Access to emergency care	0.12 (0.007)	0.71

SE = standard error

TABLE 4.—*Results of a Stepwise Multivariate Regression Model Predicting Overall Satisfaction With Quality of Health Care*

Covariates Included at Each Step	Estimate (SE)	Cumulative Model R^2
1. Outcomes of care	0.31 (0.004)	0.60
2. Access to care whenever it is needed	0.24 (0.007)	0.67
3. Personal interest in you and your medical problems	0.21 (0.008)	0.71
4. Ease of seeing physician of choice	0.18 (0.008)	0.72

SE = standard error

The effects of the outcome variable on satisfaction with the quality of health care was strong. Overall satisfaction with the quality of health care increased as the satisfaction with the outcomes of care increased. Almost

all of those who were satisfied with outcomes were satisfied with the quality of care at their medical group (97.8%), compared with 41.7% for those who were not satisfied with their outcomes.

Discussion

The evolution of health care into a managed care system in the United States has raised concerns about the quality of care and of service provided to those seeking medical attention. Patient satisfaction with the care received has been recently recognized as an important indicator of quality of care. Our study suggested that Medicare enrollees in a large California HMO were generally satisfied with the access to medical care and the quality of health care.

The study identified that the overall evaluation of the quality of health care was most dependent on satisfaction with the outcome of the care, access to care, personal interest in the patient, and ease of seeing the physician of a patient's choice. Access to medical care has been defined in a variety of ways.[12] This study has indicated that arrangements for making appointments, access to specialty care, ease of seeing the physician of one's choice, and access to emergency care were perceived by Medicare beneficiaries as the major factors in predicting their satisfaction with access in an HMO. Items that members rated less favorably, such as ability to contact a physician after hours and on weekends, the waiting time for appointments to receive routine care, and the time spent in a waiting room, added little to the prediction of satisfaction with access to and overall quality of health care. A previous study indicated that the access measures were not significantly associated with either the length of the appointment or the office wait.[13]

The findings presented here indicate that issues such as contacting physicians after hours and waiting time carried little weight in patients' overall satisfaction with access to and quality of health care. Members did, however, express less satisfaction with the ability to contact physicians after hours and with waiting times. These patients' complaints are of concern throughout the health care industry. Recently the California HMO Quality Management Coalition addressed these issues directly, setting standards for six indices of medical care access, including waiting times.[14] Physicians' adherence to these guidelines should increase the level of satisfaction expressed by members.

Members' characteristics, such as age, sex, geographical region, medication, and utilization, explained little variance in satisfaction with access to and quality of health care. This implied that patients who had chronic diseases, such as asthma, diabetes mellitus, hypercholesterolemia, or high blood pressure, had similar levels of satisfaction as other HMO members.

Although the study focused on the Medicare beneficiaries of one HMO, the findings can be important in predicting the beneficiaries' satisfaction with an HMO. The findings indicate that any efforts in improving the arrangements for appointments might make the Medicare enrollees more satisfied with the access to care and that any emphases on the outcome of the care may improve enrollees' satisfaction with overall quality of health care. Although the findings may be generalizable to the Medicare beneficiaries enrolled in HMOs, such studies in other HMOs and IFFS practices are necessary to support these findings. The study has inherent limitations because there was no control for the length of enrollment and severity of diseases. Further studies are needed on the predictors of satisfaction of Medicare enrollees with different lengths of enrollment and severity of diseases.

Conclusion

Medicare beneficiaries were satisfied with their access to and the quality of health care they received in an HMO. To improve members' satisfaction with access, HMOs and their providers should focus on the access to appointments, specialty care, choice, and emergency care. The overall satisfaction with quality of health care at an HMO was predicted by outcome, access, interpersonal care, and choice. With the current debate on the future of Medicare, the study has an important policy implication: HMOs have become a promising alternative for the Medicare program. They have a responsibility, however, to ascertain under a scientific framework areas in need of improvement and to implement specific programs to enhance the quality of the health care provided to Medicare beneficiaries.

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