Do Medicare Advantage Plans Minimize Costs? Investigating the Relationship Between Benchmarks, Costs, and Rebates

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ABSTRACT

ISSUE: Medicare Advantage (MA), the program that allows people to receive their Medicare benefits through private health plans, uses a benchmark-and-bidding system to induce plans to provide benefits at lower costs. However, prior research suggests medical costs, profits, and other plan costs are not as low under this system as they might otherwise be.

GOAL: To examine how well the current system encourages MA plans to bid their lowest cost by examining the relationship between costs and bonuses (rebates) and the benchmarks Medicare uses in determining plan payments.

METHODS: Regression analysis using 2015 data for HMO and local PPO plans.

FINDINGS: Costs and rebates are higher for MA plans in areas with higher benchmarks, and plan costs vary less than benchmarks do. A one-dollar increase in benchmarks is associated with 32-cent-higher plan costs and a 52-cent-higher rebate, even when controlling for market and plan factors that can affect costs. This suggests the current benchmark-and-bidding system allows plans to bid higher than local input prices and other market conditions would seem to warrant.

CONCLUSION: To incentivize MA plans to maximize efficiency and minimize costs, Medicare could change the way benchmarks are set or used.

KEY TAKEAWAYS

▸ The Medicare Advantage (MA) program's benchmark-and-bidding system enables health plans to submit bids that are above their lowest possible costs, allowing insurers to be inefficient relative to what they would be in a truly competitive market.

▸ Across the U.S., every $1.00 increase in MA plan benchmarks is associated with plan costs that are $0.32 higher and rebates that are $0.52 higher, even when controlling for other factors that can affect costs.

▸ To incentivize plans to be more efficient, Medicare may need to change the way it sets benchmarks or even eliminate them from the bidding process altogether.

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BACKGROUND

The Medicare Advantage (MA) program offers beneficiaries the opportunity to enroll in a private health plan as an alternative to traditional Medicare. Premised on the notion that competition will induce insurers to provide Medicare benefits at lower costs, the MA program pays plans using a benchmark-and-bidding system. Under that system, Medicare establishes a maximum amount it will pay private plans to provide Medicare-covered benefits in a given county, based on traditional Medicare spending per beneficiary in that county. Each plan submits a bid that is intended to reflect its costs — including administrative expenses and profits — for providing covered benefits to potential enrollees in its geographic service area. Medicare pays the plan the lower of its bid or the corresponding county benchmark (or benchmarks).

Plans bidding below the benchmark also receive a bonus payment, called a rebate, which must be used to provide additional benefits to enrollees in those plans (Exhibit 1).[1] This mechanism is intended to reward plans that are relatively efficient.

A benchmark-and-bidding system for MA plans has been in place since 2006. Prior to the Affordable Care Act (ACA), however, it was widely believed that benchmarks were set too high.[2] In a perfectly competitive market, plans would always bid their lowest costs, regardless of the benchmark, in order to gain the highest rebate possible and fund extra benefits to attract more enrollees.

But research has suggested that the MA market is not perfectly competitive.[3] The benchmark system enabled plans to submit bids above their lowest possible costs, allowing plans to be inefficient relative to what they would

Exhibit 1. Medicare Advantage Plan Benchmarks, Costs, and Rebates, 2015
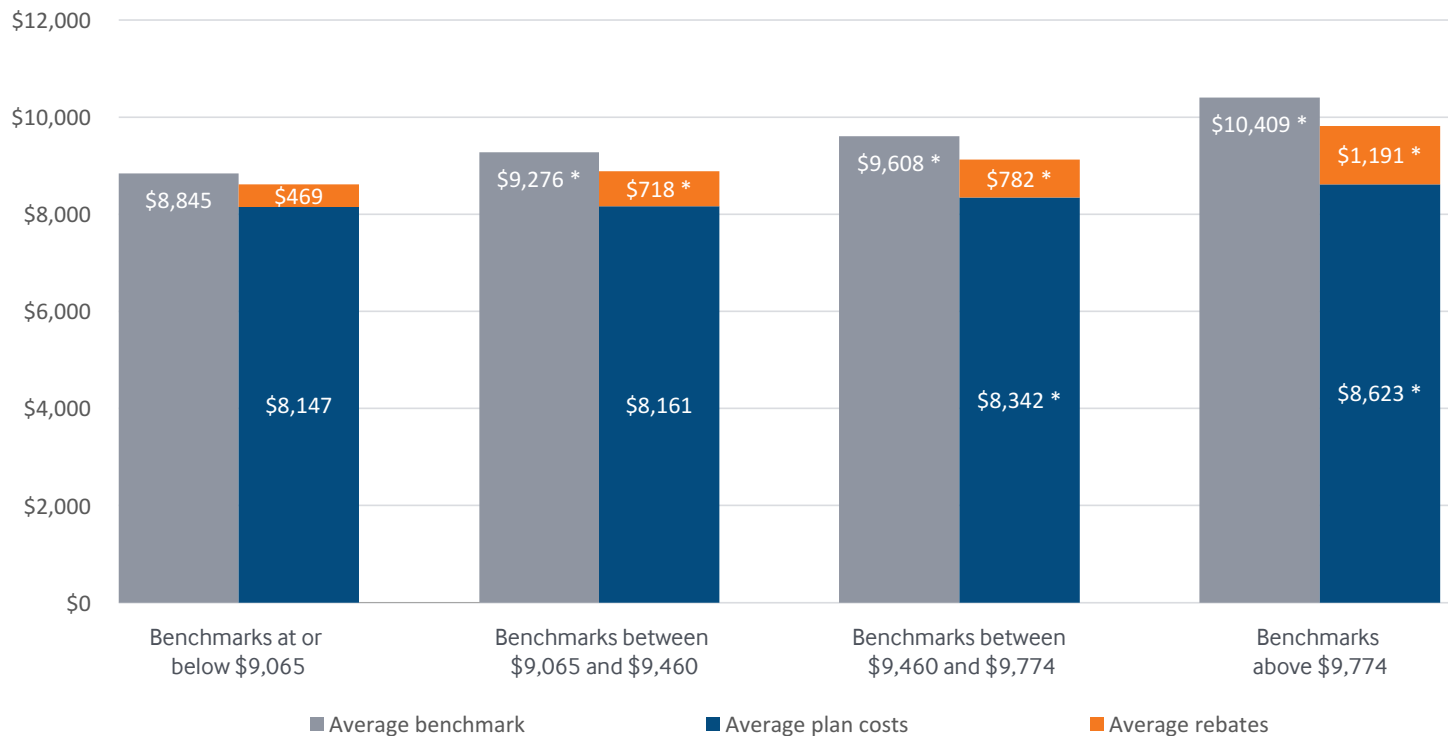
* Estimate is significantly different from estimate for "benchmarks at or below $9,065" at the 0.05 level using two-tailed tests. Significance tests not applicable for MA plan enrollment or number of MA plans.

Notes: Data for HMO and Local PPO plans only. PFFS, Regional PPO, SNP, and employer plans were excluded. Benchmark quartiles are assigned unweighted, with a roughly equal number of plans in each quartile (416). Within each quartile, estimates are a straight average across plans, regardless of enrollment.

be in a truly competitive market. This in turn resulted in higher costs to the Medicare program.

The ACA made significant changes to the MA benchmarks. The law effectively lowered benchmarks across the United States and tied them directly to traditional Medicare fee-for-service spending. Specifically, benchmarks were set at between 95 percent and 115 percent of traditional Medicare spending in each county.[4] Consequently, benchmarks fell, on average, from 118 percent of traditional Medicare spending per beneficiary in 2009 to 106 percent by 2017.[5]

So did these benchmark reductions succeed in putting additional pressure on plans to bid their lowest-possible costs?

To answer this question, we used MA plan data from the Centers for Medicare and Medicaid Services to analyze the relationship between plan benchmarks, costs, and rebates across the country in 2015, after the ACA's implementation, while holding constant hospital wages, MA market concentration, and plan characteristics (e.g., plan type, eligibility for quality bonuses). We interpreted Medicare payment to plans net of rebates as representing plans' bids, which are required to reflect the costs of providing Medicare Part A and Part B benefits. And we examined plan costs and rebates as dependent variables, as both are components of Medicare's payment to plans and both are within a plan's control. (See "How We Conducted This Study" for a detailed description of our methods.)

GLOSSARY

Benchmark: The bidding target for a Medicare Advantage (MA) plan. It represents the maximum that the Medicare program will pay a private plan for an average-risk beneficiary in a given county. Under the Affordable Care Act, benchmarks are between 95 percent and 115 percent of traditional Medicare spending per beneficiary in a county.

Plan bid: By law, each plan's bid is required to represent the plan's costs, including administrative costs and profits, of providing Medicare Part A and B benefits to an average-risk enrollee in its service area. We do not directly observe plan bids; rather, we interpret Medicare's payments to a plan for covering an average-risk beneficiary, net of rebates, to be equivalent to the plan's bid.

Plan rebate: Plans receive between 50 percent and 70 percent of the difference between their bid and the benchmark as a rebate if their bid is lower than the benchmark. Plans must, by law, use rebates to provide supplemental benefits or lower premiums to enrollees, less a portion to cover administrative costs and profits.

Plan benefit package: A plan design offered under an MA contract by a health insurance company. Each health insurer can have multiple contracts and multiple plan designs under each of those contracts. All plans are required to offer coverage at least equivalent to that offered by tradition Medicare.

Medicare Advantage penetration rate: As calculated by the Centers for Medicare and Medicaid Services, the share of Medicare beneficiaries enrolled in MA plans. The denominator for this calculation is only those beneficiaries eligible for the MA program (i.e., those enrolled in both Part A and Part B).

Herfindahl-Hirschman Index (HHI): A measurement of market concentration using the relative size of each of competitor in a market. The HHI is calculated by squaring the market share of each competitor and adding the squared market shares together. For example, if two companies each had a 50 percent market share, the HHI would be $50^2 + 50^2 = 5,000$. Markets with an HHI exceeding 2,500 are considered "highly concentrated" by the U.S. Department of Justice.

FINDINGS

Costs and rebates for Medicare Advantage plans are higher among groups of plans facing higher benchmarks (Exhibit 2). However, the difference in plan costs, 5.8 percent, is far smaller than the 17.7 percent difference between the lowest and highest benchmark quartile. The disparity in rebates (153.9% between the lowest and highest quartiles) is considerably larger than disparities in both plan costs and benchmarks.

Benchmarks tend to be higher in areas where hospital wages are higher. MA penetration is also greatest in

markets with the highest benchmarks; in addition, the share of MA plans in the county that are HMOs is considerably greater in those markets.

Using regression analysis to quantify these relationships more precisely, we find that a $1.00 increase in plan benchmarks across the country was associated with plan costs $0.32 higher, when controlling for market and plan factors (Exhibits 3 and 4). In addition, while HMO plans have lower costs for a given benchmark, high-quality plans (those with four- or five-star ratings from Medicare) and plans in markets with higher hospital wages have greater costs. After controlling for other market factors, we also

Exhibit 2. Plan and Market Characteristics for HMO and Local PPO Plans, by Quartiles of Medicare Advantage Benchmarks

	Benchmarks ≤ $9,065	Benchmarks $9,065 to $9,460	Benchmarks $9,460 to $9,774	Benchmarks > $9,774
Plan characteristics				
Average benchmark	$8,845	$9,276*	$9,608*	$10,409*
Average plan cost	$8,147	$8,161	$8,342*	$8,623*
Average rebate	$469	$718*	$782*	$1,191*
Average total plan payment	$8,616	$8,879*	$9,124*	$9,814*
Ratio of total plan payment to traditional Medicare costs	108%	104%*	103%*	98%*
Share of plans eligible for quality bonus under ACA	31.7%	58.0%*	77.2%*	69.7%*
Share of plans that are HMOs	54.6%	72.7%*	79.9%*	85.1%*
Market characteristics				
Hospital wage index	0.93	0.96*	1.03*	1.14*
MA plan HHI[1]	2688	2696	2370	2570
MA plan enrollment	1,913,874	2,082,555	2,610,837	3,068,334
MA penetration rate	34.1%	32.8%	36.5%*	37.6%*
Number of MA plans	416	417	417	416

[1] MA plan market share and HHI (Herfindahl-Hirschman Index) do not include the market share of traditional Medicare within a county. Data for HMO and local PPO plans only; PFFS, regional PPO, SNP, and employer plans excluded.

* Estimate is significantly different from estimate for "benchmarks at or below $9,065" at the 0.05 level using two-tailed tests. Significance tests not applicable for MA plan enrollment or number of MA plans.

Notes: Benchmark quartiles are assigned unweighted, with a roughly equal number of plans in each quartile (416). Within each quartile, estimates are a straight average across plans, regardless of enrollment.

Exhibit 3. Effect of Plan Benchmarks and Market Factors on Medicare Advantage Plan Costs and Rebates in 2015

	Plan Costs		Rebates	
	Coefficient	P-value	Coefficient	P-value
Plan benchmark	0.32	0.00	0.52	0.00
HMO plan	**−845.31**	**0.00**	**563.21**	**0.00**
Eligible for ACA quality bonus (star rating of 4.0 or higher)	163.45	0.00	−198.58	0.00
2015 Hospital Wage Index	**7.55**	**0.00**	**−7.19**	**0.00**
MA market is highly concentrated[1]	78.63	0.04	−109.55	0.00

[1] Highly concentrated is defined as having an average Herfindahl-Hirschman Index in a plan's service area above 2,500.
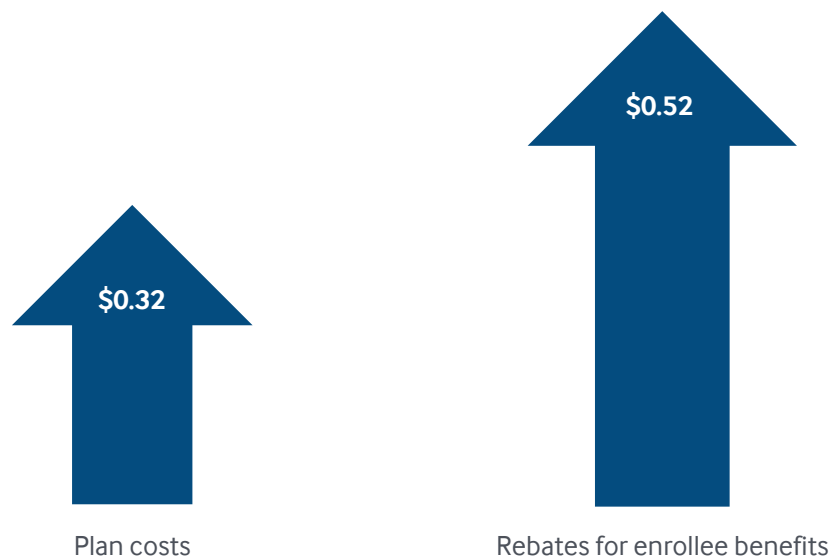
Notes: Data for HMO and Local PPO plans only. PFFS, Regional PPO, SNP, and employer plans were excluded. For readability of output, the Hospital Wage Index was multiplied by 100.

see that MA plan costs are higher in more-concentrated MA markets; this finding is consistent with research showing that market power enables insurers to set higher prices.[6]

When we look at the relationship between benchmarks and plan rebates, using an analogous regression model, we find higher benchmarks are more strongly associated with rebates than with plan costs. A $1.00 increase in the benchmark for MA plans across the country is associated

with a rebate $0.52 higher, again holding other factors constant (Exhibit 3). In addition, market-level factors associated with higher plan costs, like higher input prices or greater market concentration, are also associated with lower rebates (Exhibit 3). Given earlier research showing that most MA plans operate in highly concentrated markets, it is worth noting that MA plan concentration is associated with higher plan costs and lower rebates — which means less money to provide extra benefits for enrollees.[7]

Exhibit 4. Effect of a One-Dollar Increase in Benchmarks on Plan Costs and Rebates

$0.32

$0.52

Plan costs

Rebates for enrollee benefits

Note: Data for HMO and Local PPO plans only; excludes PFFS, Regional PPO, SNP, and employer plans.

We conducted several sensitivity analyses to determine if other factors might be at play. For example, we dropped from the sample those plans that appear to have bid above their average benchmark, as we do not have a full picture of costs for such plans. In addition, we estimated models that included the average share of Medicare beneficiaries enrolled in MA across the plan's service area, which reflects both the size of the MA market and the attractiveness of MA relative to traditional Medicare in the plan's service area. None of these alternatives, however, produced statistically different estimates of the relationship between benchmarks and plan costs or the relationship between benchmarks and plan rebates.

DISCUSSION

Prior to the Affordable Care Act, research indicated that Medicare Advantage plan costs, as reflected in plan bids, were not as low as they might have been, in part because of overly generous benchmarks.[8] This study indicates that, after the ACA lowered MA benchmarks, plans in areas with high benchmarks have continued to exhibit their market power through costs that are higher than those for plans in areas with low benchmarks (holding input prices and other factors constant).

MA plans also receive higher rebates in regions where benchmarks are high. It appears that plans use some of the additional revenue resulting from these high benchmarks to provide an even greater level of benefits or reduced cost-sharing to attract enrollees compared to what plans in other areas provide. Overall, for each one-dollar difference in benchmarks, we find that plan costs (including profits) are 32 cents higher and rebates 52 cents higher (Exhibit 4). Thus, high benchmarks allow plans to be less efficient than they might be otherwise. That is because they can still earn sufficient rebates to fund the extra benefits that attract enrollees, even after controlling for plan cost determinants such as beneficiary health risks, input prices,

plan type, plan quality, and MA market concentration. Clearly, the MA bidding system is not fostering a highly competitive Medicare Advantage market, and costs to the Medicare program could likely be lower with more robust competition.

We recognize that some of the estimated relationship between MA plan costs and benchmarks may be justifiable, if the variables in our model do not adequately control for some appropriate determinants of MA plan costs or if higher MA plan costs result from providing services not covered well under traditional Medicare (e.g., care coordination). In addition, it is possible that lower plan costs could come at the expense of plan quality, a trade-off that may not be in the best interests of beneficiaries.

In general, however, our results show that MA plan costs could be lower than we observe if competitive incentives — and payment pressure — were stronger. If policymakers wish to incentivize MA plans to maximize efficiency and minimize costs, Medicare may need to change the way benchmarks are set or how — or even whether — they are used in the bidding process, to dampen the effects of the large geographic variation seen in traditional Medicare spending.

For example, the MA program could base its benchmarks on the national average Medicare cost per beneficiary, adjusting only for differences in input prices and other market factors that are beyond the control of individual plans. In this scenario, national average costs per beneficiary could be based on either traditional Medicare spending or previous or current MA plan costs.[9] Without these types of changes, MA plans may continue to capture some of the variation in benchmarks as extra revenue — above and beyond factors that would justifiably drive cost differences — without passing along all potential gains to beneficiaries in the form of extra benefits or to the Medicare program in the form of savings.[10]

How We Conducted This Study

We used 2015 data made publicly available by the Centers for Medicare and Medicaid Services (CMS) on Medicare Advantage (MA) plan payments net of rebate — which we interpret as representing their costs, and therefore their expected costs of providing Parts A and B services — as well as data on plan rebates, benchmarks, and enrollment. All plan payment and benchmark data are standardized by CMS to reflect the same level of enrollee health risk across plans (that is, they are risk-neutral). Plan costs and rebates are at the plan-benefit-package level, reflecting the average plan costs and rebates across the plan's service area, weighted by enrollment in each county served. MA benchmarks are at the county level. We assigned a county benchmark to each plan based on its quality star rating[11] and created plan-level benchmarks by averaging county-level benchmarks within each plan's service area, weighted by the plan's enrollment within each county.

In addition, we constructed market-level indicators of MA plan competition and input prices. We used county-level plan enrollment data to construct market shares for each MA plan in a given county and then used these market shares to calculate a Herfindahl-Hirschman Index (HHI) at the county level. The HHI reflects the level of MA market competition within the county. We averaged the county HHI across each plan's service area, weighting by the plan's enrollment within each county, and used the resulting average HHI to assign each plan to either a "highly concentrated" or "not highly concentrated" category representing the average level of market concentration within the plan's service area. Our categories follow market concentration guidelines from the U.S. Department of Justice, with highly concentrated markets having an HHI above 2,500.[12]

We also incorporated publicly available data from CMS on the share of all Medicare beneficiaries enrolled in MA within each county, also called the MA penetration rate. We averaged the MA penetration rate across each plan's service area, weighting by the plan's enrollment within each county. Finally, we incorporated Medicare's 2015 hospital wage index, which is calculated at the Core Based Statistical Area level (CBSA, a larger geographic area made up of counties) to capture differences in labor costs. We assigned the hospital wage index to each county comprising the CBSA, then averaged across each plan's service area, weighting by the plan's enrollment.

Our analyses include only HMO and local PPO plans offered to individual beneficiaries. We excluded all employer group health plans and special needs plans, because they are targeted to specific populations. In addition, we did not consider regional PPO plans, because they face an alternative benchmark system, or private fee-for-service plans, because they cover very few MA beneficiaries.

We conducted both descriptive and multivariate analyses. Our descriptive analysis examined MA plan and market characteristics at various benchmark levels, defined by grouping plans into plan benchmark quartiles. We also used multivariate ordinary least squares (OLS) regression to describe the relationship between benchmarks, MA plan costs, and rebates, controlling for market and plan factors. We analyzed plan costs and rebates as dependent variables in two separate models. It is important to consider both costs and rebates, because costs reflect the costs of providing Medicare services while rebates reflect the incentives plans provide to attract enrollees. The market factors included in our regression models were the hospital wage index[13] and MA plan market concentration.[14] Plan-specific factors included the plan-level benchmark, whether the plan was an HMO, and whether the plan was eligible for a quality bonus under the ACA — that is, it had a star rating of 4.0 or higher. In this context, after controlling for input prices, plan quality, plan type, and market concentration, the remaining variation in risk-neutral benchmarks could be considered as reflecting inefficient utilization in the traditional Medicare spending underlying the benchmarks.

We conducted sensitivity analyses by adding additional variables to the regression models and excluding plans that appeared to have bid above the benchmark, meaning their average costs were at or above the average benchmark in their service area.[15]

NOTES

1   Medicare Advantage plans bidding below their benchmark receive between 50 percent and 75 percent (depending on their quality ratings) of the difference as a "rebate," which must be used to pay for extra benefits or lower out-of-pocket costs for plan enrollees. MA plans bidding above their benchmark receive only their benchmark amount, which means they must charge a premium to enrollees to make up the difference.

2   Medicare Payment Advisory Commission, "Chapter 3: The Medicare Advantage Program," in *Report to the Congress: Medicare Payment Policy* (MedPAC, March 2009); Medicare Payment Advisory Commission, "Chapter 3: Update on the Medicare Advantage Program," in *Report to the Congress: Medicare Payment Policy* (MedPAC, March 2008); Office of the Assistant Secretary for Planning and Evaluation, *The Medicare Advantage Program in 2014: II. History of Private Plans in the Medicare Program* (ASPE, U.S. Department of Health and Human Services, April 2014); and A. McDowell and S. Sheingold, *Payment for Medicare Advantage Plans: Policy Issues and Options* (ASPE, U.S. Department of Health and Human Services, June 2009).

3   Z. Song, M.B. Landrum, and M. E. Chernew, "Competitive Bidding in Medicare Advantage: Effect of Benchmark Changes on Plan Bids," *Journal of Health Economics,* Dec. 2013 32(6):1301–12.

4   Benchmarks are set at 95 percent of traditional Medicare fee-for-service spending in the highest-cost quarter of counties and 115 percent of traditional Medicare fee-for-service spending in the lowest-cost quarter of counties.

5   Medicare Payment Advisory Commission, "Chapter 3: The Medicare Advantage Program," in *Report to the Congress: Medicare Payment Policy* (MedPAC, March 2009); and Medicare Payment Advisory Commission, "Chapter 13: Status Report on the Medicare Advantage Program," in *Report to the Congress: Medicare Payment Policy* (MedPAC, March 2017). We note that, even with recent changes, there is still substantial variation in MA benchmarks across the country, from a low of about $7,500 in Tompkins County, New York, to a high

of more than $13,800 in Miami-Dade, Florida, in 2015. This variation is driven, in large part, by underlying variation in traditional Medicare spending, which is now used to set county-level benchmarks.

6   Z. Song, M.B. Landrum, and M. E. Chernew, "Competitive Bidding in Medicare Advantage: Effect of Benchmark Changes on Plan Bids," *Journal of Health Economics,* Dec. 2013 32(6):1301–12.

7   B. Biles, G. Casillas, and S. Guterman, *Competition Among Medicare's Private Health Plans: Does It Really Exist?* (The Commonwealth Fund, Aug. 2015).

8   Z. Song, M.B. Landrum, and M. E. Chernew, "Competitive Bidding in Medicare Advantage: Effect of Benchmark Changes on Plan Bids," *Journal of Health Economics,* Dec. 2013 32(6):1301–12.

9   If Medicare uses plan bids to set the benchmarks in each area, the funding available for rebates would be limited. If the goal is to continue to allow plans to provide extra benefits to beneficiaries through rebates, the program might need to set benchmarks equal to the average plan bid plus some fixed amount.

10 M. Cabral, M. Geruso, and N. Mahoney, *Does Privatized Health Insurance Benefit Patients or Producers? Evidence from Medicare Advantage,* NBER Working Paper #20470 (National Bureau of Economic Research, Sept. 2014, revised July 2017).

11 Quality star ratings are assigned by CMS based on a plan's performance on up to 44 quality measures across five categories: outcomes, intermediate outcomes, patient experience, access, and process. More information on the CMS star ratings program is available at https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/PerformanceData.html. Plans receiving a four- or five-star rating receive a 5 percent bonus to their benchmark.

12 HHI values are calculated based on the distribution of market shares for plans in each area; an area with 20 plans with equal market shares would have a value of 500 and an area with only one plan would have a value of 10,000. U.S. Department of Justice, *Herfindahl-Hirschman Index* (US DOJ, updated July 29, 2015).

13   We control for underlying differences in input prices faced by plans using the Medicare hospital wage index, because traditional Medicare uses this index — and others like it — to adjust provider payment rates and MA plans use these rates to constrain what they pay providers in their plans. (See, for example, R. A. Berenson, J. H. Sunshine, D. Helms et al., "Why Medicare Advantage Plans Pay Hospitals Traditional Medicare Prices," *Health Affairs,* Aug. 2015 34(8):1289–95.) However, it may be that this index does not adequately capture all input price differences faced by MA plans.

14   As described above, market concentration is measured by an average Herfindahl-Hirschman Index for the counties covered by each plan, weighted by the plan's enrollment in each county.

15   This sensitivity analysis led us to drop 118 of 1,666 plans.

ABOUT THE AUTHORS

Stephen Zuckerman, Ph.D., is a senior fellow and codirector of the Health Policy Center at the Urban Institute. He has studied health economics and health policy for almost 30 years and is a national expert on Medicare and Medicaid physician payment, including how payments affect enrollee access to care and the volume of services they receive. Dr. Zuckerman is currently examining how payment and delivery system reforms can affect the availability of primary care services, and studying the implementation and impact of the Affordable Care Act. He received his Ph.D. in economics from Columbia University.

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