



Estimating Current-Law Health Care Spending of Medicare Advantage Enrollees for Use in Microsimulation Modeling of Medicare Policies

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Microsimulation modeling of Medicare policy reforms requires estimates of spending for all Medicare enrollees, but quality spending data for Medicare Advantage (MA) enrollees are not generally available. MA is a large and growing part of the Medicare program, however, having accounted for 34 percent of Medicare program spending in 2019. In this methods brief, we describe our approach to estimating county-level MA program spending and spending by MA enrollees using plan- and county-level data from the Centers for Medicare & Medicaid Services. We generate our estimates in MCARE-SIM, the Urban Institute's microsimulation model for estimating the effects of Medicare policy reforms. These estimates can be used as inputs for analyses of changes in Medicare policy.

Introduction

As noted, MA is a significant part of the Medicare program. In 2019, 22.7 million Medicare beneficiaries were enrolled in MA, representing about 37 percent of all Medicare beneficiaries, up from 24 percent in 2010 (Medicare Trustees 2010, 2020). Medicare beneficiaries have been able to receive covered benefits through private health plans since the 1970s, but enrollment in such plans generally remained lower than 20 percent of all Medicare beneficiaries through 2007.¹ The Medicare Modernization Act of 2003 increased payments to MA plans, expanding access to such plans and leading to a steady increase in enrollment over the past two decades. The Congressional Budget Office projects continued growth in MA, estimating 47 percent of enrollees will opt for private plans

by 2029. Medicare spending for MA plans is also considerable; as noted, MA represented 34 percent of Medicare spending in 2019, or \$274 billion (Medicare Trustees 2020).²

Given the importance of the MA program to both Medicare enrollment and spending, simulations of Medicare policy options must account for this component of the program. Policymakers want to know the impact of proposed Medicare policy alternatives on different types of Medicare beneficiaries, including beneficiaries who are enrolled in MA plans. Policy proposals that would change covered benefits, cost-sharing obligations, or eligibility may affect beneficiaries' utilization, program spending, and out-of-pocket spending. To provide useful analyses to policymakers addressing such issues, researchers develop microsimulation models that incorporate detailed individual-level data on demographics, utilization, and spending. These data serve as a baseline to describe the impact of the policy. Microsimulation models also incorporate factors drawn from the economics literature that model individual beneficiaries' responses to changes in their benefits. To accurately model behavioral responses, factors must be applied to baseline data that have been adjusted for the differences in benefits across the two Medicare programs, fee-for-service Medicare (FFS) and MA.

However, creating baseline spending for MA enrollees at the beneficiary level is difficult because of data limitations and differences in covered benefits between FFS and MA. A key first step toward producing individual-level estimates in MCARE-SIM is producing county-level estimates of spending for MA enrollees that (1) reflect what is known about MA enrollment, spending, and risks across counties and (2) are adjusted to account for differences in covered benefits. In this methods brief, we describe our approach to estimating county-level spending on MA enrollees, both spending by the Medicare program and enrollees' out-of-pocket spending. The county-level estimates may then be used as inputs for other analyses. For example, we have produced estimates of how spending on Medicare enrollees would change under alternative single-payer policies (Blumberg et al. 2019) and estimates of individual-level spending amounts for MA enrollees.

Background on Differences between FFS and MA

Unlike with the FFS program, where Medicare pays for every service separately, Medicare pays private MA plans a monthly capitated rate based on costs for services under FFS Medicare.³ This explains the main limitation on data from MA plans; Medicare is unable to provide researchers with detailed utilization and cost data for MA enrollees because they do not collect that information from MA plans.

MA payment rates are established differently for local plans, including health maintenance organizations, or HMOs, preferred provider organizations, or PPOs, private fee-for-service plans, special needs plans, and regional PPOs. For local MA plans, Medicare sets county-level benchmarks that serve as bidding targets for MA plans.⁴ The benchmarks are based on average county-level FFS spending per beneficiary, adjusted for the health risk of the population. MA plans' benchmarks also vary based on their quality star rating, an aggregate quality measure of each plan's health and drug services based on both clinical factors and patient satisfaction. A plan's bid reflects expected insured

costs for covered services under Medicare Parts A and B for an average-risk beneficiary plus an administrative load. If a plan's bid is above the benchmark, plans receive the benchmark rate and enrollees pay the difference between the benchmark and bid as a premium. If standard bids are below the benchmark, plans receive their bids (the base rates) plus a fixed percentage of the difference (the rebate), which varies depending on the plan's quality star rating. Those rebates can be used to provide enrollees with supplemental benefits not covered by traditional Medicare (e.g., dental, vision, and hearing benefits) or reduce their cost sharing and premiums. All payments to plans are adjusted for the average risk score of the plans' enrollees.

Another major difference between the MA and FFS programs that matters for policy simulation is that MA beneficiaries can have additional covered benefits and different cost sharing than FFS beneficiaries. MA plans are required to cover all services covered under Parts A and B, but may also cover additional benefits such as dental, vision, or fitness memberships. In 2019, many MA enrollees had access to these supplemental benefits through their plans: 78 percent had vision coverage, 72 percent had fitness benefits, and 67 percent had dental benefits.⁵ Plans may also modify the cost-sharing requirements of Parts A and B services but may not impose cost sharing that is, in aggregate, greater than traditional Medicare. Unlike FFS Medicare, MA plans also have annual limits on out-of-pocket health care expenditures. These extra benefits and differential cost-sharing requirements affect baseline spending for MA enrollees. We would expect lower cost sharing and additional benefits to increase utilization and associated costs of MA enrollees relative to such costs for FFS Medicare enrollees, holding all other factors constant. On the other hand, MA plans have more limited provider networks and utilization management that could reduce baseline utilization and spending relative to FFS Medicare. To account for these differences when simulating policy options, we estimate what baseline spending would be for MA enrollees if they had traditional FFS benefits instead.

Yet another difference between MA and FFS Medicare is the network of providers beneficiaries can access. More than 90 percent of hospitals and physicians accept Medicare payment for beneficiaries enrolled in FFS Medicare (Bishop, Federman, and Keyhani 2011),⁶ and FFS beneficiaries can receive services from any provider accepting Medicare. MA beneficiaries, however, have a limited network of providers in exchange for lower premiums and, in some cases, extra benefits. We do not explicitly model any cost savings from MA provider network restrictions. As we discuss in the conclusion, we interpret the residual differences in spending after all other adjustments to partly measure those effects.

Estimation Approach

Data. The Medicare Current Beneficiary Survey (MCBS) is the primary data source for detailed utilization and spending information linked to demographic data for individual enrollees in FFS Medicare within MCARE-SIM. The MCBS also includes data on utilization and spending for MA beneficiaries, but these estimates are not of comparable quality as those for FFS enrollees, and they are not linked to actual claims.⁷ Because of these shortcomings, we use another dataset to derive estimates of MA spending.

To estimate current-law, county-level MA spending, we use publicly available data sources from the Centers for Medicare & Medicaid Services (CMS) at the plan, contract, and county levels for 2015.⁸ These plan-level data (Part C Plan Payment Data, 2015) include contract numbers, plan benefit packages, plan names, plan types (e.g., HMO, local PPO, regional PPO, private fee-for-service), enrollees' average risk scores, average per beneficiary per month payments for Parts A and B, and average rebate payment per beneficiary per month. This dataset includes monthly enrollment by contract, plan, county, and state. We merge this with information from CMS describing plan- and contract-level enrollment by county.

The contract-level file, the MA Plan Directory, includes contract and plan IDs, plan types, whether a plan is a special needs plan or employer group health plan, whether a plan offers Part D coverage, and identifying information like plan name, organization name and type sponsoring the plan, and any parent organizations. A separate CMS file provides contract-level star ratings for MA plans for Parts A, B, and D services. CMS produces a file describing MA benchmarks in each county for five-, three-and-a-half-, half-, and zero-star MA plans.⁹ We combine a contract's star rating with county-level benchmarks by star rating to determine the appropriate MA benchmark for each contract in each county. Hereafter, we refer to these CMS MA data files collectively as MA administrative data.

Methods. We merge the contract-level file to the plan-level file by plan and contract ID. We then aggregate the contract- and plan-level data to the county level, weighting by plan enrollment. This creates a file with MA data at the county level with weighted average benchmarks, risk score, and per beneficiary per month total payments and rebates.” As a final step, we merge this file with county-level CMS data on enrollment in MA and FFS Medicare, average FFS risk scores, and average FFS spending.

The variables in this file are the inputs into the process we developed to estimate county-level MA spending. Table 1 presents summary statistics of these variables from the 2015 CMS MA administrative data. From the plan-level dataset, we present MA enrollment, risk-standardized per beneficiary per month payments and rebates, risk-standardized average per beneficiary per month FFS spending, and average MA and FFS Medicare risk scores. Risk scores are important for estimating total costs at the county level. Using risk-standardized spending, which represents spending for a Medicare beneficiary with average health risk, eliminates differences in expected medical costs, based on health and demographic risks, that could exist between FFS Medicare and MA beneficiaries and across counties. Using per beneficiary spending nets out differences in county size or MA enrollment that would also affect total spending estimates. From the MA penetration dataset, we present MA enrollment, FFS enrollment, total enrollment, and the share of Medicare beneficiaries enrolled in MA in table 1.

TABLE 1

County-Level Summary Statistics of Medicare Advantage Enrollment, Payments per Beneficiary per Month, and Rebate Payments, 2015

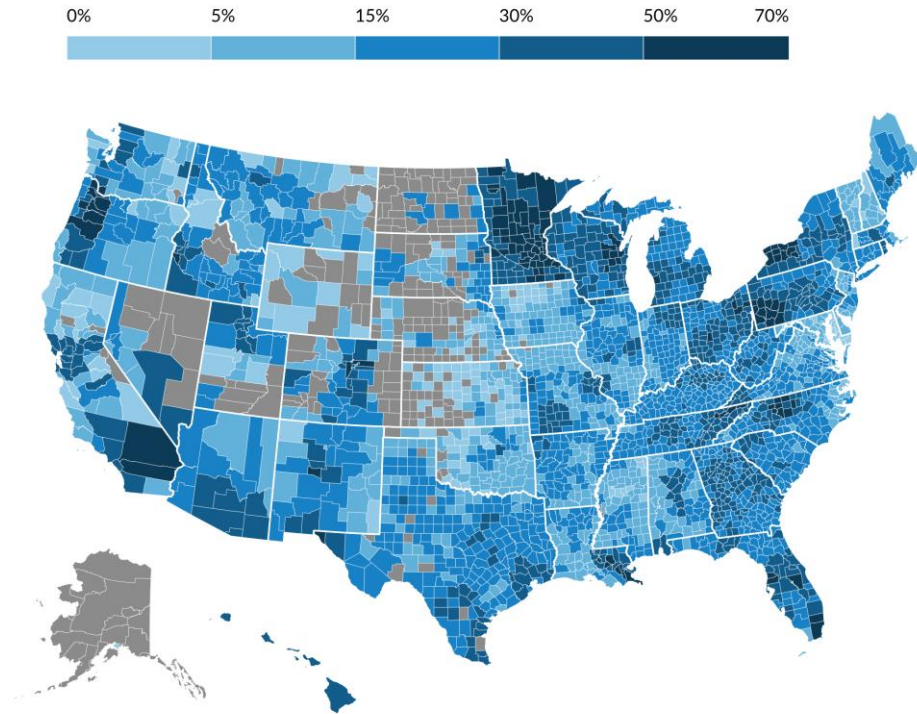
	County-level average	10th percentile	Median	90th percentile	National total	National per enrollee average
Plan characteristics						
MA enrollment	5,592	119	1,133	11,155	16,559,086	—
PBPM total payment	\$710	\$663	\$719	\$796	\$11,590,000,000	\$700
Rebate payment	\$29	\$4.87	\$23	\$62.4	\$1,016,000,000	\$61
FFS spending PBPM	\$737	\$646	\$726	\$881	\$29,350,000,000	\$765
MA risk score	1.04	0.85	1.02	1.34	—	1.21
FFS risk score	0.96	0.87	0.97	1.05	—	1.00
CMS MA penetration data						
Total county MA enrollment	5,549	112	1,084	11,119	15,998,837	—
Total FFS enrollment	13,310	1340	4845	28,929	38,371,413	—
Total enrollment (FFS + MA)	18,859	1575	6160	40,138	54,370,250	—
Total MA penetration	23.3%	7.3%	21.5%	42.3%	—	38%

Source: Urban Institute analysis of Centers for Medicare & Medicaid Services 2015 Medicare Advantage administrative data.

Notes: MA is Medicare Advantage. PBPM is per beneficiary per month. FFS is fee-for-service. CMS is Centers for Medicare & Medicaid Services. Dashes indicate national totals do not apply. National per enrollee averages of MA and FFS measures are weighted by their respective county-level enrollments. National MA penetration is weighted by total Medicare enrollment.

Figure 1 shows the geographic distribution of MA penetration by county. In 2015, the average penetration rate for a county was 23.3 percent nationwide, ranging from 0.5 percent in Anchorage, Alaska, to 66.1 percent in Red Lake County, Minnesota. Several counties (260) reported no MA enrollment and thus have no data in the county- or contract-level files from CMS (shaded gray). Some areas of particularly high MA penetration include Minnesota; western New York and Pennsylvania; Raleigh-Durham, North Carolina; central and southern Florida; Portland, Oregon; and New Orleans, Louisiana.

FIGURE 1
Medicare Advantage Penetration, by County, 2015



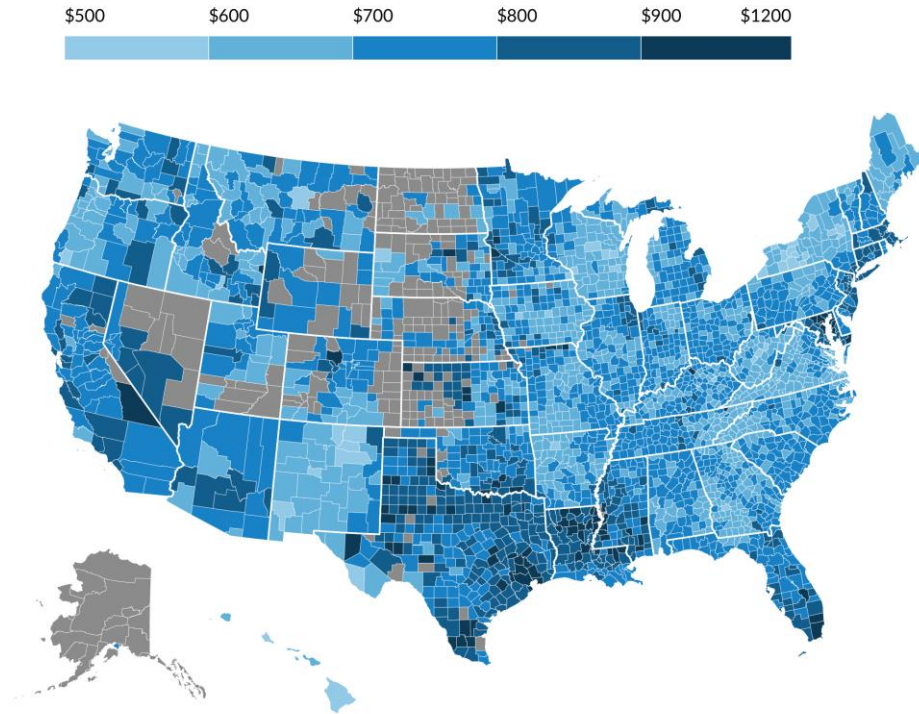
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Source: Urban Institute analysis of Centers for Medicare & Medicaid Services Medicare Advantage plan data.

In figure 2, we map average risk-standardized per beneficiary per month FFS Medicare spending at the county level, which is used to set benchmarks for MA plan payments. Average per beneficiary per month spending in FFS Medicare was \$765 in 2015, ranging from \$551 in Tompkins County, New York, to \$1,161 in Miami-Dade County, Florida. Particularly high FFS spending levels can be seen in counties in southern Florida, Louisiana, Maryland, and Texas.

FIGURE 2

Average Fee-for-Service Medicare Spending per Beneficiary per Month for a 1.0 Risk Score, by County, 2015



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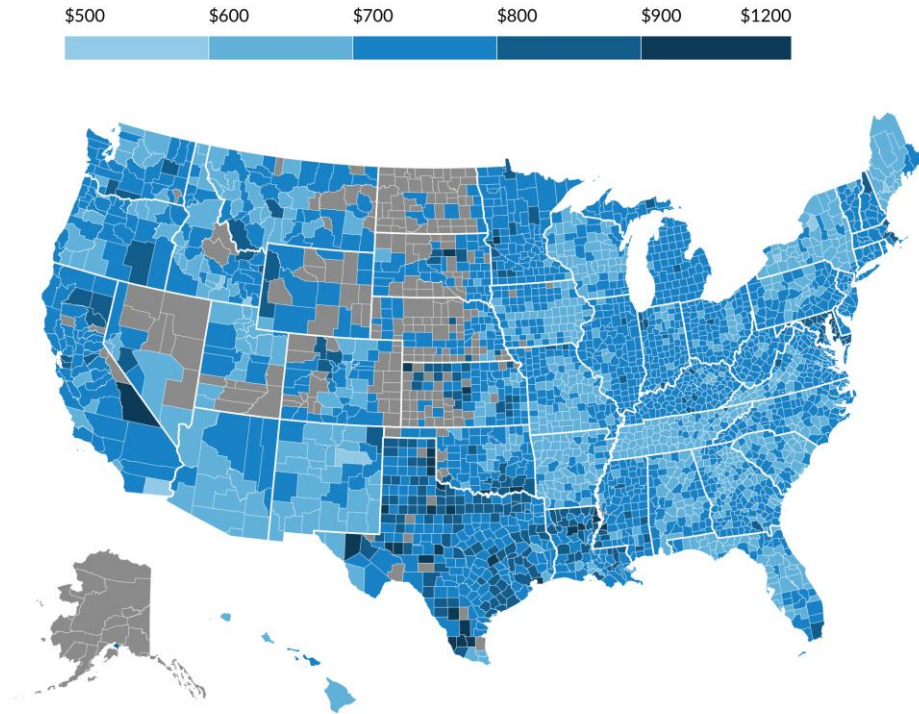
Source: Urban Institute analysis of Centers for Medicare & Medicaid Services Medicare Advantage plan data.

Figure 3 displays the average county-level MA payment per beneficiary per month in 2015. The national average payment amount was \$700, ranging from \$575 in Wyoming County, New York, to \$1,120 in Collingsworth County, Texas.

With this data file, we developed a process to compute current spending by county for MA beneficiaries. We visually depict the process in the next section. The method below computes spending for an average-risk beneficiary (standardized risk score of 1.0).

FIGURE 3

Average Medicare Advantage Payment per Beneficiary per Month for a 1.0 Risk Score, by County, 2015



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Source: Urban Institute analysis of Centers for Medicare & Medicaid Services Medicare Advantage plan data.

Graphical Representation of Process

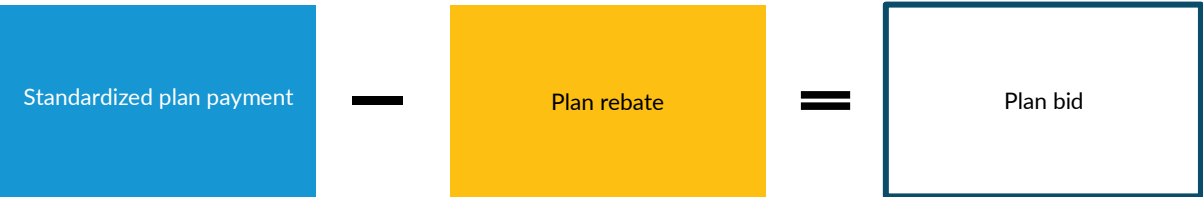
In this section, we illustrate our estimation approach. In the illustrated steps, parameters observed in the administrative data appear in solid-colored boxes, and estimated parameters appear in outlined boxes.

For modeling purposes, we seek to estimate total, Medicare program, and beneficiary (out-of-pocket) spending of MA beneficiaries for services covered under Medicare Parts A and B. Using values observed in CMS MA administrative data for standardized plan payments, standardized plan rebates, and average plan risk scores, we estimate five parameters: plan bids for beneficiaries with a risk score of 1.0, insured costs for Parts A and B services (accounting for administrative load), beneficiary out-of-pocket liability, beneficiary out-of-pocket spending (accounting for cost-sharing buy-downs with plan rebates), and total costs.

The first step in the process is deriving the plan bid amount. Plans submit risk-standardized bids to cover their expected costs of providing the traditional Medicare Parts A and B benefits package, with

its average actuarial value services under Parts A and B plus administrative load, relative to a county benchmark. For bids below the benchmark, plans can keep a portion of the difference, the rebate (shown in yellow), to use on supplemental benefits and reductions in beneficiary out-of-pocket obligations. The CMS payment to plans (shown in blue) in the dataset includes the total plan payment and any rebate. To derive the bid (outlined box), we subtract the rebate from the total plan payment.

Step 1: Derive Average Plan Bid Amount



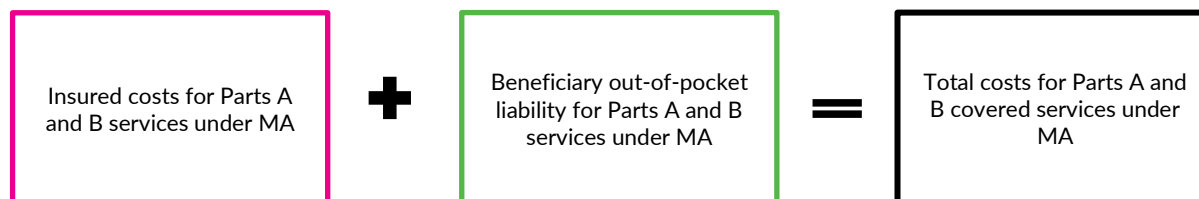
Once we derive the plan bid amount, we next determine the insured cost for services covered under Parts A and B. The plan bids include an amount to cover administrative costs and profit or margin, called the “load.” We assume the load is 15 percent of the plan bid, on average, and the remaining 85 percent represents the plan’s expected costs to cover insured services under Parts A and B (shown in pink).

Step 2: Determine Insured Cost



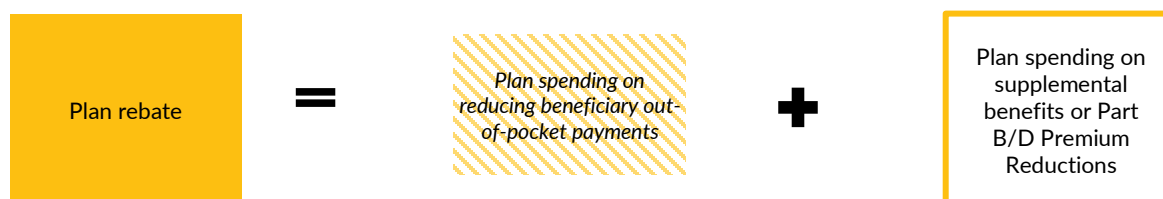
In step 3, once we have derived the insured costs for services, we estimate total spending and beneficiary out-of-pocket liability (shown in green outline). We assume traditional Medicare has an actuarial value of 84 percent, meaning Medicare covers 84 percent of total costs for services covered under Parts A and B, and the beneficiary is responsible for the remaining 16 percent (Mike, Friedman, and Yilmaz 2019). Actuarial value of MA plans cannot be lower than that for FFS Medicare. Initially estimating MA actuarial value at 84 percent, we divide the insured cost by 0.84 to estimate the total spending under MA for services covered under Parts A and B; beneficiary liability is the difference between the total and insured spending.

Step 3: Estimate Total Costs and Beneficiary Cost-Sharing Liability for Parts A and B Covered Services under Medicare Advantage



In MA, beneficiary out-of-pocket liability differs from the amount beneficiaries actually spend out of pocket on covered services, because MA plan rebates may be used to reduce beneficiary cost sharing. To account for this difference, we assume plans use 25 percent of their rebates on cost-sharing reductions.

Step 4: Determine Rebate Amount Applied to Reducing Out-of-Pocket Liability



We subtract this amount from the beneficiary out-of-pocket liability to estimate actual beneficiary out-of-pocket spending. Plans with bids at or above the county benchmark receive the benchmark payment, and these plans receive no rebate payments and therefore provide no cost-sharing reductions for enrollees. At the end of this step, we have derived total spending, insured spending, and beneficiary out-of-pocket spending per beneficiary per month for an average-risk MA beneficiary for a set of services equal to those covered under traditional Medicare Parts A and B.

Step 5: Account for Use of Plan Rebates to Buy-Down MA Beneficiary Cost Sharing



The calculations thus far have created per beneficiary per month estimates for a beneficiary of average risk at the county level. To account for actual health risk of MA beneficiaries by county, we multiply a county's average MA risk score by the insured costs, actual beneficiary out-of-pocket spending, and total costs. This generates county-level estimates of spending per average-risk enrollee that incorporate insured spending, out-of-pocket spending, and total spending on services covered under Medicare Parts A and B, as well as plan spending on supplemental services. As noted in table 1,

the average county MA risk score is 1.04, which emphasizes the importance of accounting for risk in creating baseline spending estimates for MA from the standardized payment amounts.

At the end of the process, we have (1) estimates for key measures of county-level spending per MA enrollee that reflect the services covered under Medicare Parts A and B and (2) a separate estimate of spending on supplemental services. See box 1 for an example of the computation process applied to Middlesex County, Massachusetts.

In table 2, we show summary statistics for these measures across counties and at the national level in 2015. Having established spending levels under MA for services and risk equal to those in traditional Medicare, we can directly compare spending amounts between the two Medicare components. Overall, we estimate comparable Medicare program spending under MA is 87 percent of what it would be under FFS in a typical county, and beneficiaries pay about 67 percent of the out-of-pocket amount they would pay under FFS (with the caveat that a risk score of 1.0 may not mean the same thing in MA as in FFS Medicare, given its coding intensity). Nationally, we find plan spending on services covered under Medicare Parts A and B was about \$10.4 billion per month in 2015; we estimate a plan's rebate spending on supplemental services not covered under Parts A and B was \$796 million per month.

TABLE 2
National Risk-Standardized Summary Statistics of Calculated Variables for Medicare Advantage Beneficiaries, 2015

	County-level average	10th percentile	Median	90th percentile	National total in billions	National per enrollee average
Plan bid	\$698	\$584	\$663	\$742	\$11.4	\$663
Plan spending on Parts A and B services	\$636	\$561	\$634	\$709	\$10.4	\$603
Beneficiary OOP for Parts A and B services	\$121	\$107	\$121	\$135	\$1.97	\$115
Total spending on Parts A and B services	\$757	\$668	\$755	\$885	\$10.7	718
Plan spending on supplemental services PBPM	\$22	\$4.1	\$18	\$47	\$0.8	\$46
Ratio of MA to FFS spending						
Plan spending for Parts A and B	0.867	0.761	0.873	0.968	—	0.79

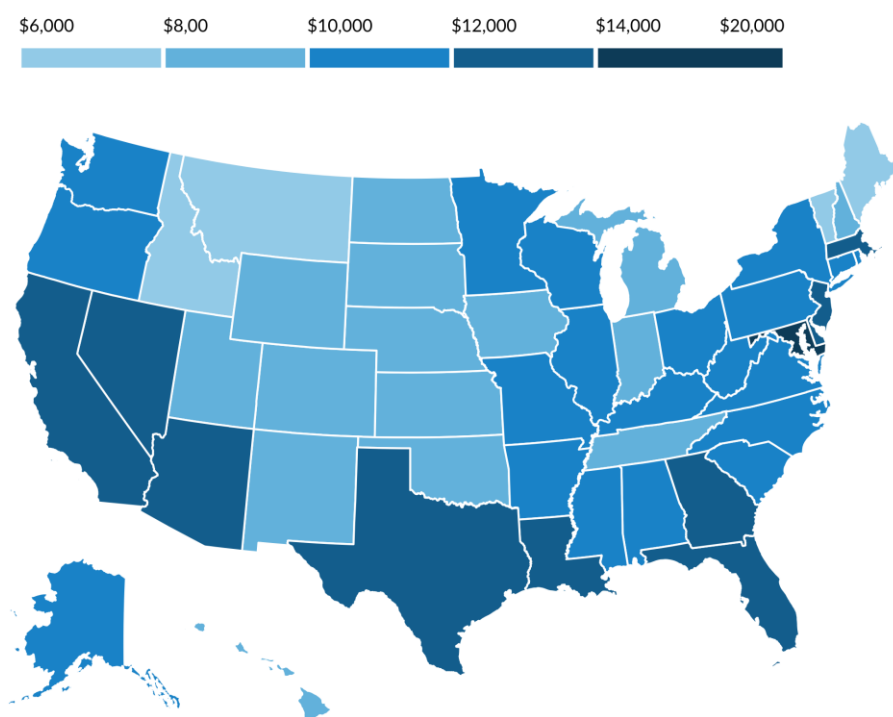
Source: Urban Institute MCARE-SIM model, using Centers for Medicare & Medicaid Services Medicare Advantage administrative data.

Notes: OOP is out-of-pocket spending. MA is Medicare Advantage. FFS is fee-for-service. PBPM is per beneficiary per month. Dashes indicate national totals do not apply to ratios. Ratios assume a uniform FFS actuarial value of 84 percent across counties.

In figure 4, we present state-level estimates of total annual spending in 2015 per MA beneficiary. In 4 states (Idaho, Maine, Montana, and Vermont), risk-standardized annual total spending was less than \$8,000 per beneficiary. In 10 states (Arizona, California, Georgia, Florida, Louisiana, Maryland, Massachusetts, Nevada, New Jersey, and Texas), such spending exceeded \$12,000 per MA enrollee.

FIGURE 4

Risk-Standardized Average Annual Total Spending on Covered Services per Medicare Advantage Enrollee, 2015



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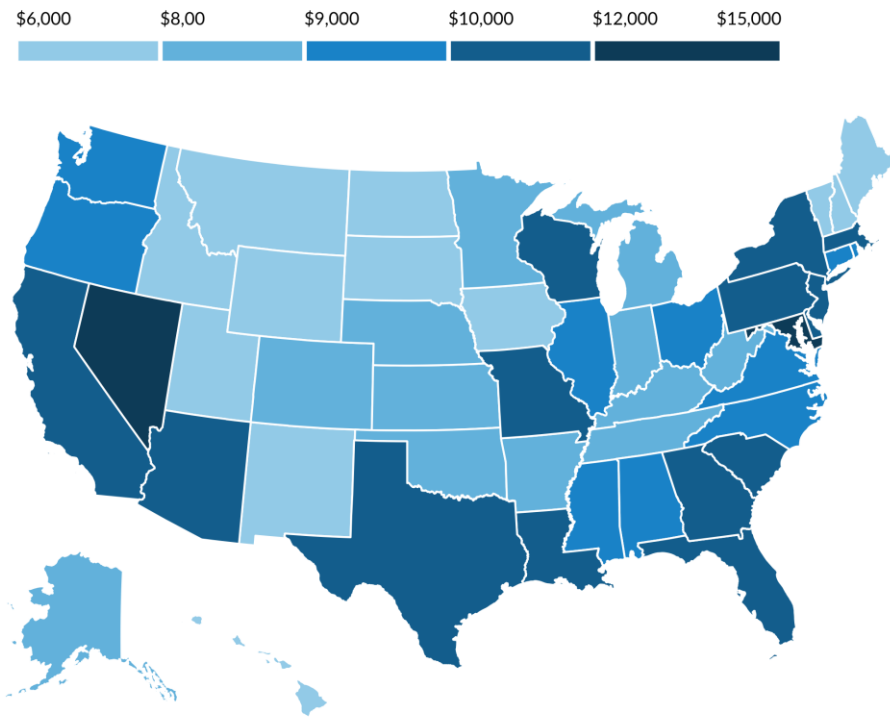
Source: Urban Institute MCARE-SIM model, using Centers for Medicare & Medicaid Services Medicare Advantage administrative data.

Note: Spending levels are adjusted to account for county-level average risk scores of Medicare Advantage enrollees.

Figure 5 shows the estimated average annual insured costs MA plans paid for services covered under Medicare Parts A and B in 2015. Such spending was lower in the upper Midwest and central US and higher along the coasts and in the South.

FIGURE 5

Risk-Standardized Average Annual Insured Spending per Medicare Advantage Enrollee, 2015



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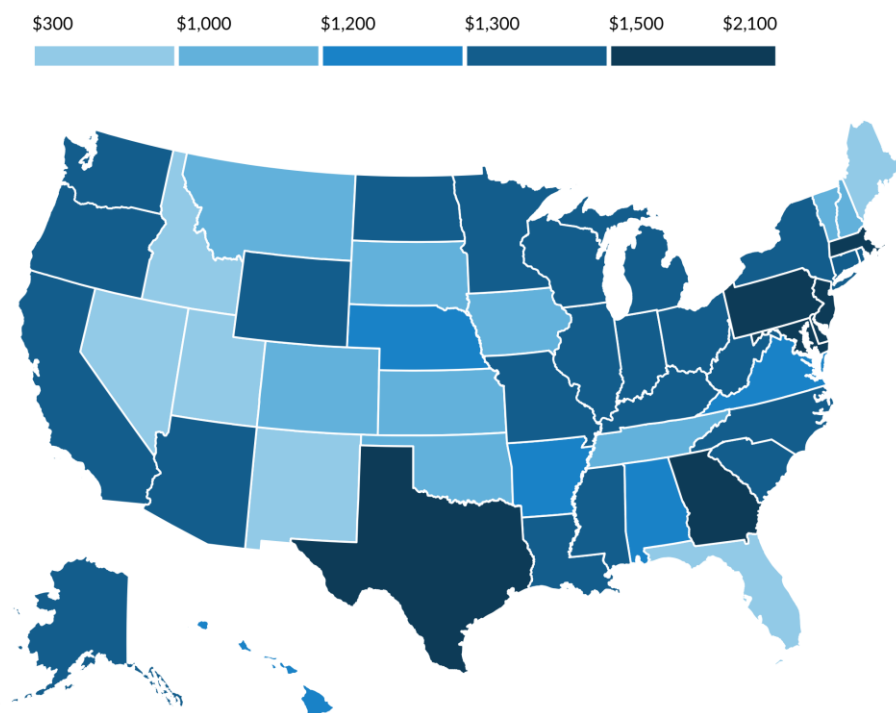
Source: Urban Institute MCARE-SIM model, using Centers for Medicare & Medicaid Services Medicare Advantage administrative data.

Note: Spending levels are adjusted to account for county-level average risk scores of Medicare Advantage enrollees.

Figure 6 similarly shows state-level average beneficiary out-of-pocket spending for MA enrollees in 2015. Such spending ranged from \$331 in Nevada to \$2,071 in Maryland, with an average of \$1,313 across the US.

FIGURE 6

Risk-Standardized Average Annual Out-of-Pocket Spending by Medicare Advantage Enrollees, 2015



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Source: Urban Institute MCARE-SIM model, using Centers for Medicare & Medicaid Services Medicare Advantage administrative data.

Note: Spending levels are adjusted to account for county-level average risk scores of Medicare Advantage enrollees.

Conclusion

This methods brief describes how we generate county-level estimates of total, program, and beneficiary spending for MA enrollees, factoring out the supplemental benefits MA enrollees receive. We arrived at spending estimates for services comparable with those for services covered under FFS Medicare Parts A and B, and these estimates are useful for microsimulation of Medicare payment policies (e.g., modeling how much MA enrollees would cost in FFS Medicare or the reverse). The data we analyzed and process we undertook also shed light on the relationship between MA and FFS Medicare, which will continue to be important as MA grows as a share of the Medicare program. Separate estimates of the value of supplemental benefits allow us to estimate total current spending for MA enrollees.

Our analysis of Medicare administrative plan data shows the average county-level MA risk score was 1.04 in 2015, compared with 0.96 for FFS beneficiaries (table 1). Historically, before Medicare's current risk-adjustment approach and MA payment adjustments, MA enrollees had lower morbidity

and mortality rates than similar FFS beneficiaries (Riley and Zarabozo 2006). Shifting to the current risk-adjustment system has decreased favorable selection in MA plans, but plans also now have stronger incentives to code diagnoses relative to the incentives in FFS Medicare (a phenomenon called diagnostic coding intensity). Research has documented that risk scores have increased more rapidly for MA enrollees over time, particularly beneficiaries in HMO plans (Hayford and Burns 2018). HMOs constitute about two-thirds of MA enrollment in 2020.¹⁰ The Medicare Payment Advisory Commission estimates coding intensity is associated with risk scores for MA enrollees 8 percent higher than those for similar FFS enrollees (MedPAC 2020). This, in turn, adds about 2 to 3 percentage points to payments as a percentage of FFS Medicare spending.

A 2019 Henry J. Kaiser Family Foundation study compared prior-year traditional Medicare spending for beneficiaries who switched to MA with that for beneficiaries who remained in traditional Medicare (Jacobson, Neuman, and Damico 2019). Even after adjusting for health risk, those switching to MA spent \$1,253 less on average, or about 87 percent of total spending per beneficiary who remained. For comparison, we found average MA plan spending per beneficiary per month was 87 percent of such spending for FFS Medicare, after accounting for risk and differences in benefits. Though not exactly comparable, the Medicare Payment Advisory Commission noted that MA plan bids in 2020 averaged 88 percent of FFS spending, whereas risk-standardized per beneficiary plan payments equaled 100 percent of FFS spending on average. This is consistent with our finding that MA enrollees cost less on average than FFS enrollees with similar risk (table 2), but higher average risk scores and supplemental benefits yield payments to MA plans comparable with those for FFS Medicare.

A research brief prepared by health insurer UnitedHealth Group estimated premiums and out-of-pocket costs for MA enrollees were roughly 70 percent of such costs for FFS Medicare without supplemental coverage.¹¹ We estimate total annual spending for MA enrollees (including out-of-pocket payments) is about 76 percent of the spending for FFS beneficiaries for a similar set of services, holding risk score fixed.

We estimate out-of-pocket spending by MA enrollees is considerably lower than average spending by FFS Medicare beneficiaries. Accounting for the supplemental benefits MA enrollees may receive because of plan rebate payments, we find beneficiary out-of-pocket spending for MA enrollees was 67 percent of such spending for FFS Medicare beneficiaries on average in 2015. This is consistent with our expectation that MA enrollee cost sharing is lower because MA plans can reduce cost sharing for enrollees. This lower out-of-pocket cost sharing is appealing to beneficiaries, particularly as health care costs rise and economic conditions remain fragile after the pandemic. But it is partly afforded by higher federal spending.

BOX 1

Example: Computing County-Level Synthesized Medicare Advantage Data Using Actual Data for Middlesex County, Massachusetts

To compute synthesized MA data for Middlesex County, Massachusetts, we use the following plan-level data for the county:

Plan type	Average Part C (MA) risk score	Average PBPM risk standardized payment for Parts A and B	Average risk-standardized rebate PBPM payment	Enrollment
HMO	1.09	\$771.47	\$51.97	42,323
HMO	1.62	\$810.03	\$15.81	5,381
Local PPO	0.88	\$807.30	\$20.21	7,154
Local PPO	2.49	\$807.68	\$58.07	67
Regional PPO	0.95	\$807.67	\$7.60	603

Weighting by each plan's enrollment, we calculate average risk score, plan payment, and rebate for the county. This results in a single observation for the county.

Average Part C risk score	Average FFS risk score	Average PBPM payment for Parts A and B	Average rebate PBPM payment	Enrollment
1.12	1.06	\$780.26	\$43.90	55,528

From the plan payment and rebate amount, we calculate the average plan bid for the county by subtracting the rebate from the plan payment. The bid reflects the cost to the MA plan for providing Parts A and B services, including administrative costs and profit.

$$\text{average plan payment} - \text{average rebate payment} = \text{average bid}$$

$$\$780.26 - \$43.90 = \$736.36$$

To get an estimate for spending for insured medical costs, we factor out 15 percent of the bid amount for administrative load and assume 85 percent is the actual average plan spending on Parts A and B services.

$$\$736.36 \times 0.85 = \$625.91 \text{ plan spending on A and B services}$$

We then estimate beneficiary cost sharing, using an average actuarial value of 84 percent, to estimate total average spending on Parts A and B services for an MA enrollee with a 1.0 risk score in Middlesex County.

$$\$615.91 \div 0.84 = \$745.13 \text{ total average risk standardized PMPM spending on A and B services}$$

$$\$745.13 \text{ total spending} - \$625.91 \text{ plan spending} = \$119.22 \text{ beneficiary spending out of pocket}$$

To this county-level observation, we merge the MA penetration rate for the county from a county-level dataset including total Medicare eligibility and MA enrollment.

State	County	FIPS ^a	SSA ^b	Number of Medicare eligibles	Number of MA enrollees	MA penetration
Massachusetts	Middlesex	25017	22090	252,736	57,421	0.2272

We multiply the risk-standardized estimates of per beneficiary per month spending by the county's average MA risk (1.12). We then multiply the per beneficiary per month spending estimates by MA enrollment to create county-level spending totals that account for risk.^c

^a FIPS is Federal Information Processing Series county code.

^b SSA is Social Security Administration county code.

^c The county-level MA enrollment data may differ between the MA penetration data file and the total MA enrollment derived from the MA plan-level file. In our calculations, we assume the MA penetration data, which are typically larger, provide the correct enrollment estimate because the plan-level dataset may exclude some plans.

Notes

- 1 "Medicare Advantage," Henry J. Kaiser Family Foundation, June 6, 2019, <https://www.kff.org/medicare/fact-sheet/medicare-advantage/>.
- 2 See table IV.C2, Medicare Payments to Private Health Plans, by Trust Fund, in Medicare Trustees (2020). In 2019, total Medicare expenditures were \$796.2 billion (table II.B1). See [Changes to Medicare and Medicaid Programs for 2020 and 2021](#), 84 Fed. Reg. 15680 (Apr. 16, 2019).
- 3 For more information, see MedPAC (2018).
- 4 The formula for setting benchmarks in regional MA plans differs by accounting for average regional plan bids. Otherwise, regional MA plans' payments are largely similar to those for local MA plans.
- 5 "Medicare Advantage," Henry J. Kaiser Family Foundation.
- 6 As of 2020, 1,090 of about 950,000 physicians with active licenses filed opt-out affidavits with Medicare, with psychiatrists more likely to do so (Carroll 2019).
- 7 CMS has collected encounter data for MA enrollees since 2012 and released a separate data file with MA encounter data for the first time in 2018. These data are not linked to MCBS respondents. For additional information and technical considerations for using the dataset, see Mulcahy and colleagues (2019).
- 8 For more on MA penetration and plan- and county-level enrollment, see "Medicare Advantage/Part D Contract and Enrollment Data," Centers for Medicare & Medicaid Services, accessed December 21, 2020, <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAdvPartDENrolData/index.html>. For more on MA benchmarks, see "Ratebooks and Supporting Data," Centers for Medicare & Medicaid Services, accessed December 21, 2020, <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Ratebooks-and-SupportingData.html>. For more on contract-level data on star ratings, see "Part C and D Performance Data," Centers for Medicare & Medicaid Services, accessed December 21, 2020, <https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/PerformanceData>. For more on both MA and prescription drug plan premiums, see "2018 Medicare Advantage and Part D Prescription Drug Program Landscape," Centers for Medicare & Medicaid Services, September 29, 2017, <https://www.cms.gov/newsroom/fact-sheets/2018-medicare-advantage-and-part-d-prescription-drug-program-landscape>.
- 9 "Ratebooks and Supporting data," Centers for Medicare & Medicaid Services.
- 10 Commonwealth Fund analysis of CMS Monthly Contract and Summary Enrollment Reports, March 2009–2020, available from <https://www.commonwealthfund.org/publications/2020/oct/medicare-data-hub>.
- 11 UnitedHealth Group, "Beneficiaries in Medicare Advantage Receive Better Value and Spend 40% Less Than Beneficiaries in Medicare FFS," January 21, 2020, <https://www.unitedhealthgroup.com/viewer.html?file=/content/dam/UHG/PDF/2020/UHG-Medicare-Advantage-Cost-Savings.pdf>.

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