
Effect of Medicare Advantage Payments on Dually Eligible Medicare Beneficiaries

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This study estimates the effect of Medicare Advantage (MA) payments and State Medicaid policies on the choice by Medicaid eligible Medicare beneficiaries to either join a MA plan, remain in the fee-for-service (FFS) and enroll in Medicaid (dually enrolled), or remain in FFS Medicare without joining Medicaid. Individual plan choice was modeled using a multinomial logit. The sample includes Medicaid-eligible Medicare beneficiaries (including specified low income Medicare beneficiaries [SLMBs] and qualified Medicare beneficiaries [QMBs]) drawn from the 2000 Medicare Current Beneficiary Survey (MCBS). We find a \$10 increase in monthly MA payment reduces the probability of dual enrollment by four percentage points, and FFS Medicare enrollment by 11 percentage points.

INTRODUCTION

The purpose of this study is to understand the impact of MA plan payments on the health plan choices of aged low-income Medicare beneficiaries¹. In addition, this study estimates the effect of State programs designed to enhance the Medicaid Program on the probability that low-income

¹ At the time our data was collected, the managed care program was known as Medicare+Choice. Subsequently, the program was renamed Medicare Advantage, which we are uniformly using in this article.

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Medicare beneficiaries enroll in the Medicaid Program. These health plan choices have important effects on both beneficiaries and State and Federal budgets.

The aged low-income Medicare beneficiaries who are the focus of our study have three health plan options:

- Remain in FFS Medicare without enrolling in the Medicaid Program.
- Become dually enrolled in the Medicare and Medicaid Programs.
- Join a MA plan.

Beneficiaries are free to choose from the three options (if a MA plan is available in their county), and each option has both benefits and drawbacks from the beneficiary's perspective. The choice of the beneficiary also has an impact on their State and the Federal Governments.

BENEFICIARY'S CHOICE PROBLEM

It is important to distinguish between the dually eligible population and the dually enrolled populations. The dually eligible are those Medicare beneficiaries who qualify for some form of Medicaid benefits (Medicare Payment Advisory Commission, 2004b). A subset of these dually eligible beneficiaries actually takes advantage of the additional available benefits—these beneficiaries compose the dually enrolled population. Although the beneficiary's choice of health plan affects State and Federal Government expenditures, the beneficiary's choice is determined exclusively by the effects of the choice on the

beneficiary. In this section we describe those choices first from the beneficiary's perspective, then from the perspective of State and Federal Governments.

FFS Medicare

FFS Medicare covers many types of inpatient and outpatient services, but low-income beneficiaries who cannot afford a private supplementary policy will face large expected out-of-pocket expenses due to the coinsurance and deductibles associated with FFS Medicare. In some States, these out-of-pocket expenses can be offset by special programs for low-income beneficiaries. The advantage of FFS Medicare from the low-income beneficiary's perspective is that the vast majority of physicians agree to see Medicare beneficiaries, so access problems are minimal. The key disadvantage of FFS Medicare is the high cost sharing, which reduces access to care for low-income Medicare beneficiaries (Medicare Payment Advisory Commission, 2004b).

Dual Enrollment in Medicare and Medicaid

The elderly dually eligible population is defined by eligibility for both Medicare and Medicaid, typically due to low income. Supplemental Security Income (SSI) eligible beneficiaries generally have incomes below 73 percent of the Federal poverty level (FPL) (with various asset requirements), and receive full Medicaid coverage (often referred to as full dual eligibles). Medicaid covers not only Medicare's cost sharing for these beneficiaries, but also provides additional benefits including prescription drugs and long-term care. SSI eligible beneficiaries have virtually no exposure to out-of-pocket spending. However, they face the possibility of stigma associat-

ed with being enrolled in a welfare program, and provider reluctance to treat Medicaid patients. The latter factor can vary, depending on State policies regarding Medicare payment to providers.

Other Medicare-eligible groups that receive State assistance include QMBs and SLMBs. QMBs have incomes between the FPL and the eligibility cutoff for full dual eligibles, while SLMBs typically have incomes between the 100 and 120 percent of the FPL. Medicaid covers a beneficiary's monthly Part B premium for both QMBs and SLMBs, and Medicare's copayments and deductibles for the QMBs. Coverage beyond Medicare, including prescription drugs, is not included for either QMBs or SLMBs. In addition, there is the Qualifying Individual (QI) program, established by the 1997 Balanced Budget Act (BBA). QIs have incomes between 120 and 135 percent of the FPL and receive coverage from Medicaid of their Part B premium. The QI program was originally authorized for 5 years, but has been extended, although it is subject to an annual Federal funding cap, which limits the number of beneficiaries who may participate in the program.

Although these programs are intended to aid low-income Medicare beneficiaries, limitations in the Medicaid Program decrease their appeal to the intended target populations. The 1997 BBA allowed States to set provider reimbursement for dually eligible beneficiaries equal to the Medicaid payment rate and prevented providers from balance billing. This means that if the State Medicaid rate is lower than the Medicare payment, then the State may pay nothing for the physician visit (although the State still would pay for outpatient prescription drugs, hospital copayments, etc). For Part B, this effectively lowers provider reimbursement for dually eligible beneficiaries, as compared to the other 84 percent of

Medicare beneficiaries. Approximately one-third of States utilize this tactic to reduce the cost of the program. Also, most States require providers to enter into formal agreements with State Medicaid Programs in order to provide care to dually eligible beneficiaries. Both of these tactics have the potential net effect of reducing the number of providers available to dually eligible beneficiaries. Additionally, some States require their dually eligible beneficiaries to join the State Medicaid managed care plan, which may be inferior to the MA option (Walsh and Clark, 2002).

Medicare Advantage Plans

MA plans are fully capitated managed care plans. Participation in the MA program varies by county, with high enrollment in some counties in States such as California and Florida, and limited plan participation in lower payment counties, including rural areas (Thorpe and Atherly, 2002). MA enrollment among the dually eligible population is substantial in some States, with more than one in four enrolled in Oregon and over 10 percent enrolled in California (Walsh and Clark, 2002). If a MA plan is offered in their county, a low-income beneficiary may choose to leave FFS and join a managed care plan. MA plans offer greatly reduced cost sharing, and many offer supplemental benefits, such as free prescription drug coverage (one of the main advantages of Medicaid), without the stigma of the Medicaid Program. And, although MA plans also require the use of a limited panel of providers, the limitation, unlike Medicaid, is not based solely on provider willingness to treat low-income beneficiaries. However, the value of the supplemental MA benefits varies by county. Some counties have several MA plans with good benefits and low

(or zero) out-of-pocket premiums, while other counties have no MA plans in operation.

Enrollment into a MA plan does not necessarily require disenrollment from Medicaid. If a beneficiary enrolled in a MA plan, and disenrolled from Medicaid, the beneficiary would be required to pay the Part B premium. However, the coordination between MA plans and State Medicaid agencies has been found to be poor. MA plans often lack access to timely data on eligibility for Medicaid and beneficiaries lack an understanding of coordination of benefits (Walsh and Clark, 2002). States also are not required to cover MA plan premiums, which became more of an issue when the zero premium plans fell after the passage of the 1997 BBA legislation (Achman and Gold, 2002).

Impact on State and Federal Governments

The health plan choices of dually eligible beneficiaries have important financial implications for State and Federal Governments, as well as beneficiaries. If a dually eligible beneficiary enrolls in a MA plan, the State may have no financial obligation at all, unless the State pays the beneficiary's out-of-pocket premiums or copayments under the full dually eligible or QMB program. Even then, the State's expenses generally are far lower than if the beneficiary becomes dually enrolled in the State's Medicaid Program. States buy dually eligible beneficiaries into the Medicare Program by paying their Part B premium, but the State remains at risk for approximately 45 percent of expenses that are covered by Medicaid, but not by Medicare. Dually eligible beneficiaries are one of the most expensive subgroups receiving Medicare (Burton et al., 2002;

Medicare Payment Advisory Commission, 2004b). As a group, dually eligible beneficiaries represent approximately 16 percent of the Medicare population, but one-quarter of Medicare expenditures (U.S. General Accounting Office, 1997; Anderson, Kenney, and Rabiner, 2003). The typical dually eligible beneficiary is 59 percent more expensive than the typical non-dually eligible beneficiary (Medicare Payment Advisory Commission, 2004b). Dually eligible beneficiaries also are an expensive subgroup within the Medicaid population; although the dually enrolled represent only 16 percent of the Medicaid population, they accounted for nearly one-half of Medicaid total spending on prescription drugs in 2002 (Ryan and Super, 2003).

From the Federal Government's perspective, dual enrollment in Medicaid versus FFS-only means that the Federal Government is responsible not only for its share of Medicare-covered expenses, but also for the Federal share of the cost of the benefits unique to Medicaid. If the beneficiary enrolls in an MA plan, the Federal Government's exposure is limited to the per capita payment rate in the beneficiary's county of residence, adjusted for the payment factors such as age, sex, and institutional status plus the Federal share of the Medicaid wraparound benefits. If Medicare expenditures, plus the Federal share of Medicaid expenditures, exceed (on average) the MA plan payment, then the Federal Government saves money when a dually eligible person enrolls in a MA plan. But, MA plan payments vary by county, variations which lead to variations in MA plan benefits.

Prior to the 1997 BBA legislation, and since the passage of the 2003 Medicare Modernization Act (MMA), MA plan payments are based on the adjusted average per capita cost (AAPCC). The AAPCC is a prospective estimate of Medicare cost lev-

els in the FFS sector, and is adjusted by demographic factors, health risk factors, and geographic area (beneficiary's county of residence). Adjusting plan payment by geographic area is intended to leave Medicare MA plans on a relatively even footing nationally: MA plans operating in areas with high costs (assumed to be areas with high FFS spending) receive larger payments than MA plans in low cost areas (i.e., low FFS spending). With this structure, MA reimbursement relative to FFS is constant nationally. Yet questions have arisen about the geographic fairness of the adjustment.

For 2005, the aged payment rates in the 50 States range from the first floor rate of \$591.91 to a high of \$1,225.05 in St. Bernard County in Louisiana. Although the geographic adjustments to MA payment rates were intended to provide a level playing field for managed care plans relative to FFS, MA plans gravitate toward higher payment areas and MA plans in higher payment areas offered more generous benefits (McBride, 1998). Indeed, the strong relationship between government payments and MA benefits suggests that MA plans costs do not vary as much as the FFS costs, and thus, do not vary as much as payments to MA plans.

This study estimates the effect of changes in MA reimbursement on the probability of dual enrollment in the Medicare and Medicaid Programs. If dually eligible beneficiaries are more likely to enroll in MA plans in high payment/high benefit counties, States will be differentially affected by the current payment formulas because the States with high AAPCC payments will have their dually eligible population voluntarily leave the Medicaid Program. Despite the complicated and important interactions between MA payments and Medicaid enrollment, no existing study has examined this issue.

DATA AND METHODS

Data

The main source of data used in this article is the 2000 MCBS Cost and Use File (Adler and Phil, 1994). The MCBS is a continuous panel survey of Medicare beneficiaries. CMS has made available a Public Use Data File linking the survey and Medicare administrative billing records. The sample is representative of all age groups and both newly and non-newly entitled beneficiaries. In the MCBS, individual Medicare beneficiaries are interviewed and asked about their health, sociodemographic factors, supplemental insurance holdings, institutional status (i.e., community dwelling versus a nursing home or assisted living facility) and satisfaction with health services. This survey data is then linked to Medicare administrative data with the cost and amount of all Medicare covered services consumed during the year.

For this study, we used a number of sample exclusions to limit the sample to survey respondents who are likely to be eligible for, and interested in, Medicaid enrollment. First, individuals with incomes above 120 percent of the 2000 FPL are excluded. Second, subjects with either primary or supplementary insurance through their employer are excluded. Subjects with primary (comprehensive) employment-based health insurance through a current employer are working and thus, unlikely to be eligible for Medicaid. Because Medicare is considered a secondary payer for these subjects, their health plan choices are unlikely to be comparable to those of beneficiaries without access to comprehensive employment-based insurance. Individuals with employer-sponsored supplementary insurance plans also are excluded

because we assume that if an individual accepts an offer of group supplementary coverage from an employer, they will be unlikely to seek alternative coverage (Atherly, 2001). As a result, FFS Medicare in our sample refers to FFS-only with no employment sponsored supplementary policy.

Third, beneficiaries age 65 or under (e.g., beneficiaries entitled by disability) are excluded. It is likely that low-income individuals eligible for Medicare due to disability will be different than those who are age eligible in terms of health status, sociodemographic characteristics, and relationship to specialists, so the relative appeal of a managed care plan for such individuals may be different.

Finally, we excluded 47 beneficiaries who are enrolled in both Medicaid (in any of the three versions, full dual eligible, QMB, and SLMB) and a MA plan. Because the benefits for these individuals have been found to be unclear to the beneficiaries and their plans (Walsh and Clark, 2002), we excluded them from the sample.

Our initial sample size was 13,015, however, after all sample exclusions the final size was 2,044. The resulting sample represents low-income, aged Medicare beneficiaries who are neither employed nor covered by an employer supplemental insurance plan.

Empirical Model

Our study is based on the expected utility model of health plan choice (McFadden, 1974; Greene, 2003). In this model, we explicitly assume that each beneficiary chooses the health plan option that provides the highest expected utility. Because our focus is on variables that vary with the individual, rather than the alternative, we estimate a multinomial logit model. In this

model, an individual's utility from a given option is determined by characteristics of the chooser.² Formally, this can be represented as:

$$(1) \quad U(\text{alternative } 0) = X_0 \beta_0 + \varepsilon_0$$

$$U(\text{alternative } 1) = X_1 \beta_1 + \varepsilon_1$$

.....

$$U(\text{alternative } M) = X_M \beta_M + \varepsilon_M$$

where U represents the utility associated with the alternative, X is a vector of characteristics of the individual, β is a vector of coefficients and ε is random error. The error terms in this framework are assumed to be independent, homoscedastic, and distributed multivariate Gumbel.

Formally, the probability of the *i*th beneficiary choosing the *j*th option is given by:

$$(2) \quad P(\text{choice } j) = \frac{e^{X_{ij}\beta_j}}{\sum_{m=1}^J e^{X_{im}\beta_m}}$$

with X and \leq defined as before, *i* representing the observation and *j* and *m* indexing the options.

In the multinomial logit model, one option is selected as a reference option. For the reference option, $\beta_0=0$, which serves as a normalization of the error term. We selected the MA alternative as the reference option, so the estimated coefficients represent the effect of the independent variables (and especially the MA payment rate) on the probability of selecting the FFS-only or dually enrolled alternatives versus the MA alternative. We considered individuals to be in the dually enrolled alternative if they were enrolled in the Medicaid buy-in, QMB, or SLMB program. The expression $(e^{X_j\beta_j}-1) \times 100$ gives the percentage point change in the probability of the *j*th alternative relative to the MA alternative associated with a one unit change in the explanatory variable.

² In a theoretical sense, we can imagine that each characteristic of the chooser is interacted with a dummy variable representing each of the three plan choice options.

Independent Variables

Our key independent variable is the county MA plan payment rate. In our model, the MA plan payment rate stands in for the generosity of benefits and level of out-of-pocket premiums for MA plans available in the beneficiary's county of residence. More generous benefits and lower out-of-pocket premiums make MA plans more attractive to all beneficiaries, including low-income beneficiaries, and increases the probability that low-income beneficiaries will choose MA plans rather than becoming dually enrolled. We, therefore, expect a negative coefficient on the MA plan payment variable, indicating that as MA payment increase, the probability of being in either a Medicaid plan or in FFS alone decrease.

We also include indicator variables for five State programs that make Medicaid more attractive to dually eligible beneficiaries (Rosenbach and Lamphere, 1999; Nemore, 1999). First, we include an indicator variable showing whether the State Medicaid Program included full reimbursement for Medicare cost sharing under the QMB program. Full coverage enhances the desirability of the QMB program and should increase participation in the Medicaid Program relative to MA plans. Next, we include an indicator variable showing whether the State supplements SSI payments. The expected sign on this variable is unclear; the higher payments may serve as a proxy for more generous State level Medicaid benefits, increasing the attractiveness of Medicaid and therefore, increasing enrollment. Alternatively, the higher income may reduce the need for Medicaid, and lead to lower enrollment. We also include an indicator variable showing whether the State

raised the income threshold for Medicaid to 100 percent of the FPL. This State option improves the relative appeal of the Medicaid Program for individuals between 73 and 100 percent of the FPL, and should decrease MA enrollment. We also measure whether the State extends coverage to individuals who meet categorical requirements for Medicaid, but have income or assets that exceed thresholds (often referred to as medically needy), which is expected to decrease MA participation. Finally, we include an indicator for whether SSI eligibility leads to automatic enrollment in the Medicaid Program, which is expected to have a positive coefficient in the dual enrollment equation. All initiatives also increase the attractiveness of dual enrollment relative to FFS-only, and thus, the coefficients in the dual enrollment equation should be larger than the coefficients in the FFS-only equation. Our sociodemographic variables include age, sex, race, and marital status. Age represents the beneficiary's age in years. Previous research has found that older individuals are less likely to enroll in an MA plan (Retchin et al., 1992; Kravitz et al., 1992), so we anticipate a positive coefficient in both the FFS-only and dual enrollment equations. Race represents an indicator variable equal to one if the individual considers themselves to be White and zero otherwise; previous research suggests dually enrolled beneficiaries tend to be older and are more likely to be minorities and female (Medicare Payment Advisory Commission, 2004a). Marital status is equal to one if the individual is married and zero otherwise (divorced, widowed, and never married). We include several measures of individual health status. First, we include the individual's self-rated health. This is the individual's rating of their own health, with possible responses ranging one (excellent) to five (poor). We also

include a measure of the number of activity of daily living (ADL) restrictions and indicator variables for six chronic conditions. Previous research has found that managed care plans tend to enroll healthier individuals, so we anticipate positive coefficients on these variables in the FFS-only and dual enrollment equations (Atherly, Dowd, and Feldman, 2004; Miller and Luft, 1997; Hill et al., 1992).

Finally, we include measures of Medicaid eligibility in our model. We cannot measure Medicaid eligibility precisely because the MCBS lacks asset data. However, we proxy eligibility using the beneficiary's income; beneficiaries below 73 percent of the FPL are considered full dual eligible. Beneficiaries between 73 and 100 percent of the FPL are considered QMB eligible, while individuals between 100 and 120 of the FPL are considered SLMB eligible.

RESULTS

Table 1 presents means and frequencies for the independent variables across the three categories. Of the 2,044 individuals in the sample, approximately 16.2 percent joined a MA plan, a percentage not dissimilar from the general population. The MA enrollees were, as expected, slightly wealthier than either the Medicaid group or the FFS-only group. The Medicaid group was the youngest, the least likely to consider themselves White and less likely to be married.

Regarding health status, the descriptive statistics are mixed. By self-rated health, the MA sample is the healthiest and the Medicaid group the least healthy. The ADL limitations show the same pattern. Of the five chronic illnesses, the prevalence rate is the highest in the Medicaid group for five of the six (myocardial infarction, stroke, diabetes, coronary heart disease

Table 1
Control Variables, Definitions, Means, and Expected Relationship to Plan Choice

Variable	Definition	Frequency/Mean			Expected Sign
		MA	Medicaid	FFS-only	
Age	Beneficiary age, in years	77.1	76.8	77.5	Positive
Income	Beneficiary income, in dollars	\$8,516	\$7,297	\$8,027	Positive
Self-Rated Health	Self-rated health on a 1 (excellent)-5 (poor) scale	2.8	3.3	3.0	Positive
ADL Limitations	Number of activity of daily living (ADL) limitations, ranging from 0 to 6	0.56	1.14	0.77	Positive
			Percent		
White	Beneficiary codes racial category as White or Caucasian	78	60.6	77.6	Unknown
Married	Beneficiary currently married	42.9	19.2	42.6	Unknown
Female	Beneficiary is female	70.7	74.5	64.1	Unknown
Myocardial Infarction	Beneficiary reports having been told by a health care professional that s/he has had a myocardial infarction	15.4	19.2	11.3	Negative
Stroke	Beneficiary reports having been told by a health care professional that s/he has had a stroke	13.3	16.0	11.7	Negative
Cancer	Beneficiary reports having been told by a health care professional that s/he has had cancer	16.9	15.8	16.0	Negative
Diabetes	Beneficiary reports having been told by a health care professional that s/he has diabetes	20.9	29.3	18.2	Negative
CHD	Beneficiary reports having been told by a health care professional that s/he has coronary heart disease (CHD)	14.2	16.0	12.3	Negative
Hardening of the Arteries	Beneficiary reports having been told by a health care professional that s/he has hardening of the arteries	9.4	16.6	9.4	Negative
SSI Eligibility	Beneficiary's State of residence automatically extends Medicaid coverage to SSI eligible Medicare beneficiaries	81.6	85.8	78.5	Positive
Medically Needy Program	Beneficiary's State of residence has lower income/asset thresholds to become eligible for Medicaid via high medical expenditures	76.7	69.3	72.6	Positive
Full QMB Reimbursement	Beneficiary's State of residence has full reimbursement for QMB cost sharing	28.4	37.9	28.6	Positive
SSI Supplements	Beneficiary's State of residence supplements SSI payments	52.9	40.8	32.9	Positive
Medicaid-100 Percent of FPL	Beneficiary's State of residence offers full Medicaid buy-in coverage up to 100 percent of the Federal poverty line (FPL)	21.2	22.0	23.4	Positive
MA Payment Rate	Beneficiary's county MA payment rate	\$536	\$497	\$447	Negative
Sample Size		331	818	895	—

NOTES: MA is Medicare Advantage. FFS is fee-for-Service. SSI is supplementary security income. QMB is qualified Medicare beneficiary.

SOURCE: Centers for Medicare & Medicaid Services: 2000 Medicare Current Beneficiary Survey.

[CHD], and hardening of the arteries), the highest in the MA group in one of the six (cancer) and lowest in the FFS-only group in all six. This result should be interpreted cautiously because this may reflect difficulties in access for the FFS-only group. For example, if someone in the FFS-only group has diabetes, but cannot afford to consult with a health professional, then the individual will self-report that they have not been told that they have diabetes. Of the five

State access programs, only extending Medicaid eligibility automatically to SSI eligible beneficiaries and providing full Medicaid benefits for QMB beneficiaries had notable effect on increasing the percentage of beneficiaries in the Medicaid Program. The mean MA payment was the highest for beneficiaries in MA plans.

Turning to the multivariate analysis in Table 2, we find that MA payment rate has the anticipated negative effect on enroll-

Table 2

Results from Multinomial Logit Analysis of Beneficiary Choice between Medicare Advantage (MA), Medicaid, and Fee-For-Service (FFS)-Only

Variable	Join Medicaid				Join FFS-only			
	Coefficient	Standard Error	t-Statistic	p-Value	Coefficient	Standard Error	t-Statistic	p-Value
MA Payment Rate	-0.0048	0.00080	-5.959	0.000	-0.0117	0.00088	-13.243	0.000
Age	-0.0226	0.00961	-2.354	0.01	0.0076	0.00945	0.804	0.421
Income	0.00004	0.00006	-0.748	0.454	0.0000	0.00005	-0.821	0.412
White	-0.7825	0.16816	-4.653	0.000	-0.1371	0.17429	-0.787	0.431
Married	-1.2483	0.22168	-5.631	0.000	-0.1475	0.21064	-0.700	0.484
Female	-0.2971	0.17174	-1.730	0.084	-0.3994	0.16465	-2.426	0.015
Self-Rated Health	0.2786	0.07032	3.963	0.000	0.1551	0.06887	2.252	0.024
ADL Limitations	0.2152	0.06177	3.484	0.001	0.1015	0.06298	1.612	0.107
Myocardial Infarction	-0.0363	0.20846	-0.174	0.862	-0.3297	0.21150	-1.559	0.119
Stroke	-0.2992	0.21544	-1.389	0.165	-0.3804	0.21636	-1.758	0.079
Cancer	-0.3560	0.19335	-1.841	0.066	-0.1629	0.18818	-0.866	0.387
Diabetes	0.1912	0.17470	1.094	0.270	-0.2457	0.17849	-1.377	0.169
Coronary Heart Disease	0.0001	0.22109	0.000	1.000	-0.1401	0.22194	-0.631	0.528
Hardening of the Arteries	0.4573	0.23803	1.921	0.055	-0.0502	0.24423	-0.206	0.837
SSI Eligibility	0.5251	0.20084	2.614	0.009	0.2119	0.18736	1.131	0.258
Medically Needy Program	0.1806	0.18621	0.970	0.332	0.5091	0.17855	2.851	0.004
Full QMB Reimbursement	0.9092	0.19811	4.589	0.000	0.7315	0.19430	3.765	0.000
SSI Supplements	-0.5618	0.19318	-2.908	0.00	-0.6978	0.18659	-3.740	0.000
Medicaid-100 Percent of FPL	0.1652	0.20146	0.820	0.412	0.2267	0.19319	1.174	0.241
QMB Eligible	0.7380	0.29459	2.505	0.010	-0.0845	0.29407	-0.287	0.774
SLMB Eligible	-0.6010	0.39654	-1.516	0.100	-0.0916	0.38763	-0.236	0.813
Constant	4.8282	0.93079	5.187	0.000	6.1578	0.92437	6.662	0.000

NOTES: N=2,044. ADL is activity of daily living. SSI is Supplementary Security Income. FPL is Federal poverty level. QMB is qualified Medicare beneficiary. SLMB is specified low-income Medicare beneficiary.

SOURCE: Centers for Medicare & Medicaid Services: 2000 Medicare Current Beneficiary Survey.

ment in Medicaid or being in the FFS-only group. Higher MA premiums decrease the probability that Medicare beneficiaries join Medicaid ($\beta=-0.0048, p<0.001$) or are in the FFS without Medicaid ($\beta=-0.0117, p<0.0001$). Higher MA payments draw Medicare beneficiaries into MA plans from both groups, although the estimated coefficients indicate that the effect is larger for the FFS-only group. A \$10 increase in MA payment rate reduces the probability of dual enrollment by about 4 percentage points, and the probability of FFS-only enrollment by about 11 percentage points.

Among the sociodemographic and health status variables, the MA enrollees and FFS-only group are largely equivalent, with no differences statistically significant at the 0.01 level, and only self-rated health ($\beta=0.155, p=0.024$) and female ($\beta=-0.399,$

$p=0.015$) significant at the 0.05 level. However, the Medicaid group was different from the MA group, and was less likely to be White ($\beta=-0.78, p<0.001$) and less likely to be married ($\beta=-1.25, p<0.001$). In addition, Medicaid enrollees were less healthy as measured by both self-rated health ($\beta=0.279, p<0.001$) and ADL limitations ($\beta=0.215, p=0.001$). QMBs were more likely to be in Medicaid, relative to MA plans ($\beta=-0.738, p<0.012$). However, SLMB status had no effect on plan choice.

The State-level Medicaid Program that had the largest and most statistically significant effect on Medicaid enrollment was providing full QMB reimbursement ($\beta=0.909, p<0.001$). However, this program had a similar effect on FFS-only enrollment ($\beta=0.732, p<0.001$), which is unexpected. The only other State program which had a

Table 3
Adjusted Average Per Capita Cost Coefficient from Multinomial Choice Model Stratified, by Medicaid Status

Medicaid Status	Join Medicaid		Join FFS-Only		Sample Size
	Coefficient	p-Value	Coefficient	p-Value	
Full Medicaid Eligibility	-0.00243	0.1823	-0.01292	<0.0001	500
QMB	-0.00646	<0.0000	-0.01167	<0.0001	830
SLMB	-0.00656	<0.0001	-0.01196	<0.0001	714

NOTES: FFS is fee-for-service. QMB is qualified Medicare beneficiary. SLMB is specified low-income Medicare beneficiary.

SOURCE: Centers for Medicare & Medicaid Services: 2000 Medicare Current Beneficiary Survey.

statistically significant effect was providing SSI supplements ($\beta=-0.562$, $p=0.004$ for Medicaid and $\beta=-0.6978$, $p<0.001$), which increased MA enrollment.

Table 3 presents the same models, stratified by Medicaid eligibility status: full dual eligible, QMB, and SLMB. This table shows that among full dual eligible beneficiaries, higher AAPCC payments make it more likely the beneficiary will join a MA plan relative to FFS-only, but the higher payments have no effect on Medicaid enrollment. However, for both QMBs and SLMBs, higher AAPCC payment rates draw beneficiaries from both the Medicaid and the FFS-only groups, with the coefficients being uniformly higher for the FFS-only group. This suggests that when higher payment rates draw low income beneficiaries into MA plans, the bulk of the new enrollees are drawn from the FFS-only sector, rather than from Medicaid FFS programs.

CONCLUSIONS

The research question asked by this article is whether higher MA payments increase enrollment in MA plans from low-income, aged Medicare beneficiaries. We find that increased payments do lead to increased enrollment, with the new enrollees being drawn from both Medicaid enrollees and beneficiaries in FFS Medicare only. One important limitation to our study is that we do not have asset information

and are using self-reported income data, which tends to understate actual income. However, as long as the underreporting of income is uncorrelated with the independent variables, the coefficients will be biased toward zero, creating a conservative bias to our estimates. We also did not model the choice to be in multiple categories (i.e., MA and dually eligible) due to insufficient sample size.

From the State's perspective, dual enrollment in Medicaid and Medicare increases the extent of covered services for low-income residents, though effects on access often are unclear. It is virtually certain, however, that the State's health care costs increase for dually enrolled beneficiaries. Medicaid is one of the most important budget items for most States, and thus, controlling the cost of Medicaid is a priority for most State governments.

In States with high MA payment rates, some of the dually eligible will forego dual enrollment and join an MA plan. This saves their State its share of the cost of Medicaid-only services, as well as the cost of buying the beneficiary into Medicare. Some States cover the out-of-pocket premiums and cost sharing for low-income beneficiaries not eligible for Medicaid, but these costs are low compared to the cost of covering services such as outpatient prescription drugs.

One of the key motivations for the various MA payment reforms has been the perceived geographic payment inequities. It

has been noted widely that beneficiaries in high-payment areas have health plan options available that are superior to beneficiaries in low-payment areas. But in addition to having better MA plan options, taxpayers in high payment areas also enjoy lower State taxes associated with reduced rates of dual enrollment (holding other State-specific features of their Medicaid Programs constant). Thus, Medicare beneficiaries and taxpayers in areas with high MA payments receive two separate types of benefits. Residents of counties with low MA payments face the opposite effect.

Under the 2003 MMA, payments to MA plans were set at 100 percent of average cost of FFS Medicare patients in the county. These higher payments rates presumably will increase the generosity of benefits offered by MA plans, particularly in higher payment counties and provide some marginal relief to State budgets as dually eligible beneficiaries choose enrollment in MA plans over dual enrollment in Medicare and Medicaid.

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