DETERMINANTS OF ENROLLMENT AND DISENROLLMENT IN MEDICARE HMOs

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INTRODUCTION

Medicare program spending, which constitutes about 12 percent of the Federal budget, has been growing at an annual rate of 8 to 9 percent in recent years. Annual growth in total health care spending, on the other hand, declined from 12.3 percent to 4.5 percent between 1990 and 1996. Analysts attribute much of the deceleration in total health care spending to the proliferation of managed care plans in the private sector and the concomitant increase in price competition among health care providers. As a result, some policymakers believe comparable reductions in Medicare costs might be achieved by increasing Medicare beneficiary participation in health maintenance organizations (HMOs).

The figures, however, indicate that if Medicare is to realize significant saving from the use of managed care, beneficiary enrollment in HMOs must increase quite substantially. Only 14 percent of the Medicare population are enrolled in HMOs, while the remaining 86 percent has selected Medicare fee-for-service. Thus, the question of whether Medicare costs can be constrained through the use of managed health care depends primarily on the answers to two subsidiary issues: To what extent can HMOs expand their share of the Medicare market? And can high-cost beneficiaries, who seem to prefer Medicare fee-for-service, be induced to enroll and remain in HMOs?

Future growth in Medicare HMO market share is an issue, even though the number of beneficiaries in Medicare HMOs almost tripled between 1992 and 1997. This growth was affected by such factors as (1) the size of the Medicare payment, (2) population density and degree of HMO presence in local markets, and (3) employers' policies toward retiree health benefits.[1] Of these factors, HMO presence in the general health market may be the most important determinant of HMO growth. A study by the Congressional Budget Office, for example, projected that HMOs will enroll 17 percent of the Medicare population by the year 2002, even if Medicare HMO payment rates are made less generous.[2] Another study found that HMO penetration in the general health care market influenced Medicare HMO growth more than Medicare payment rates or prior Medicare HMO market penetration.[3]

HMO market presence may have a positive effect on Medicare HMO growth because it signifies general acceptance of managed care as a financing and delivery system. Further expansion of Medicare HMO enrollments could be limited, however, if HMO market presence is the most important determinant of its growth. By 1995, enrollment in managed care plans extended to three-quarters of the total enrolled work force.[4] This level of managed care penetration in the private sector may mean that HMOs are already established in most markets willing to accept managed care. It also may mean that the effect of HMO penetration in general health care markets on HMO share of the Medicare market has already been realized in these markets. Medicare HMO enrollments, for example, are heavily concentrated in urban areas in Florida and in the West—both of which have large elderly populations and significant HMO presence. Whether these markets have become saturated or can continue to support more HMO growth remains to be seen.

The other issue affecting Medicare savings from managed care is whether HMOs can enroll and retain high-cost beneficiaries who seem to prefer Medicare fee-for-service. Chronically ill beneficiaries must be brought into managed care to curtail growth in Medicare spending, but numerous studies have shown that beneficiaries with health problems favor Medicare fee-for-service over HMOs.[5] While the results of these studies might be questioned because the Medicare HMO market has changed substantially in the 1990s, recent research has reached similar conclusions. For example, a study based on 1994 data found that Medicare HMO enrollees are healthier than their fee-for-service counterparts and have substantially lower predicted costs based on their health status.[6]

High-cost users present a major obstacle in controlling costs through managed care. Unlike workers in the private sector who may not be given a choice of health plans by their employers, Medicare beneficiaries are free to choose either fee-for-service or managed care. To further complicate the issue, HMOs have little incentive to enroll them, and only 74 percent of the Medicare population reside in areas that have Medicare HMOs.[7]

Our study is designed to determine the factors affecting the decision of a Medicare beneficiary to enroll in or disenroll from a Medicare HMO. We analyze enrollment and disenrollment decisions because the overall effectiveness of HMOs in reducing Medicare spending cannot be assessed without considering the continuous cycling of beneficiaries into and out of HMOs.[8] Demand-side variables in our models separate the effects of health status from differences in age, marital status, education, income, and supplemental insurance on the decision to join or leave an HMO. Supply-side variables show the effect of Medicare HMO presence in a market on these decisions.

DATA AND METHODS

Our primary data source is the Medicare Current Beneficiary Survey (MCBS), a rotating panel survey of approximately 16,000 Medicare beneficiaries sponsored by the Health Care Financing Administration (HCFA). We used data from the 1993-1995 MCBS files for our analyses of personal and financial factors affecting the decision to join or leave an HMO. We also used Medicare Market Penetration Report Files produced by HCFA to develop information on Medicare HMO presence in local markets. These files are as of December for 1993-1995.

We created two comparison groups for our analyses by using monthly information on whether a beneficiary was in fee-for-service or a Medicare HMO. The first group of beneficiaries was used to analyze factors affecting the decision to join an HMO. It includes beneficiaries who enrolled in a Medicare HMO during a calendar year and remained in an HMO for the rest of the year, and beneficiaries who were in fee-for-service for the entire year. Beneficiaries in these groups had to live in a household (as opposed to a long-term care facility), and the continuous fee-for-service beneficiaries had to live in the same geographic areas (primary sampling units, or PSUs) as the new enrollees.

The second group of beneficiaries was used to analyze factors affecting the decision to leave an HMO. It includes beneficiaries who switched from an HMO to fee-for-service during a calendar year and remained in fee-for-service for the rest of the year, and beneficiaries who were in an HMO for the entire year. Again, beneficiaries in the two groups had to live in a household, and the continuous HMO enrollees had to live in the same PSUs as the disenrollees.

We created the comparison groups from the 1993-1995 MCBS files and pooled the data to produce a time series of cross sections for the analysis. The unit of analysis in our study is the beneficiary, and we used logistic regression models to determine factors affecting his or her decision to join or leave a Medicare risk HMO. The dependent variable in the first equation—our enrollment model—was set to "1" if the beneficiary joined an HMO, and to "0" if the beneficiary was continuously in fee-for-service. The dependent variable in the second equation—our disenrollment model—was set to "1" if the beneficiary switched from an HMO to fee-for-service, and to "0" if the beneficiary was continuously in a Medicare HMO. Because the MCBS has a complex design, we estimated weighted logistic regression models by using WesVarPC, a statistical software package that accounts for the complexity of the survey design in calculating standard errors for the regression coefficients.

EXPLANATORY VARIABLES

The demand-side variables include demographic factors such as age, education, race, and marital status of the beneficiary, and his or her health status. Studies have shown that HMO enrollees differ from fee-for service beneficiaries in terms of age, race, and disability.[9] In addition, we expect education to be factor in the decision of a beneficiary to join or leave an HMO, given the correlation between educational status and life expectancy.[10] Marital status was included because a spouse may influence the decision of a beneficiary to join or leave an HMO.

Financial considerations also may affect the decision to enroll in a Medicare HMO. Beneficiaries in HMOs typically have lower out-of-pocket costs than their fee-for-service counterparts because cost sharing is less onerous, and many HMOs provide more covered care than Medicare fee-for-service. Beneficiaries who are dually eligible for Medicare and Medicaid, however, would be insulated from the financial considerations. The dually eligible beneficiaries have first dollar coverage of all health care services and would have little financial incentive to join a Medicare HMO. To capture the influence of financial considerations on the enrollment and disenrollment decision, we include income and a binary variable showing whether the beneficiary had Medicaid eligibility.

Two supply-side variables are included in the two models. The first variable—HMO penetration—shows the share of the Medicare market held by all HMOs

operating within the same PSU. Our hypothesis is that beneficiaries are more likely to join an HMO if market penetration is high; that is, a significant presence suggests general acceptance of managed health care by the Medicare population. The second supply-side variable—number of HMOs in the market—is used to measure the degree of competition within a market. This variable is important because Medicare HMOs can charge the beneficiary a premium and offer an expanded benefit package. Our hypothesis is that HMOs will charge less or offer more services if they face substantial competition from other HMOs. We assume that the degree of competition in a market is related directly to the number of HMOs in that market.

We added dummy variables for the years 1994 and 1995 to each model. The year variables are used to capture the influence of omitted variables on the decision to join or leave an HMO. Our expectation is that they will capture change in beneficiaries' attitudes about the use of managed care as an alternative to Medicare fee-for-service.

The disenrollment model contains three additional variables to capture information on why a beneficiary might decide to disenroll from an HMO. The variables are based on beneficiaries' responses to the following questions on access to and satisfaction with their health care: (1) Did the beneficiary have any difficulty getting health care that he or she wanted or needed within the last year? (2) What was the overall quality of the medical care received by the beneficiary in the last year? (3) How easy and convenient was it for the beneficiary to get to a doctor from where he or she lived?

STATISTICAL RESULTS

Our statistical results are consistent with other study findings that Medicare HMOs tend to attract relatively healthy beneficiaries (see Table 1). Beneficiaries most likely to join an HMO tend to be relatively young (age 65 to 74) and unrestricted in activities of daily living. Cost also appears to be a consideration as beneficiaries in low-income categories are significantly more likely to join an HMO than are their wealthier counterparts. In terms of demographic characteristics, non-Hispanic whites are less likely than other racial and ethnic groups to join an HMO; married beneficiaries are somewhat more likely to join an HMO; and, beneficiaries with a high school diploma are more likely than any other educational group to join an HMO.

Table 1. Determinants of enrollment and disenrollment in Medicare HMOs

Variable	Enrollment Model (EM)		Disenrollment Model (DM)	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
Age				
Under 65	0.27	1.31	0.09	1.09
65 to 74	0.64 *	1.90	-0.14	0.87
75-84	0.25 **	1.28	-0.23	0.79
85 or older	xxx		xxx	
Insurance				
Medicaid	-1.15 *	0.32	1.02 *	2.77
Any other	xxx		xxx	
Education				
Less than 12 years	0.04 *	1.04	0.70 *	2.01
12 years	0.62 *	1.86	0.90 *	2.46
13-15 years	0.29 *	1.34	0.71 *	2.03
16 or more years	xxx		xxx	
Race				
Non-Hispanic white	-0.48 *	0.62	-0.22	0.80
Other race or ethnicity	xxx		xxx	
Function limitations				
None	0.62 **	1.86	-0.18	0.84
IADL only	0.28	1.32	0.12	1.13
1-2 ADLs	0.33	1.39	0.14	1.15
3-5 ADLs	xxx		xxx	
Health status				
Excellent or very good	0.06	1.06	-0.77 *	0.46
Good	-0.04	0.96	-0.44 *	0.64
Poor or fair	xxx		xxx	
Income				
Less than $10,000	0.78 *	2.18	0.02	1.02
$10,000-14,999	0.48 *	1.62	0.01	1.01
$15,000-19,999	0.31 *	1.36	0.05	1.05
$20,000 or more	xxx		xxx	
Marital status				
Married	0.24 *	1.27	0.05	1.05
Not married	xxx		xxx	
Difficulty in getting care			0.54 *	1.72
Satisfied with quality			-0.38	0.68
Satisfied with ease			0.10	1.11
Number of HMOs in market	0.05		0.00	
HMO market penetration	0.04 *		-0.04 *	
Year 1994	0.17	1.19	-0.30 **	0.74
Year 1995	0.29 *	1.34	-0.47 *	0.63

* Significant at the 0.05 level.
** Significant at the 0.10 level.
N = 547 new HMO enrollees and 10,462 continuous fee-for-service beneficiaries in the EM.
N = 195 HMO disenrollees and 1,562 continuous HMO beneficiaries in the DM.

Supply-side factors also have an impact on the decision-making process. Beneficiaries are more likely to join an HMO if the market area in which they live has a large proportion of Medicare HMO enrollees. This finding is consistent with the hypothesis that beneficiaries are influenced by the degree to which managed care has been accepted within the local community. The number of HMOs in the market, on the other hand, does not affect the decision to join an HMO. Either this variable does not capture the influence of competition within a market, or beneficiaries are not drawn from fee-for-service by the efforts of HMOs to attract new members through competition with other HMOs in a market.

The disenrollment model indicates that HMOs tend to keep relatively healthy members, as beneficiaries in excellent health are less likely to return to fee-for-service than are beneficiaries in fair or poor health. Access to care is a factor in the decision to leave an HMO, as beneficiaries who had problems getting care that they wanted or needed in the past year are more likely than other HMO members to return to Medicare fee-for-service. Income does not appear to influence the decision to disenroll from an HMO, but beneficiaries

who are covered by Medicaid are more likely than other members to leave the HMO. Married beneficiaries and individuals with less than 16 years of education are relatively more likely to leave an HMO.

The influence of supply-side variables on the disenrollment decision is symmetrical with their impact on the enrollment decision. Beneficiaries are less likely to return to Medicare fee-for-service in markets where a large percentage of beneficiaries belong to an HMO, but the number of HMOs in a market has no impact on the decision-making process.

CONCLUSIONS

Our findings suggest that Medicare HMO enrollments are unlikely to expand to the extent that managed care has grown in the private sector. The pool of potential joiners seems limited since 26 percent of the Medicare population does not have access to an HMO, and beneficiaries are most likely to join an HMO if they live in a market with a large HMO presence. These markets may have peaked in terms of HMO market share because they have already attracted most of the beneficiaries who are likely to join a managed care plan (i.e., low-income beneficiaries and racial and ethnic minorities). Moreover, if the best HMO markets are approaching saturation, competition in these markets may be more for beneficiaries who are already in HMOs rather than Medicare fee-for-service.

The Medicare program will not realize significant cost savings from managed care if this proves to be the case. HMO share of the Medicare market will top out at much less than managed care's share of the private market, and the impact on Medicare spending will be limited. To further complicate matters, Medicare HMOs may continue to have revolving doors through which the healthy enter and the sick leave. This process will perpetuate the tendency of HMOs to have relatively healthy enrollments, while the chronically ill remain in Medicare fee-for-service where access to care is nearly unlimited.

END NOTES

[1] U.S. General Accounting Office. (1997, May). *Medicare HMO Enrollment: Area Differences Affected by Factors Other Than Payment Rates.* Washington: GAO.

[2] Data from the Congressional Budget Office. (April, 1996). *1996 Baseline: Medicare.*

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[7]PPRC (1996), 6.

[8] Morgan, R.. et al. (1997). The Medicare-HMO revolving door—The healthy go in and the sick go out. *The New England Journal of Medicine,* 333(3), 169-175.

[9] For example, see Riley et al. (1996) and PPRC (1996).

[10] Guralink, J., et al. (1993). Educational status and active life expectancy among older blacks and whites. *The New England Journal of Medicine,* 329(2), 110-116.