CHAPTER 13

Estimating Medicare Advantage coding intensity and favorable selection

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Chapter summary

In Chapter 12, we present the Commission's current estimates of the effects of higher Medicare Advantage (MA) coding intensity and favorable selection of enrollees into MA on the amount Medicare pays to MA plans relative to what the program would have paid if the enrollees were covered under fee-for-service (FFS).

In this chapter, we describe the Commission's methods for estimating the effects of higher MA coding intensity and of a favorable selection of enrollees into MA, including recent revisions to those methods. Estimating the effects of these two factors presents several challenging analytic issues, and we will continue to refine our methods based on the results of our continuing analytic work.

In this chapter

Estimating Medicare Advantage coding intensity

In prior years, the Commission has estimated the impact of higher coding intensity on MA risk scores by comparing changes in MA and FFS risk scores over time for cohorts of beneficiaries with similar age, sex, and MA or FFS enrollment length—the "MedPAC cohort method." An alternative method of estimating the impact of MA coding intensity, the demographic estimate of coding intensity (DECI), has produced estimates of coding intensity that are double the estimates produced by the Commission's

cohort method. In the advance notice of payment rates for 2019, CMS requested comment on adopting an alternative method for calculating the MA coding adjustment factor, including the Commission's cohort method and the DECI method. We analyzed both methods to understand the reasons for the differing coding intensity estimates.

For our 2024 analysis of coding intensity in MA, we revised our cohort method to account for differences in Medicaid eligibility between MA and FFS beneficiaries (which has changed significantly since we first developed our method) and to remove a restriction requiring continuous enrollment in either MA or FFS. Removing the continuous enrollment restriction captures the full history of risk-score changes for all beneficiaries and results in a more accurate comparison of MA and FFS risk scores. These model improvements produced higher estimates of coding intensity compared with our original cohort method. For 2019, using the revised cohort method, we estimate that coding intensity increased MA risk scores by 12.4 percent compared with similar beneficiaries in FFS Medicare, whereas the result was 10.0 percent when using our original cohort method. (All coding intensity estimates in this chapter are before accounting for CMS's coding adjustment, which, since 2018, has reduced MA risk scores by 5.9 percent. Also, the Commission's original cohort method estimates presented in this chapter are reported as a percent of the average FFS risk score. This differs from our prior work, where we reported our cohort method estimates as a percent of the average MA risk score. Changing the denominator from average MA risk score to average FFS risk score allows for direct comparison with the DECI method; it does not reflect a change in the magnitude of our estimates.)

We also assessed the DECI method developed by Kronick and Chua. First, we successfully replicated Kronick and Chua's coding intensity estimate for 2019 of 20.0 percent. This estimate relies on publicly available MA and FFS CMS hierarchical condition category (HCC) risk-score figures that for MA are restricted to enrollees with both Part A and Part B, but that for FFS include beneficiaries with both Part A and Part B as well as those with Part A only. We then re-implemented the DECI method using complete enrollment, demographic, and risk-score data (beneficiary-level risk-score data are available to the Commission but not generally available to researchers) for MA and FFS beneficiaries with both Part A and Part B. Those revisions to the DECI method produced a coding intensity estimate of about 13.2 percent for 2019, decreasing the original 20.0 percent estimate due to these methodological improvements.

We further revised the DECI method to account for differences in Medicaid eligibility among MA and FFS beneficiaries, and to constrain new Medicare enrollees to have no coding intensity because their "new enrollee" risk scores are based only on demographic factors and are not influenced by diagnostic coding. After incorporating all improvements, the revised DECI method reduced the coding intensity estimate for 2019 to 11.6 percent, which is 8.4 percentage points lower than Kronick and Chua's previously published estimates.

Despite differences in the two methods, the Commission's improved cohort method and our revised DECI method yielded similar estimates of coding intensity (12.4 percent vs. 11.6 percent for 2019, and within 1.5 percentage points in all years from 2008 through 2021). However, the DECI method is able to incorporate a larger share of the MA and FFS populations, is not subject to the potential for small numbers in the sub-cohorts of MA and FFS beneficiaries used in our cohort method, and does not rely on any assumptions about when MA coding intensity surpassed FFS coding intensity. Given the similarity in coding intensity estimates from the two revised methods, the Commission has decided to adopt the revised DECI method to estimate the impact of coding intensity. Chapter 12 shows our current estimates of the effects of coding intensity using our revised DECI method.

Estimating Medicare Advantage favorable selection

Favorable selection into MA occurs when beneficiaries with lower actual spending relative to their risk score tend to enroll in MA; it is the extent to which risk-standardized spending of MA enrollees would be lower than the FFS average without any intervention from MA plans. Consistent with other research, the Commission's June 2023 report to the Congress estimated that—prior to the effects of any utilization management or differential coding from MA plans—spending on MA enrollees in 2019 was about 11 percent lower than spending for FFS beneficiaries with the same risk scores, due to favorable selection. We have sought to further refine our estimate and incorporate our analysis of favorable selection in our estimate of MA payments that we present in Chapter 12. To that end, the analysis described in this chapter maintains the same analytic framework we used in our June 2023 report but makes four key technical improvements:

- We expanded our estimate of MA favorable selection to include overall estimates for each year from 2017 to 2021.

- We included employer plan enrollees and hospice enrollees more directly in our estimate of favorable selection. Previously, we assumed that MA employer plan enrollees had no favorable selection effect; now we measure the extent of their favorable selection with all other MA enrollees. In addition, while we previously excluded enrollees who had used any hospice services, we now include them in our estimates to better align our methodology with CMS's methodology for calculating the FFS spending amounts used for MA benchmarks. Although enrollment in employer plans and hospice only occurs in limited circumstances, these populations influence the overall effect of favorable selection that MA plans experience.
- We improved our method for estimating the expected "regression to the mean" effect during MA enrollment. This effect presumes that while a cohort of MA enrollees may have favorable risk-adjusted spending relative to the local FFS population in the year before they enroll in MA, the effect of favorable selection may become smaller in later years. While we previously assumed an MA entry cohort's selection percentage (i.e., their risk-standardized spending relative to the local FFS average) would trend forward with the same slope as future MA enrollees (our proxy group), we now match the distribution of the initial selection percentage of both groups before trending the selection percentage forward to the measurement year.
- We trended forward the spending on beneficiaries who enrolled in MA during the measurement year from the year before MA entry to the measurement year. This refinement affects only the cohort of MA beneficiaries that entered MA during the measurement year. Our previous assumption was that the selection percentage in 2018 would be sustained at the same level in 2019 for 2019 MA entrants. This methodological change more accurately estimates regression to the mean between 2018 and 2019 by trending forward the selection percentage in the base year (2018) to the first year of MA enrollment (2019).

Using this revised methodology, we estimate that the effects of favorable selection increased program spending (above what would have been spent if those same enrollees were in FFS Medicare) by 6 percent in 2017, rising to 9 percent in 2019 and 13 percent in 2021. Chapter 12 provides our current estimates of the effects of favorable selection on overall payments.

We continue to conduct sensitivity analyses of certain aspects of our method, particularly related to how our analysis deals with regression to the mean and

attrition of beneficiaries from MA cohorts. If these sensitivity analyses suggest that further refinements to our methods are needed, we will incorporate those refinements in future estimates. ■

Background

The Medicare Advantage (MA) program allows Medicare beneficiaries enrolled in both Part A and Part B to receive benefits from private plans rather than the traditional fee-for-service (FFS) program. The Commission has long supported including private plans in Medicare: The MA program gives beneficiaries more coverage options and has the potential to reduce overall Medicare spending. However, we estimate that in 2024 the Medicare program pays roughly 22 percent more for enrollees in MA relative to what the program would have paid if those beneficiaries were in FFS. Our estimate of higher payments to MA plans is primarily driven by two factors—higher coding intensity in MA and a favorable selection of enrollees in MA plans. This chapter describes the Commission's methods for estimating the effects of MA coding intensity and favorable selection, including recent revisions. Chapter 12, assessing the status of the entire MA program, provides information about a wide range of MA topics, including:

- how Medicare pays MA plans, calculates benchmarks, and calculates risk scores;
- the mechanisms that MA plans use to document more diagnosis codes; and
- discussion of our current estimates of the effects of higher MA coding intensity and favorable selection of enrollees into MA on the amount Medicare pays to MA plans relative to the amount FFS Medicare would have spent to cover the same enrollees.

The remainder of this chapter provides detailed information about our methods for estimating coding intensity and favorable selection of enrollees into MA. Estimating these factors presents several challenging analytic issues, including accounting for regression to the mean and attrition of MA enrollees in our favorable selection analysis, and we will continue to refine our methods based on the results of our continuing analytic work.

Revising the Commission's method for estimating MA coding intensity

In our March 2023 report to the Congress, we estimated the impact of higher coding intensity on MA risk scores in each year from 2007 to 2021 by comparing changes in MA and FFS risk scores over time for cohorts of beneficiaries with similar age, sex, and MA or FFS enrollment length (Medicare Payment Advisory Commission 2023c). (For more detail, see the text box on the Commission's original cohort method for estimating coding intensity, pp. 422–423.) The Commission's previously published analysis showed that since 2008, MA risk scores have been higher than risk scores for comparable FFS beneficiaries due to coding intensity, and that those differences in risk scores have increased by about 1 percentage point per year in most years since 2008 (Medicare Payment Advisory Commission 2023c).[1]

All coding intensity estimates in this chapter are before accounting for CMS's annual coding adjustment, which, since 2018, has reduced MA risk scores by 5.9 percent each year. Also, the Commission's original cohort method estimates presented in this chapter are reported as a percent of the average FFS risk score and therefore are different from the original cohort method estimates we previously published, which were reported as a percent of the average MA risk score. Changing the denominator from average MA risk score to average FFS risk score allows for direct comparison with an alternative method described below and does not reflect a change in the magnitude of our estimates.

Several studies, using a variety of methods and data sources, have produced estimates of the impact of higher MA coding intensity that are generally consistent with the Commission's estimates (Geruso and Layton 2020, Government Accountability Office 2013, Hayford and Burns 2018, Jacobs and Kronick 2018, Kronick and Welch 2014).

However, using an alternative method of estimating the impact of MA coding intensity—the demographic estimate of coding intensity (DECI)—authors Kronick and Chua produced estimates of coding intensity that are double the estimates produced by the Commission's cohort method. For example, Kronick and Chua estimated that coding intensity in 2019 was

The Commission's original cohort method for estimating coding intensity

The Commission first reported estimates of the impact of coding intensity on Medicare Advantage (MA) risk scores in our March 2017 report to the Congress, and our method has remained the same since then. We compare changes in the "disease score" (the portion of the risk score generated by diagnosis codes, calculated by subtracting the demographic components of the risk score from the total risk score) for MA and fee-for-service (FFS) cohorts with equal lengths of enrollment.

The method implicitly assumes that, after controlling for differences in demographic characteristics, MA enrollees are no less healthy than FFS beneficiaries. The assumption is supported by several studies that use mortality rates, prescription drug–based risk scores, or health care spending to show that MA enrollees are healthier and have lower expected medical spending than FFS beneficiaries with the same risk score (Jacobs and Kronick 2018, Jacobson et al. 2019, Kronick and Welch 2014, Newhouse et al. 2019). The Commission's work on favorable selection in MA provides strong evidence to support that assumption (Medicare Payment Advisory Commission 2023b). Given this evidence, we can conclude that after controlling for demographic characteristics, faster rates of MA risk-score growth relative to FFS result from higher MA coding intensity rather than worsening health acuity or complexity among MA enrollees.

Here are the steps in the Commission's original cohort method of calculating coding intensity, using 2021 as an example (revisions to this method are described later):

1. We remove beneficiaries who have a 2021 risk score based on the new-enrollee, end-stage renal disease, or institutional model segments.[2] Note that we incorporate new enrollees later in the calculation under the constraint that new enrollees exhibit no coding intensity.

2. We identify the MA cohort as enrollees in a plan with both Part A and Part B for all 12 months of 2021. To determine the enrollment length for beneficiaries in the MA cohort, we include all consecutive prior years in which the 2021 MA enrollees have 12 months of MA enrollment with both Part A and Part B. For example, if a new Medicare beneficiary with both Part A and Part B enrolls in Medicare FFS in June 2012, then switches to MA in January 2014 and remains in MA through 2021, the beneficiary would be assigned to the MA cohort from 2014 to 2021. We use the same process to define the 2021 FFS cohorts.

3. We calculate the change in disease score for each beneficiary in the analysis by subtracting the disease score in the initial cohort year (2014 in the prior example) from the disease score in the final cohort year (2021 in the prior example). Beneficiaries who were assigned a new enrollee risk score in the initial cohort year were excluded because more beneficiaries initially enrolled and remained in FFS through 2021 than beneficiaries in MA. For each year, we use the risk-adjustment

(*continued next page*)

20.0 percent, whereas we previously estimated it at 10.0 percent (Kronick and Chua 2021b). Kronick and Chua's estimates have been published in two papers and were the subject of a Health Savers Initiative brief from the Committee for a Responsible Federal Budget (Committee for a Responsible Federal Budget 2021, Kronick and Chua 2021a, Kronick and Chua 2021b). In the advance notice of payment rates for 2019, CMS requested comment on adopting an alternative method for calculating the MA coding adjustment factor, including the Commission's cohort method and the DECI method (Centers for Medicare & Medicaid Services 2018). Given the large difference in coding intensity estimates based on these two methods, we analyzed both methods to understand the reasons for the differing coding intensity estimates.

The Commission's original cohort method for estimating coding intensity (cont.)

model versions and associated diagnostic data sources that were used for payment in that year. For 2017 and subsequent years, there are different sets of risk-score coefficients (i.e., different model segments) based on aged or disabled status and on no, partial-, or full-benefit Medicaid eligibility. For those years, we calculate an annual disease score by assigning the appropriate model segment for each month and then taking the average of the 12 monthly disease scores.

4. We assign each beneficiary to an age × sex × enrollment cohort using the age and sex category used for each beneficiary's 2021 risk score and the enrollment cohort defined in step 2. There are 24 age and sex categories (mostly 5-year age categories) used in the CMS's hierarchical condition category risk model. For 2021, there are 14 enrollment cohorts with initial years 2007 through 2020. The cohort with initial cohort year of 2021 (those who were enrolled in both Part A and Part B for all of 2020 and 2021 but switched MA or FFS enrollment between 2020 and 2021) are constrained to exhibit no coding intensity because they have just one full calendar year of enrollment in the analysis.

5. For enrollment cohorts with initial years 2007 through 2020, we calculate the difference in the MA and FFS disease score change by subtracting the average disease score change for each FFS age × sex × enrollment cohort from the average disease score change for the same MA age × sex × enrollment cohort. For MA enrollees who have an initial cohort year of 2021 (those who switched from FFS in 2020) and those who have a new enrollee risk score in 2021, we assign a disease score change of 0.

6. We calculate total MA coding intensity by:

   (a) Calculating the MA enrollment-weighted average difference in MA and FFS disease score changes across all age × sex × enrollment cohorts, including MA enrollees with an initial cohort year of 2021 and 2021 MA enrollees with a new enrollee risk score. As noted earlier, the change in disease score for MA enrollees with initial cohort year of 2021 or with a new enrollee risk score in 2021 is constrained to have a disease score change of 0.

   (b) Dividing the average in (a) by the average 2021 risk score for all MA enrollees included in the analysis (including new enrollees) to calculate the percentage of MA risk scores that is due to coding intensity.

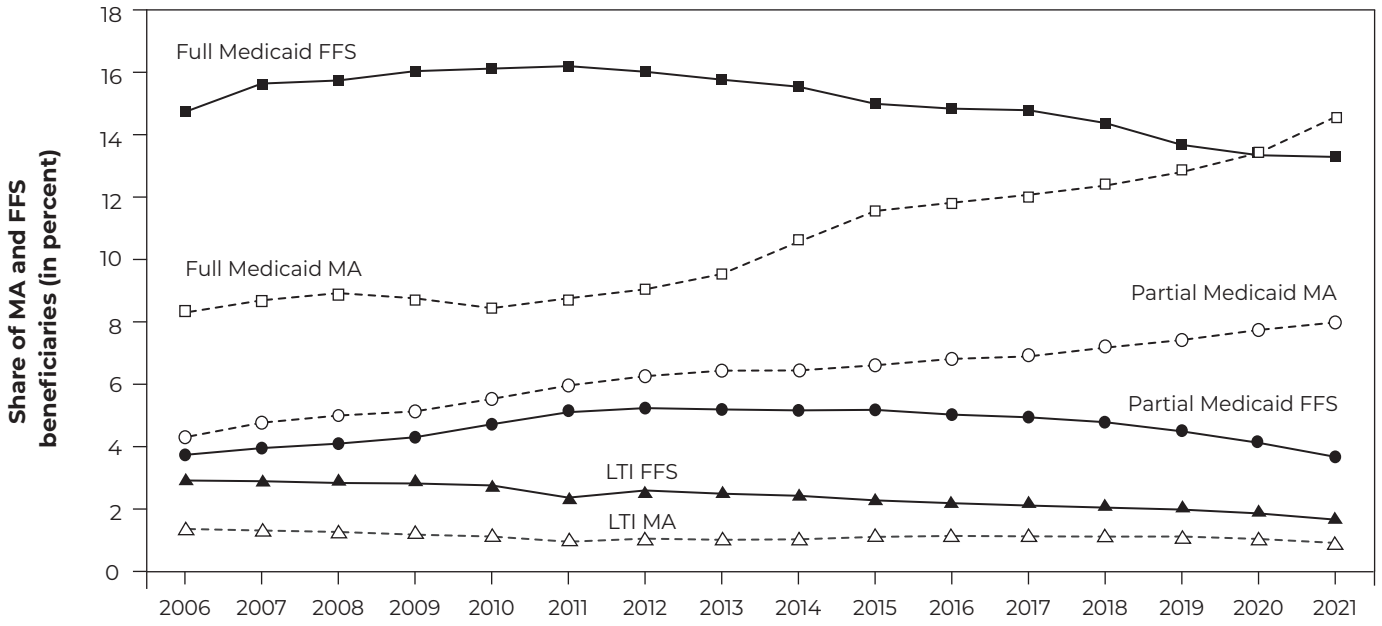
For the Commission's original cohort estimates presented in this chapter, we modified step 6b to make those estimates—previously published as a percent of the average MA risk score—comparable to the demographic estimates of coding intensity (DECI), which are reported as a percent of the average FFS risk score. For example, in 2021, we previously reported that 10.8 percent of MA risk scores were attributable to coding differences. In this chapter, we report that MA risk scores in 2021 are 12.1 percent higher than risk scores for comparable FFS beneficiaries. The two numbers are the result of the same analysis and are related through the calculation (1 / (1-0.108)) = 1.121, or 12.1 percent. ■

After assessing both methods and revising them to better account for differences between MA and FFS beneficiaries, we estimated using the revised cohort method that coding intensity increased MA risk scores by 12.4 percent in 2019 compared with similar beneficiaries in FFS Medicare; using the revised DECI method, we estimated that MA coding intensity was 11.6 percent for 2019.

Overall, we find that after applying revisions to both methods, coding intensity estimates from the two methods closely align, and we are confident that both

FIGURE 13–1

The relative shares of MA and FFS beneficiaries with full and partial Medicaid benefits has changed over time; relative shares of beneficiaries with LTI status have been stable, 2006–2021



Note: MA (Medicare Advantage), FFS (fee-for-service), LTI (long-term institutional).

Source: MedPAC analysis of 2006 through 2021 Medicare enrollment and risk-score files.

methods can produce reasonable estimates. Given that the DECI method as revised by the Commission is more comprehensive than our original cohort method, the Commission has decided, for current and future analyses, to use the revised DECI method for estimating the effects of MA coding intensity.

Revising the Commission's cohort method for estimating coding intensity

We critically assessed our original cohort method to determine whether revisions were needed to make our estimates more accurate. The Commission developed the original cohort method of estimating the impact of coding intensity using data from 2013, 2014, and 2015 (Medicare Payment Advisory Commission 2017). Prior to 2013, more beneficiaries who were eligible for Medicaid were enrolled in FFS than in MA, but the relative shares of MA and FFS Medicaid-eligible beneficiaries were relatively stable (Figure 13-1). Since about 2014, the shares of MA and FFS beneficiaries eligible for partial or full Medicaid benefits has changed rapidly. For the first time, in 2020, there were more beneficiaries eligible for full Medicaid benefits in MA than in FFS. By 2021, the share of beneficiaries eligible for partial Medicaid benefits in MA was more than twice as large as the share in FFS. By contrast, beneficiaries with long-term institutional (LTI) status have always made up a larger share of FFS beneficiaries than MA enrollees.

CMS noted that the risk-adjustment model used prior to 2017 produced scores that were too high (i.e., the risk scores overpredicted actual costs) for beneficiaries eligible for partial Medicaid benefits and risk scores that were too low for beneficiaries eligible for full Medicaid benefits (risk scores under predicted actual costs). In 2017, the agency introduced a risk-adjustment model that produced separate risk scores for beneficiaries eligible for no, partial, or full Medicaid benefits.[3]

The Commission's original cohort method for estimating coding intensity did not account for

differences in MA and FFS Medicaid eligibility. However, we have found that coding intensity differs by Medicaid eligibility such that MA enrollees who are eligible for partial or full Medicaid benefits have risk scores reflecting higher levels of coding intensity than MA enrollees not eligible for Medicaid (Medicare Payment Advisory Commission 2023a).

Some have critiqued the Commission's original cohort method because it does not capture all coding intensity for the MA population, specifically coding intensity that may accrue during early years of enrollment (Kronick and Chua 2021b). Because the original intention was to capture the coding intensity that accrued while the beneficiary was enrolled in an MA plan, our cohort method requires continuous enrollment in either MA or FFS Medicare. We now recognize that including the full risk-score history for all beneficiaries in our analysis allows us to compare MA and FFS beneficiaries whose total Medicare enrollment length is more similar, thereby creating a more accurate estimate of the impact of coding intensity in the payment year. Using the example from step 2 of the text box, if a new Medicare beneficiary enrolls in FFS in June 2012 and switches to MA in 2014, under our original method, the beneficiary would be assigned to the "MA 2014 through 2021" cohort, and we would compare the change in risk score over that period to the average change in risk score for a cohort of FFS beneficiaries who enrolled in FFS in 2014. We previously assumed that the restriction was reasonable because (1) each MA and FFS cohort is made up of new Medicare beneficiaries and "switchers" from the other program and (2) we match MA and FFS cohorts by enrollment length, age category, and sex. However, the restriction requiring continuous enrollment in either MA or FFS truncates the early years of enrollment more often for MA enrollees than for FFS beneficiaries, thereby reducing the accuracy of the comparison.

To address these two issues (continuing to use the 2021 example from the text box, pp. 422–423), we revised our cohort method to:

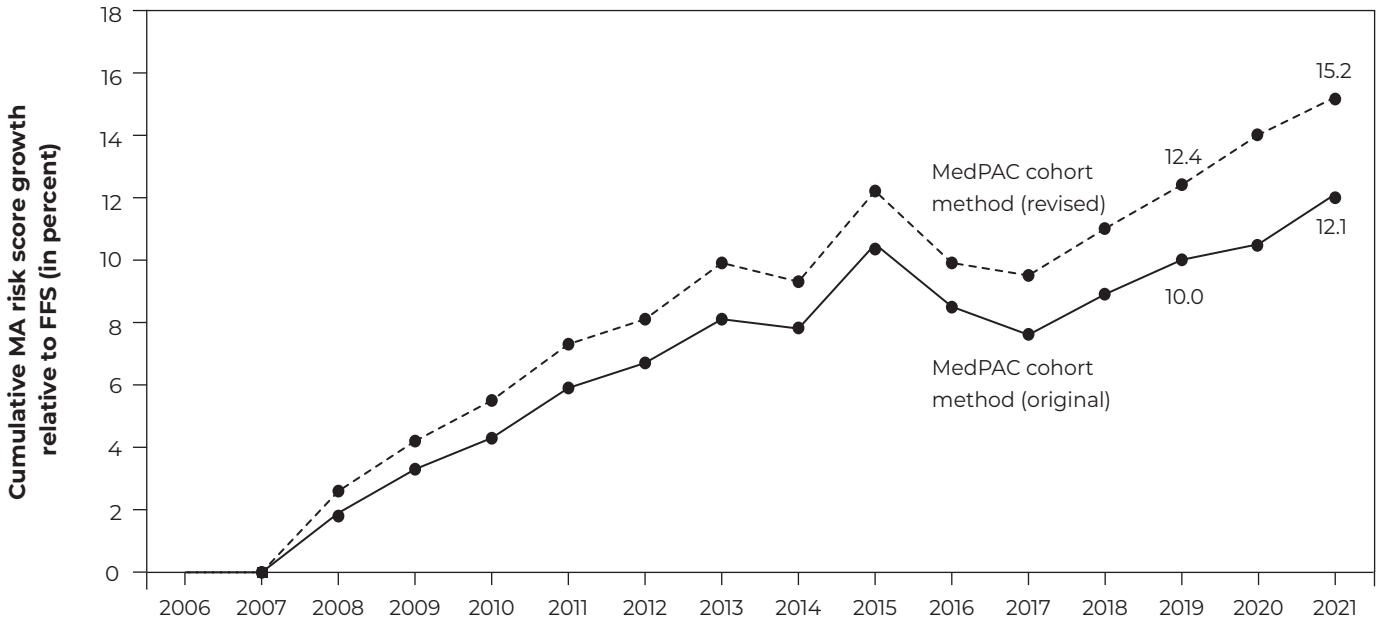
- Account for no, partial, and full Medicaid benefit eligibility (in addition to age and sex) based on each beneficiary's Medicaid eligibility as of July 2021. In this way, changes in risk scores for MA cohorts are compared with FFS cohorts with the same Medicaid eligibility.
- Remove the constraint that beneficiaries be continuously enrolled in either MA or FFS in the years prior to 2021. In our revised method, we identify the MA and FFS cohorts in the same way we did originally, requiring 12 months of Part A and Part B enrollment and either 12 months of MA enrollment or 12 months of FFS enrollment in 2021. However, we define the enrollment length differently by requiring only that beneficiaries have 12 months of Part A and Part B in the prior consecutive years of enrollment. Using the earlier example from the text box, and applying the updated method to define enrollment length, a beneficiary who initially enrolled in Medicare FFS in June 2012 and then switched to MA in January 2014 and remained in MA through 2021 would be assigned to the "MA 2013 to 2021" cohort (MA assignment based on 2021 enrollment only), rather than the "MA 2014 to 2021" cohort under our original method. At the same time, under our revised cohort method, we defined the disease score of new enrollees as zero (because the new enrollee risk scores are based entirely on demographic information), rather than excluding years where a new enrollee risk score would be applied from the analysis. This revision allowed us to capture the full change in risk scores for each beneficiary's entire enrollment.

Figure 13-2 (p. 426) shows coding intensity estimates using the Commission's original and revised cohort methods. The revised method produces larger estimates of coding intensity in each year, with smaller differences in the estimates for earlier years and larger differences in more recent years. The revised method produced an estimate of MA coding intensity of 12.4 percent for 2019, as opposed to 10.0 percent based on our original cohort method. For 2021, using our revised method, we estimate that MA coding intensity increased MA risk scores by 15.2 percent compared with what risk scores would have been if the same beneficiaries were enrolled in FFS Medicare.

Most of the change in our estimates results from removing the constraint that beneficiaries remain in the same program. Importantly, this change allows us to include all early years of enrollment, and many beneficiaries' initial year in the analysis starts with a disease score of zero (assigned because the beneficiary had a new enrollee risk score). However, because we

FIGURE 13–2

Coding intensity estimates based on the Commission's revised cohort method are slightly higher than estimates published in prior reports, 2006–2021



Note: MA (Medicare Advantage), FFS (fee-for-service).

Source: MedPAC analysis of 2007 through 2021 Medicare enrollment and risk-score files.

use 2007 as the initial year in the analysis, we still may not capture the full risk-score history for beneficiaries in the 2007 to 2021 cohorts.

Accounting for Medicaid eligibility had little effect on our estimates when implemented as an independent revision to our cohort method. However, when we account for Medicaid eligibility in conjunction with removing the restriction on beneficiaries remaining in the same program, we find a larger joint effect because beneficiaries eligible for Medicaid benefits are allowed to change Medicare enrollment (among MA plans or between MA and FFS) outside of the annual election period. As a result, under our original cohort method, Medicaid-eligible beneficiaries have their risk-score history truncated more than other beneficiaries. Although beneficiaries who are not eligible for Medicaid are also allowed to change their enrollment in limited circumstances, beneficiaries who are eligible for Medicaid switch between MA and FFS far more often than beneficiaries who are not (Medicare Payment Advisory Commission 2019).

Replicating the DECI method with complete data

Having improved the accuracy of the Commission's cohort model, we next assessed the DECI method. As noted earlier, the DECI method has produced estimates of coding intensity that are double the estimates produced by our original cohort method. We successfully replicated the coding intensity estimate of 20.0 percent for 2019 that was reported by Kronick and Chua. As described in this section, we found that this estimate relies on publicly available MA and FFS CMS-HCC risk-score data that for MA are restricted to enrollees with both Part A and Part B, but that for FFS include beneficiaries with both Part A and Part B as well as those with Part A only. We re-implemented the DECI method using complete enrollment and demographic data, as well as beneficiary-level risk-score data that are not generally available to researchers, for MA and FFS beneficiaries with both Part A and Part B. These methodological improvements reduced the coding intensity estimate for 2019 to 13.2 percent. Table 13-1

(p. 428) shows a step-by-step comparison of Kronick and Chua's results and the Commission's results using the improved method and complete data. (For more details about this analysis, see the text box on the Commission's data sources, p. 429.)

As with the Commission's cohort method, the DECI method implicitly assumes that MA enrollees are no less healthy than FFS beneficiaries with similar demographic characteristics. Therefore, after controlling for differences in demographic characteristics, the DECI method attributes faster rates of MA risk-score growth relative to FFS to higher MA coding intensity rather than worsening health acuity or complexity among MA enrollees.

The DECI method estimates coding intensity as the ratio of two ratios:

$$\textbf{Coding intensity} = \frac{\dfrac{\text{National average MA CMS–HCC risk score}}{\text{National average FFS CMS–HCC risk score}}}{\dfrac{\text{National average MA demographic-only risk score}}{\text{National average FFS demographic-only risk score}}}$$

The CMS–HCC risk score is used to pay MA plans, and it incorporates both demographic and diagnostic information. The demographic-only risk score results from a separate risk model that is calculated using only demographic information for all Medicare enrollees.[4]

To calculate the national average MA CMS–HCC risk score, Kronick and Chua combined average plan-level risk scores and enrollment data published by CMS for an average risk score of 1.250.[5] We replicated this number exactly when using the same publicly available information and found it to be similar to the 1.260 national average MA CMS–HCC risk score that we calculated using complete beneficiary-level risk-score data for MA enrollees with both Part A and Part B. (This analysis uses CMS–HCC "raw" risk scores that are not normalized and do not have the coding adjustment applied.)

Next, Kronick and Chua used a national average FFS CMS–HCC risk score of 1.069, which is published in CMS's annual announcement of MA payment rates (Centers for Medicare & Medicaid Services 2020a).[6] Using complete beneficiary-level data, we replicated this number almost exactly when we included about 5 million Part A–only beneficiaries who are assigned new enrollee risk scores. New enrollee scores are generally smaller than risk scores for enrollees who have a full calendar year of diagnostic data for Part B services. Because MA enrollees must have both Part A and Part B, we restricted the FFS population to beneficiaries with both Part A and Part B and calculated an average FFS CMS–HCC risk score of 1.117.

In Kronick and Chua's analysis, the average FFS CMS–HCC risk score is lower by 0.049 because it includes all FFS beneficiaries, not just those with both Part A and Part B, and beneficiaries with Part A only have lower risk scores, on average. (We calculated an average CMS-HCC risk score for all FFS beneficiaries, including those with only Part A, of 1.069, and an average CMS-HCC risk score for FFS beneficiaries with both Part A and Part B of 1.117.) Kronick and Chua's lower estimate of the average FFS CMS-HCC risk score thus results in an MA-to-FFS CMS-HCC risk-score ratio (1.179) that is overstated. We calculated an MA-to-FFS CMS–HCC risk-score ratio of 1.127 using complete data only for FFS beneficiaries with both Part A and Part B. The difference in the average FFS CMS–HCC risk score used accounts for about 80 percent of the difference between Kronick and Chua's 20.0 percent estimate and the Commission's 13.2 percent estimate using the original DECI method with more complete data.

For the national average demographic risk scores, Kronick and Chua calibrated annual risk-adjustment models based only on demographic characteristics for FFS beneficiaries with both Part A and Part B (excluding beneficiaries with end-stage renal disease (ESRD)) by including age category, sex, and Medicaid eligibility (yes or no). For Medicaid eligibility, Kronick and Chua used the "state buy-in" indicator, which does not differentiate between beneficiaries eligible for full or partial Medicaid benefits and is missing about 10 percent of Medicaid-eligible beneficiaries (most of whom are eligible for full Medicaid benefits) who pay their own premiums.[7] Kronick and Chua did not include information about institutional status in the calibration of their risk models because the LTI indicator data were

TABLE 13–1

The DECI estimate of coding intensity in MA in 2019 is about one-third lower when using complete risk-score data and including only beneficiaries who are enrolled in both Part A and Part B

	Risk-score type	Average risk score	MA / FFS ratio before institutional adjustment	MA / FFS ratio	Estimated MA coding intensity
Kronick & Chua's DECI analysis (public data)	MA CMS–HCC	1.250	N/A	1.179	20.0%
	FFS CMS–HCC	1.069[a]			
	MA demographic	[b]	1.005[b]	0.975	
	FFS demographic	[b]			
MedPAC's DECI analysis (complete data)	MA CMS–HCC	1.260	N/A	1.127	13.2%
	FFS CMS–HCC	1.117			
	MA demographic	1.019	N/A	0.995	
	FFS demographic	1.024			

Note: DECI (demographic estimate of coding intensity), MA (Medicare Advantage), FFS (fee-for-service), N/A (not applicable). Average CMS–HCC risk scores are shown as "raw" risk scores, prior to applying the normalization factor and the coding intensity adjustment. Risk scores reflect the blend of risk model versions used for payment in 2019. The DECI estimate is the ratio of the CMS–HCC MA-to-FFS risk-score ratio and the demographic MA-to-FFS risk-score ratio. DECI estimates of 1.132 and 1.200 have been converted to 13.2 percent and 20.0 percent, respectively. Rounding affects some ratio values.
[a]Kronick and Chua's national average FFS CMS–HCC risk-score result is based on publicly available demographic data. Our analysis suggests that their result is calculated using data for all FFS beneficiaries, including those with Part A only, who are not eligible to enroll in MA. Because these beneficiaries, on average, have lower CMS–HCC risk scores than other beneficiaries, including them in this calculation lowers the estimate of the national average FFS risk score, resulting in a higher estimate of coding intensity in MA.
[b]Kronick and Chua's institutional adjustment reduces the MA-to-FFS ratio by 0.03 based on estimates from other data sources. The most recent DECI results (November 2021) report a demographic MA-to-FFS risk-score ratio of 1.005 but do not report the underlying MA and FFS average risk scores.

Source: Kronick and Chua (2021a), Kronick and Chua (2021b), MedPAC analysis of 2019 Medicare enrollment, risk-score, and Master Beneficiary Summary files.

not available to the researchers. To address this issue, they used a rough approximation based on Medicare Current Beneficiary Survey data and reduced the MA-to-FFS demographic risk-score ratio by 0.030 in each year. Kronick and Chua published the coefficients of the demographic risk model, and we were able to closely replicate their results using their coefficients and our demographic data; however, we chose to calibrate our own annual demographic risk-adjustment models with more complete Medicaid eligibility and LTI data (see the text box on the Commission's data sources).

For Medicaid eligibility and institutional status, we used the monthly indicators that CMS uses to apply the appropriate risk score for payment to MA plans and calibrated separate models for beneficiaries with institutional status and with full, partial, or no Medicaid benefits. Using our demographic models, we calculated an average demographic risk score of 1.019 for MA enrollees, 1.024 for FFS beneficiaries, and an MA-to-FFS demographic risk-score ratio of 0.995. Kronick and Chua's average MA-to-FFS demographic risk-score ratio of 0.975 is 0.020 smaller primarily due to the specificity of the data used for Medicaid eligibility and institutional status. The combined effect of more accurate identification of Medicaid eligibility and institutional status accounts for roughly 20 percent of the difference in Kronick and Chua's 20.0 percent estimate and our DECI estimate of 13.2 percent.

Revising the DECI method to account for Medicaid eligibility and institutional status and constrain coding intensity for new enrollees

As with the Commission's original cohort analysis, the original DECI-method MA coding intensity estimates shown in Table 13-1 do not account for differing shares of MA and FFS beneficiaries who are eligible for full, partial, or no Medicaid benefits or have LTI status.

The Commission's data sources for analyzing the demographic estimate of coding intensity method

National average CMS hierarchical condition category risk scores

We identified monthly Medicare Advantage (MA) or fee-for-service (FFS) enrollment using the plan identification in the Medicare common enrollment file, and we required all MA and FFS beneficiaries to have both Part A and Part B using the "Medicare enrollment code" data field. Then we used monthly indicators in risk score data to exclude beneficiary months in which an end-stage renal disease (ESRD) risk score would be applied, and to assign new enrollee and institutional risk scores as appropriate. For all remaining months, we assigned the appropriate community model risk score using a Medicaid eligibility indicator from the enrollment file to adjust for full, partial, or no Medicaid benefits, and we used the beneficiary's age from the risk-score file.[8] In each year, we used the version of the risk model or blend of versions that was used for payment to MA plans.[9] Finally, we aggregated the monthly risk scores to calculate national average MA and FFS CMS hierarchical condition category (HCC) scores. As a check on our method, we compared our estimate of the national average risk score for all FFS beneficiaries in 2019 (including those with Part A only) of 1.0682 to the national average published by CMS of 1.0685. Our estimate of the average risk score for all FFS beneficiaries was similarly close to CMS's published results for 2017 and 2018.

National average demographic risk scores

We calibrated annual risk models based only on demographic characteristics for FFS beneficiaries with both Part A and Part B (excluding beneficiaries with ESRD) by including age category, sex, Medicaid eligibility (full benefits, partial benefits, or no benefits), and institutional status. We used the same enrollment and risk-score indicator variables as in the CMS–HCC risk-score analysis described above. We calculated monthly Medicare spending by summing the annual spending amounts in the Medicare beneficiary summary file (excluding beneficiaries with any hospice use) and dividing by the months of Part A and Part B enrollment in the year. We calculated risk models (with dollar-value age and sex coefficients) for beneficiaries with institutional status, full Medicaid benefits, partial Medicaid benefits, and no Medicaid benefits, and then divided each model's coefficients by the average spending for that group to convert the dollar coefficients to risk scores with an average value of 1.0 for each model. Finally, we applied the risk-score coefficients to MA and FFS beneficiaries with both Part A and Part B and aggregated the demographic risk scores to national annual averages. ■

In a given year, the MA-to-FFS CMS–HCC risk-score ratio reflects the actual enrollment in each program, including differences in the MA and FFS shares of beneficiaries with Medicaid eligibility (see Figure 13-1, p. 424).

As we noted earlier, we estimated that coding intensity differs for beneficiaries eligible for full, partial, and no Medicaid benefits. Therefore, changes in the relative MA and FFS shares can affect the average CMS–HCC risk score for each population, particularly under the risk model introduced in 2017 that has separate sets of model coefficients for full, partial, and no Medicaid benefit populations. Because the original DECI method does not account for such differences in the MA and FFS populations, the method attributes some population-related differences in average CMS–HCC risk scores to coding intensity.

In addition, the original DECI method estimates a coding intensity effect for beneficiaries who are new to Medicare and have risk scores based only on demographic factors. However, these new enrollee risk scores cannot be affected by higher

TABLE 13–2

The DECI estimate of MA coding intensity in 2019 is 11.6 percent when using complete risk-score data, including only beneficiaries who are enrolled in both Part A and Part B, and accounting for Medicaid eligibility, institutional status, and new enrollee status

	CMS-HCC risk-score average		Demographic risk-score average		MA share of continuing enrollees
Beneficiary group	**MA**	**FFS**	**MA**	**FFS**	
Continuing enrollees					
No Medicaid	1.078	0.966	1.017	1.022	79.4%
Partial Medicaid	1.360	1.145	1.006	1.004	7.5
Full Medicaid	1.664	1.438	1.050	1.010	11.8
Institutional	2.319	2.132	2.174	2.179	1.2
MA weighted average risk scores	1.183	1.049	1.034	1.033	

Beneficiary group	**CMS-HCC MA/FFS ratio**	**Demographic MA/FFS ratio**
Continuing enrollees	1.128	1.001

Beneficiary group	**Estimated MA coding intensity**	**MA share of enrollees**
Continuing enrollees	1.127 (12.7%)	91.2%
New enrollees	1.000 (0.0%)	8.8
All enrollees	**1.116 (11.6%)**	

Note: DECI (demographic estimate of coding intensity), MA (Medicare Advantage), FFS (fee-for-service), HCC (hierarchical condition category). Risk scores reflect the blend of risk model versions used for payment in 2019. The DECI estimate of coding intensity is the ratio of the MA-to-FFS CMS–HCC risk-score ratio and the MA-to-FFS demographic risk-score ratio. The 2019 DECI estimate of 1.116 has been converted to 11.6 percent. Rounding affects some ratio values.

Source: MedPAC analysis of 2019 Medicare enrollment, risk-score, and Master Beneficiary Summary files.

MA coding intensity because they are not based on diagnosis codes. Yet, we estimated that new enrollees accounted for roughly 1.1 percentage points of the 2019 DECI estimate (13.2 percent, as estimated by the Commission).[10] (Our cohort method constrains new enrollees to have no coding intensity by assigning them a disease score change of zero, as described in steps 5 and 6a of the text box on the Commission's cohort method, pp. 422–423.)

To constrain the influence of new enrollees in the DECI method and to account for differing shares of MA and FFS beneficiaries who are eligible for Medicaid benefits or who have LTI status, we excluded beneficiaries with new enrollee risk scores from our analysis and then calculated separate MA and FFS CMS-HCC and demographic risk-score averages for the other four groups of continuing enrollees: beneficiaries eligible for no, partial, or full Medicaid benefits and LTI (institutional) beneficiaries (Table 13-2). We then calculated the MA enrollment-weighted average MA and FFS CMS-HCC and demographic risk scores for MA and FFS continuing enrollees. Next, we calculated the MA-to-FFS CMS-HCC risk-score ratio (1.128) and the MA-to-FFS demographic risk-score ratio (1.001) for continuing enrollees. Finally, we combined the DECI estimate for continuing enrollees (12.7 percent) with the constrained DECI estimate for new enrollees

TABLE 13–3

Summary of differences between Kronick and Chua's DECI estimate and the Commission's revised DECI estimate, 2019

	Change in estimate	Estimated MA coding intensity
Kronick and Chua's DECI estimate for 2019		20.0%
Restricting national average FFS CMS–HCC risk score to include only beneficiaries with Part A and Part B	–5.6%	14.4
Calculating MA-to-FFS demographic risk-score ratio with complete Medicaid eligibility and LTI status data	–1.2%	13.2
Constraining new enrollees to have no coding intensity effect	–1.1%	12.1
Accounting for differing shares of MA and FFS beneficiaries eligible for Medicaid or with LTI status	–0.5%	11.6
The Commission's revised DECI coding intensity estimate for 2019		**11.6**

Note: DECI (demographic estimate of coding intensity), FFS (fee-for-service), HCC (hierarchical condition category), MA (Medicare Advantage), LTI (long-term institutional).

Source: Kronick and Chua (2021b) and MedPAC analysis of 2019 Medicare enrollment, risk-score, and Master Beneficiary Summary files.

(1.000) using the MA enrollment share of each group to calculate a revised DECI estimate of 11.6 percent for 2019, which is 8.4 percentage points lower than Kronick and Chua's original estimate shown in Table 13-1 (20.0 percent) (p. 428).

Table 13-3 summarizes the differences between Kronick and Chua's DECI estimates and the Commission's revised DECI estimate for 2019. Removing FFS beneficiaries with only Part A from the national average FFS CMS–HCC risk score accounts for 5.6 percentage points of the overall difference. Using complete Medicaid eligibility and LTI status to calculate demographic-only risk scores for MA and FFS beneficiaries accounts for an additional 1.2 percentage points.

We estimated that refinements to the DECI method—constraining new enrollees to have no coding intensity impact and accounting for differences in MA and FFS beneficiaries' Medicaid eligibility and LTI status—further accounts for 1.1 percentage points and 0.5 percentage points, respectively.

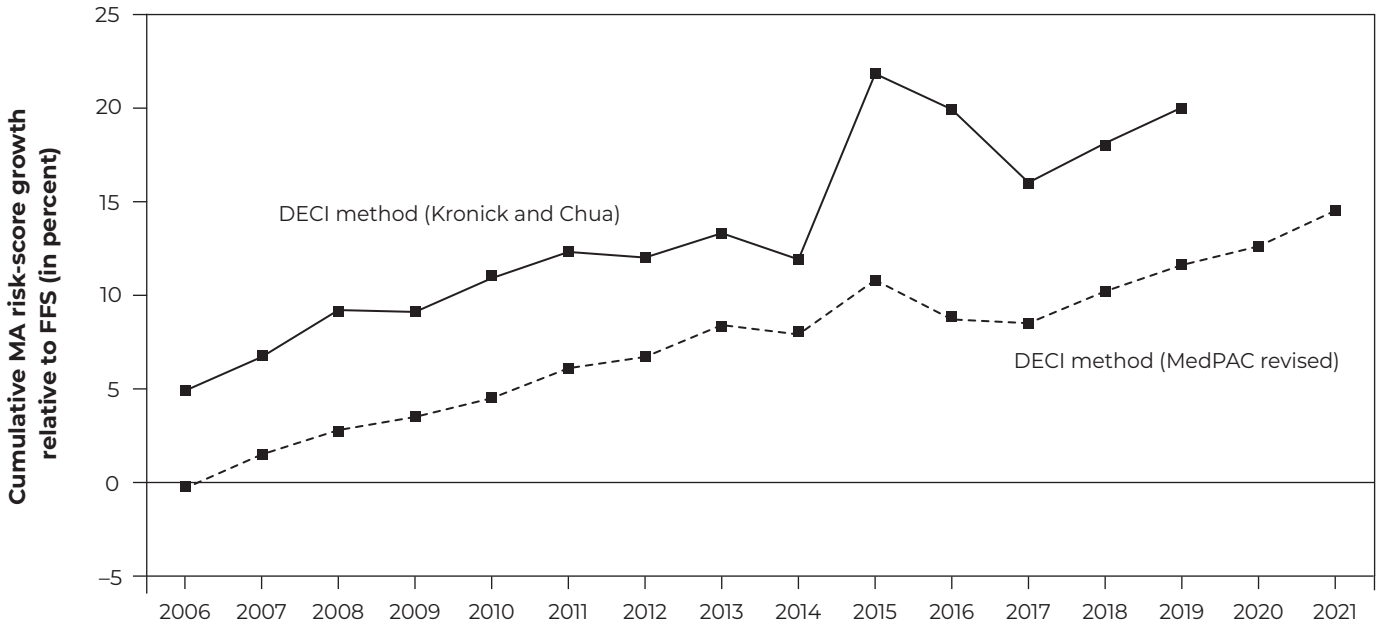
As noted earlier, revising the Commission's cohort method to account for differences in Medicaid eligibility between MA and FFS and to remove a restriction requiring continuous enrollment in either MA or FFS produced a coding intensity estimate for 2019 that was 2.4 percentage points higher than when using our original cohort method (12.4 percent vs. 10.0 percent). Therefore, we find similar coding intensity estimates for 2019: 11.6 percent based on the revised DECI method and 12.4 percent based on our revised cohort method.

We repeated the calculation of our revised DECI estimates for the years 2006 through 2021 and plotted the results in Figure 13-3 (p. 432) alongside Kronick and Chua's DECI estimates (through 2019).

Compared with the Commission's revised DECI estimates, we find that Kronick and Chua's original DECI estimates of coding intensity were higher for all years 2006 through 2019. For most years (except 2014 through 2016, discussed below), the original DECI estimates were 5 percentage points to 8 percentage points higher than the Commission's revised method. Most of the difference in these years is attributable to including the Part A–only population in the FFS CMS–HCC average risk score. Prior to 2017, Kronick

FIGURE 13–3

Previous DECI estimates are consistently overstated when compared with the Commission's revised DECI estimates, 2006–2021



Note: DECI (demographic estimate of coding intensity), MA (Medicare Advantage), FFS (fee-for-service).

Source: Kronick and Chua (2021b) and MedPAC analysis of 2006 through 2021 Medicare enrollment, risk-score, and Master Beneficiary Summary files.

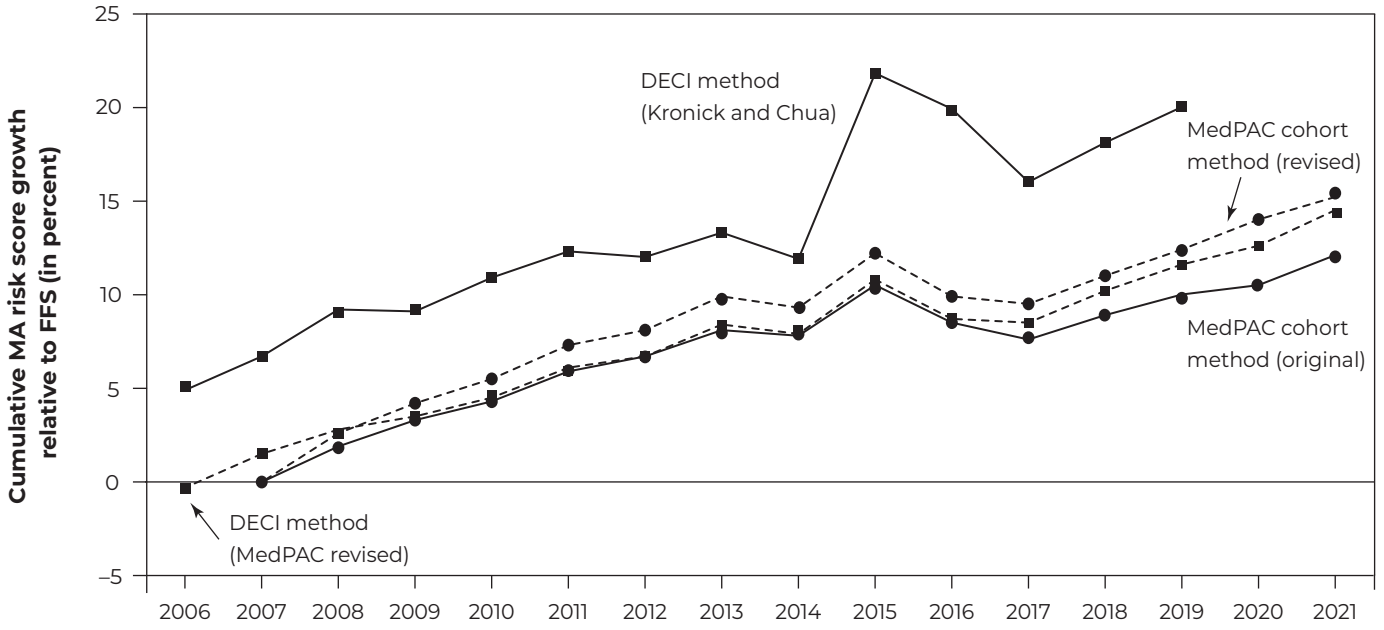
and Chua's DECI method used the FFS normalization factor as a proxy for the FFS CMS–HCC average risk score. The FFS normalization factor is a projection of what the average FFS risk score will be in each payment year based on the trend of five historic years of risk scores for all FFS beneficiaries (including those with Part A only), and therefore the factor may not match the actual average FFS risk score for a payment year. In 2014, the normalization factor overestimated the actual FFS CMS–HCC risk score for all beneficiaries, thereby partially offsetting the effect of including Part A–only beneficiaries and causing the original DECI estimate to be only 4 percentage points higher than our revised DECI estimate (Centers for Medicare & Medicaid Services 2017).[11] In 2015 and 2016, the normalization factor underestimated the average actual FFS risk score for all beneficiaries by about 2 percent, further inflating the original DECI estimate to about 11 percentage points higher than our revised DECI estimates (Centers for Medicare & Medicaid Services 2020b).[12]

Revised DECI estimates closely match the Commission's cohort method estimates of coding intensity

The Commission's revised DECI estimates are very similar to estimates produced by our original cohort method of estimating coding intensity prior to 2017, but estimates from the two methods diverge in subsequent years. The revised DECI estimates increased from 0.9 percentage points higher than our original estimates in 2017 to 2.4 percentage points higher in 2021. In Figure 13-4, we show that the Commission's revised DECI estimates closely align (within 1.5 percentage points for all years except 2007) with estimates from our revised cohort method, particularly for 2017 and subsequent years. We note that in 2017, the CMS-HCC risk-adjustment model incorporated different model segments (and coefficients) for beneficiaries based on having full, partial, or no Medicaid eligibility. Both the revised DECI and revised cohort methods account for

FIGURE 13–4

The Commission's revised DECI estimates closely align with our revised cohort method, 2006–2021



Note: DECI (demographic estimate of coding intensity), MA (Medicare Advantage), FFS (fee-for-service).

Source: Kronick and Chua (2021b) and MedPAC analysis of 2006 through 2021 Medicare enrollment, risk-score, and Master Beneficiary Summary files.

differences in the share of MA and FFS beneficiaries by Medicaid eligibility status, and since 2017, estimates from these two methods track more closely than the Commission's original cohort method, which does not account for differences in Medicaid eligibility. We conclude that the revised DECI method and our revised cohort method provide similar and accurate estimates of the impact of MA coding intensity.

The Commission adopts the revised DECI method

After making the methodological improvements described above to the DECI and the Commission's cohort methods, both approaches produce consistent results. That gives us confidence in our estimate of MA coding intensity. The Commission has decided to adopt the revised DECI method for estimating the effects of MA coding intensity in current and future analyses. The revised DECI method is able to incorporate a larger share of the MA and FFS populations, is not subject to the potential for small numbers in the age and sex × Medicaid eligibility × enrollment categories used in our revised cohort method, and does not rely on any assumptions about when MA coding intensity surpassed FFS coding intensity:

- the revised DECI method incorporates a larger share of beneficiaries by including beneficiaries with LTI status and beneficiaries with partial years of enrollment;
- to account for age, sex, Medicaid eligibility, and enrollment length, the Commission's cohort method requires a large and increasing number of sub-cohorts (28 age and sex categories × 3 Medicaid eligibility categories × 17 enrollment categories for 2021) where small numbers may become an issue; and

- the revised DECI method can empirically show that MA coding intensity surpassed FFS coding intensity between 2006 and 2007. We draw this conclusion from the negative revised DECI estimate in 2006 and the positive estimate in 2007. (For our cohort method, we assumed that MA coding intensity began in 2007, which has turned out to be reasonable, but it was not based on an empirical assessment.)

Chapter 12 discusses the Commission's estimates of the effects of coding intensity using our revised DECI method for 2007 through 2024.

Revising the Commission's method for estimating favorable selection into MA

Because MA benchmarks are based on risk-standardized county-level FFS spending, CMS relies on enrollee risk scores to help ensure comparability between the MA and FFS populations. The risk score indicates a beneficiary's expected cost relative to the cost of the national average FFS beneficiary (e.g., a beneficiary with a risk score of 1.65 has expected costs that are 65 percent higher than the national average). The balance of Medicare's payments to MA plans relative to FFS (how well payments to MA plans match what FFS would have spent on MA enrollees) depends in large part on how well the risk scores predict the expected costs for the plans' enrollees, given their demographics and medical conditions. When setting MA benchmarks, CMS assumes that if MA enrollees were in FFS, their average Medicare spending would be equal to that of current FFS enrollees in the same local area after adjusting for differences in risk scores (prior to the effects of differences in coding practices between MA and FFS).

However, a substantial body of research suggests that risk scores do not fully account for spending differences between the FFS and MA populations because of favorable selection into MA (or adverse selection into FFS) (Brown et al. 2014, Curto et al. 2021, Curto et al. 2019, Goldberg et al. 2017, Government Accountability Office 2021, Jacobs and Kronick 2018, Jacobson et al. 2019, Lieberman et al. 2023, Medicare Payment Advisory Commission 2023b, Medicare Payment Advisory Commission 2012, Meyers et al. 2019, Newhouse et al. 2015, Rahman et al. 2015, Riley 2012, Ryan et al. 2023). The effect of favorable selection occurs before any plan intervention occurs; favorable selection is when the average beneficiary who chooses MA has lower actual spending compared with what their risk score predicts. Favorable selection can pertain to relative health status but can also pertain to other factors such as preferences in care. (See text box describing the plan and beneficiary factors that may lead to favorable MA selection, p. 436–437.)

The effect of favorable selection may increase or decrease in any given year, depending on the relative change of the MA and FFS populations. Beneficiaries with the same risk can have a wide distribution of actual spending (Lieberman et al. 2023). Because MA payments are risk standardized relative to the FFS population, higher-spending beneficiaries (including dual-eligible beneficiaries) are not necessarily unfavorable to MA plans. Favorable selection indicates that, on average, enrollees in MA have lower actual spending relative to what is predicted by their risk score (without any intervention from MA plans). Each year, a mix of beneficiaries who are favorable and unfavorable enroll in MA. As the share of beneficiaries in MA increases, it is not clear how favorable selection will change. It is possible that as MA grows, the favorability of the MA program will converge with the population remaining in FFS, and favorable selection will decrease. Alternatively, it is possible that as fewer beneficiaries remain in FFS, benchmarks will be set on an increasingly small group that is not representative of the Medicare population. For example, remaining beneficiaries in FFS may have a much higher rate of comprehensive supplemental coverage or life-threatening conditions such as cancer, which would tend to increase their preference for care and may increase favorable selection. One white paper found that selection was prevalent in counties with high MA penetration (Lieberman et al. 2023).

In prior work, the Commission estimated that if MA enrollees were in FFS, their 2019 spending would have been 11 percent lower than the spending of beneficiaries who actually enrolled in FFS and had the same risk scores (Medicare Payment Advisory Commission 2023b). Thus, risk-standardized spending on MA enrollees is lower than the FFS average prior to the effects of any utilization management or differential coding from MA plans. In this section, we

describe improvements in our method and update the analysis to estimate the cumulative favorable selection in each year from 2017 to 2021 (including potential effects from the coronavirus pandemic in 2020 and 2021). In this new analysis, we continue to estimate that—prior to any intervention from MA plans—average MA enrollees have substantially lower spending than FFS beneficiaries with the same risk scores, resulting in higher benchmarks and payment rates for MA plans. We estimate that:

- MA entrants as a group had lower risk-standardized spending in the year prior to joining an MA plan over the period from 2007 to 2021;
- beneficiaries who subsequently stayed in MA for longer periods of time tended to have lower pre-MA risk-standardized spending than enrollees who either died or disenrolled; and
- using our estimates of regression to the mean during MA enrollment (which remove any effects from the intervention of MA plans), for beneficiaries who remained in MA, the effects of favorable selection—lower risk-standardized spending—persisted for years after they entered MA.

After estimating the effects of enrollment attrition and regression to the mean during MA enrollment, we estimate that favorable selection resulted in MA spending in 2017 that was 5.6 percent lower than for FFS beneficiaries with the same risk score (equivalent to payments 5.9 percent above FFS spending). By 2021, we estimate that favorable selection increased MA payments by roughly 12.8 percent above what the program would have paid under FFS.

Thus, favorable selection into MA causes risk scores to systemically overpredict spending for MA enrollees; that is, spending on the average MA enrollee is lower relative to what their risk score, and MA plan payment, would suggest. This lower-than-predicted spending is evident in the years prior to a beneficiary enrolling in an MA plan, and thus the overprediction by a beneficiary's risk score cannot be attributed to any plan activity (such as utilization management). Because plan benchmarks rely on risk-standardized FFS Medicare spending estimates, they reflect the higher level of costs associated with the FFS-enrolled population rather than the costs associated with a plan's enrollees. For example, in a county with a benchmark set at 100 percent of FFS spending, favorable selection allows plans to submit bids that are lower than FFS spending without producing any efficiencies in care delivery (that is, before accounting for the added effects of plan benefit design and cost-containment efforts). Note that the favorable selection that MA plans experience is separate from the effects of higher MA coding intensity, but the effects of the two phenomena are additive.

Revising the Commission's method of estimating a favorable selection percentage

The amount of favorable selection that MA plans experience in payment benchmarks can be estimated using a selection percentage, which represents the risk-standardized payments for MA enrollees as a percentage of the local FFS spending average. As discussed below, some prior research estimated the selection percentage in the year prior to MA entry for beneficiaries who switch from FFS to MA; this approach has some advantages because it eliminates the effects on spending of MA plan benefit design, utilization management, and coding differences (see text box, pp. 438–439, describing prior research measuring MA favorable selection). The Commission's June 2023 report to the Congress used this method for several FFS-to-MA switching cohorts who were still enrolled in MA in 2019 and used the FFS experience of 2020 MA entrants to account for expected changes in favorable selection during MA enrollment (Medicare Payment Advisory Commission 2023b). Seeking to further refine our estimate of favorable selection and incorporate our analysis of favorable selection into our estimate of MA payments reported in our annual March report to the Congress, the analysis described below maintains the same analytic framework we used in our June 2023 report but makes four key technical improvements:

- First, we expanded our estimate of MA favorable selection to include overall estimates in each year from 2017 through 2021. We continued to use beneficiary enrollment and spending data beginning with the cohort of 2008 MA entrants; expanding our estimate of overall selection (beyond 2019) allows us to better understand how favorable selection has changed over time.
- Second, we included employer plan enrollees and hospice enrollees more directly in our estimate of favorable selection. Previously, we assumed that MA employer plan enrollees had no favorable

Medicare Advantage plan and beneficiary factors that may produce a favorable selection of enrollees

Even after risk standardization, we estimate that the beneficiaries who choose to enroll in a Medicare Advantage (MA) plan systemically incur lower Part A and Part B spending than those who stay in the fee-for-service (FFS) program (or switch from MA to FFS), implying a correlation between a beneficiary choosing to join an MA plan and having lower risk-standardized spending. When the risk-adjustment model overpredicts what MA enrollees on net would have spent if they were in FFS, the result is higher payments for MA plans, and the overprediction distorts the comparison of risk-standardized spending on MA and FFS enrollees (Curto et al. 2021). This phenomenon may be driven by both non-plan and plan-level factors.

The MA program design gives plans a financial incentive to enroll beneficiaries with actual costs that are likely below what FFS Medicare's payment would have been for that beneficiary, as adjusted by the beneficiary's risk score. This incentive does not result in a preference for healthy enrollees but, rather, a preference to enroll beneficiaries who are likely to incur lower costs than others with a similar risk profile (Brown et al. 2014).[13] Plans can develop offerings designed to attract such enrollees—and discourage the enrollment of beneficiaries with higher expected costs relative to their risk scores—using strategies such as utilization management, extra benefits, and cost-sharing arrangements.

Moreover, beneficiaries who have systematically lower spending than predicted may be more likely to enroll in MA plans. This choice could result in favorable selection independent of any plan efforts. For example, beneficiaries tend to enroll in a plan when the plan's benefit package matches their own self-assessed preferences and needs. These preferences may be guided by enrollment brokers who receive financial incentives for enrolling beneficiaries in certain MA, Part D, or Medigap plans. Because health needs, preferences for health care service use, and financial priorities vary across the Medicare population, plans that are attractive to some beneficiaries will be unattractive to others. Risk scores account for some, but not all, of the variation in cost for MA beneficiaries (Brown et al. 2014, Jacobson et al. 2019). This additional variation in cost can include the overprediction of risk-standardized spending for Black and Hispanic beneficiaries (McWilliams et al. 2023). Thus, as MA plans enroll a higher share of Black and Hispanic beneficiaries, the average risk-standardized spending of their enrollees may become more favorable. While increased access to services once beneficiaries are enrolled in MA could dampen some of the effects of favorable selection, limited evidence suggests that MA plans are not providing greater access to services overall relative to FFS (Aggarwal et al. 2022, Commonwealth Fund 2021, Fuglesten Biniek et al. 2021).

Likewise, beneficiaries' health needs and financial situations change over time, and beneficiaries may find that a plan that worked well for them in the past no longer meets their needs.[14] While many beneficiaries who switch from MA to FFS are not guaranteed a Medigap plan, a growing literature has found that a disproportionate share of the beneficiaries who leave MA for FFS are chronically ill, costly, or nearing the end of life (Goldberg et al. 2017, Government Accountability Office 2021, James et al. 2023, Meyers et al. 2019, Rahman et al. 2015, Riley 2012).

Plan networks and utilization management

MA plans can influence which beneficiaries enroll in their plan by maintaining either narrow or preferred provider networks. (An in-depth discussion of this type of plan influence will be undertaken in future work.) Plan networks can potentially lead to higher-quality care by ensuring that only high-quality providers are in network. However, a more limited network can also contribute to favorable selection by discouraging beneficiaries with preferences for certain health care services from enrolling in MA plans. For instance, MA plan networks may be

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Medicare Advantage plan and beneficiary factors that may produce a favorable selection of enrollees (cont.)

less likely than FFS to include cancer centers and geriatricians, endocrinologists, and psychiatrists (Jacobson et al. 2017, Jacobson et al. 2016b). A plan's network design can also contribute to favorable selection by including clinicians whose practice patterns and patient population tend to have lower overall medical spending (relative to what patient risk scores predict), or by dropping clinicians whose practice patterns and patient population have higher overall medical spending.

Plans also use other techniques—like prior authorization, claims denials, and sometimes coordination among specified providers—to encourage the use of high-value care and discourage the use of low-value services.[15] However, beneficiaries with complex care needs may view these techniques as barriers to obtaining medically necessary care, which may lead some enrollees with complex care needs to disenroll (Meyers et al. 2019). In addition, these techniques—combined with potentially lower payment rates from MA plans—may influence some skilled nursing facilities to either encourage beneficiary MA disenrollment or even disenroll beneficiaries from MA plans without the beneficiaries' consent (Centers for Medicare & Medicaid Services 2021, Centers for Medicare & Medicaid Services 2015).

Cost sharing

MA plans may also attract some beneficiaries because they often have a different cost-sharing structure than FFS, including an overall limit on out-of-pocket spending and a variety of extra benefits. Although plans require cost sharing for most services, they can use different cost-sharing arrangements to encourage beneficiaries to use less costly sites of care. Beneficiaries who expect to use more medical services than average may prefer more comprehensive coverage of their cost sharing and therefore remain in FFS and purchase supplemental Medigap insurance to cover their out-of-pocket spending. Comprehensive supplemental coverage (e.g., Medigap plans F and G) limits any out-of-pocket liability for beneficiaries and may induce additional service use (Direct Research 2014). This induced utilization may contribute to favorable selection for MA enrollees who would not have received comprehensive supplemental coverage while enrolled in FFS.

As described above, actual health care spending does not perfectly correlate with the spending predicted by risk scores. For a number of reasons (including personal attitudes toward health care use, provider treatment decisions, and interactions between health care conditions), beneficiaries with the same risk scores can have higher or lower actual costs. MA plans typically offer supplemental coverage for Medicare services (including an out-of-pocket maximum), which can include Part B and Part D premium reductions. However, these extra benefits are paired with in-network requirements and cost sharing for many services. While some beneficiaries may be attracted to an MA plan because of the out-of-pocket maximum, only a limited set of beneficiaries (e.g., ESRD beneficiaries with limited or no Medicaid coverage) would likely expect their out-of-pocket costs to exceed an MA-plan's out-of-pocket maximum.[16] Thus, most prospective MA enrollees are unlikely to rely on an MA plan's out-of-pocket maximum, and plans are likely to attract many beneficiaries who are not inclined to use many health services while discouraging some beneficiaries who use more services from enrolling.[17] ■

selection; now we estimate the extent of their favorable selection with all other MA enrollees. Even though the choice to enroll in an employer plan may be different from the choice to enroll in a conventional MA plan, there is still potential for favorable selection. In addition, while we previously excluded enrollees who used any hospice services, we now include them in our estimates to better

An overview of prior research estimating favorable selection in Medicare Advantage

Medicare Advantage (MA) plans benefit from a favorable selection of enrollees if their spending on Part A and Part B benefits is, on average, consistently lower than the amount predicted by their enrollees' risk scores. (Conversely, plans would be adversely affected by unfavorable selection if their spending were, on average, consistently higher than the amount predicted by their enrollees' risk scores.) In measuring the effects of favorable selection, one must control for other important factors that can affect spending on MA enrollees, such as plan benefit designs, cost-containment efforts, and diagnostic coding practices.

Measuring the impact of favorable selection in MA is challenging because plans do not submit beneficiary-level spending data, and plans' diagnostic coding practices increase their risk scores relative to fee-for-service (FFS) Medicare, preventing an apples-to-apples comparison of actual and projected spending amounts for beneficiaries enrolled in MA plans. Studies vary widely in the way they measure selection, their sample populations, and the years of data used. Some studies have found evidence of favorable selection using indirect measures, such as mortality (Curto et al. 2019, Newhouse et al. 2019) and Part D event data (Jacobs and Kronick 2018). One recent study found that MA enrollment was systemically and disproportionately higher in counties where CMS overpredicted risk-standardized FFS spending (relative to the national FFS average), resulting in an estimated $9.3 billion per year in additional MA payments before even considering the risk-standardized differences between the MA and FFS populations (Ryan et al. 2023). Other studies have examined the risk scores and spending in the year before beneficiaries switch from FFS to MA (Jacobson et al. 2019, Lieberman et al. 2023, Newhouse et al. 2015). This approach is appealing given that an increasing share of MA enrollees were once in FFS Medicare (Xu et al. 2023). The prior-year spending and risk scores published in one study indicated that the risk-standardized spending of a sample of beneficiaries who switched from FFS to MA in 2010 was 13 percent lower than beneficiaries who remained in FFS (Newhouse et al. 2015). A 2019 study found that risk-standardized spending was 16 percent lower for a sample of beneficiaries in the year before switching to MA in 2016 compared with a sample of beneficiaries who stayed in FFS (Jacobson et al. 2019). A more recent

(continued next page)

align our methodology with CMS's methodology for calculating the FFS spending used for MA benchmarks. We estimate that including employer plan and hospice enrollees increased our estimate of favorable selection by less than 1 percentage point. We will consider the feasibility of segmenting employer plan enrollees in future estimates.

- Third, we improved how we trend forward the spending for MA enrollees from the year before MA entry to the measurement year in order to better estimate the expected "regression to the mean" effect during MA enrollment. While we previously assumed that an MA entry cohort's selection percentage (i.e., their risk-standardized spending relative to the local FFS average) would trend forward with the same slope as future MA enrollees (our proxy group), we now match the distribution of the initial selection percentage of both groups before trending the selection percentage forward to the measurement year. We estimate that this change decreased our estimate of favorable selection by 2 percentage points to 3 percentage points.

An overview of prior research estimating favorable selection in Medicare Advantage (cont.)

study used spending data from 2015 through 2019 and estimated favorable selection equivalent to 14.4 percent of MA revenue, or $59.3 billion in 2023 (Lieberman et al. 2023).

In 2012, the Commission also used the method of examining spending in the year before MA entry and found favorable selection both within CMS hierarchical condition categories (HCCs) and among one year of MA entrants overall (Medicare Payment Advisory Commission 2012). In the year before MA entry, the Commission found MA favorable selection within 68 of 70 CMS–HCCs and found that MA entrants had risk-standardized spending that was 15 percent lower overall than beneficiaries who remained in FFS. In addition, the Commission found that MA plans benefited from beneficiaries who switched from MA to FFS. The FFS spending for these beneficiaries was 16 percent higher than for beneficiaries who were continuously enrolled in FFS.

Despite results that suggest favorable selection for MA enrollees, examining spending in the year prior to MA entry has its limitations. In 2012, the Commission noted that using only one year of MA enrollee data to measure favorable selection can estimate the effect of selection during the MA enrollment period—including when beneficiaries switch between FFS and MA—but it does not provide direct information about the persistence of the effects of favorable selection for the duration of MA enrollment. Researchers who used indirect measures of selection (e.g., mortality) have also acknowledged this limitation (Newhouse et al. 2019). One recent study indirectly addressed this limitation by assuming that the effect of favorable selection would be reduced by 15 percent relative to the prior year (Lieberman et al. 2023).

The Commission's June 2023 report to the Congress recently attempted to address this limitation by following cohorts of enrollees from the year before they switched to MA through 2019 and using the FFS experience of 2020 MA entrants to account for expected changes in favorable selection during MA enrollment (Medicare Payment Advisory Commission 2023b). We estimated that 2019 MA enrollees cumulatively had a selection effect that resulted in spending that was 11 percent lower than spending on the FFS population (prior to the effect of plan utilization management and coding). ■

- Fourth, we trended forward the spending of MA entrants in the measurement year from the year before MA entry to the measurement year—a modification that pertains to only the newest MA entrants. We previously assumed that the selection percentage in a given year (say, 2018) would have sustained the same level in the subsequent year for entrants in that year (say, 2019 for 2019 MA entrants). This change more accurately trends forward the selection percentage between the two years. We estimate that this change increased our estimate of favorable selection by less than 1 percentage point.

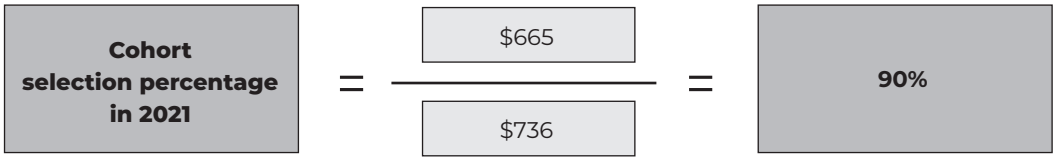
Estimating favorable selection when beneficiaries first enroll in MA

As our first step to better understand favorable selection, we built on our recent method of analyzing FFS spending in the year prior to MA enrollment by analyzing a longer period of spending in the year before MA entry (2007 through 2021). For each year, we compared the FFS spending for beneficiaries who switched into MA in the subsequent year with spending for the beneficiaries who stayed in FFS (Figure 13-5, p. 440). For example, we calculated the ratio of 2021 FFS spending for beneficiaries who switched to MA in 2022 to the 2021 FFS spending for beneficiaries who

FIGURE 13-5

Illustrative example of estimating the favorable selection percentage for MA entrants in 2022

	Inclusion criteria	2021 FFS spending
Cohort	2021 FFS enrollment and 2022 MA entry	**$665** per member per month
Comparator	Continuous FFS enrollment in 2021 and 2022	**$736** per member per month



Note: MA (Medicare Advantage), FFS (fee-for-service). Both the MA cohort and FFS comparator groups had FFS enrollment in 2020. The analysis excludes beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the year of MA entry as well as beneficiaries who joined a non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory). Spending for the FFS comparator group reflects the county-level average, adjusted by the geographic and risk-score distribution of the MA cohort. The selection percentage reflects the risk-standardized spending below the local FFS average prior to any MA efficiencies or coding differences. The selection percentage reflects 2021 spending and CMS–HCC risk scores. Because risk scores use prospective diagnoses from 2020, all beneficiaries in the analysis are required to have two full years of data.

Source: MedPAC analysis of Medicare enrollment, Medicare claims spending, and risk-adjustment files, 2020–2022.

remained in FFS in 2022. We then converted the result to a percentage that we call the "selection percentage." (When calculating benchmarks, CMS adjusts for geographic distribution (i.e., county-level enrollment) of beneficiaries and differences in risk scores. Similarly, we adjusted the spending of beneficiaries who remained in FFS to have the same geographic distribution and risk scores as the beneficiaries who switched to MA.) We calculated an initial selection percentage for each cohort that entered MA in 2008 through 2022.

Study and comparison populations

We included beneficiaries in our study population if they (1) enrolled in MA between 2008 and 2022 and (2) had been enrolled in FFS and had both Part A and Part B coverage for at least two full calendar years prior to enrolling in MA. We required beneficiaries to have at least two full calendar years of FFS enrollment because the CMS–HCC risk-adjustment model calculates risk scores using diagnoses from the prior year's claims, so we needed data on MA beneficiaries with two years of prior FFS enrollment to calculate risk scores for their last year of FFS enrollment. In 2021, about half of MA entrants (53 percent) met these criteria; for the remaining entrants, 8 percent had between one and two years of prior FFS enrollment, 12 percent had less than one year of prior FFS enrollment, and 26 percent had no prior FFS enrollment (meaning they enrolled directly in MA when they first became eligible for Medicare Advantage).[18,19] Among all MA entrants from 2008 through 2021 who were enrolled in MA at any time in 2021, 38 percent had at least two years of prior FFS enrollment, 6 percent had between one and two years of prior FFS enrollment, 23 percent had less than one year of prior FFS enrollment, and 33 percent had no prior FFS enrollment.[20] We divided the study population into 15 annual cohorts based on the year they enrolled in MA (2008 through 2022).

Although enrollment in employer plans and hospice occurs only in limited circumstances, these populations influence the overall effect of favorable selection that MA plans experience. As an improvement to the Commission's June 2023 report, we included beneficiaries in our study population who were enrolled in employer-sponsored MA plans. Previously, while some employers offer beneficiaries both a Medigap and MA option, we assumed that because most beneficiaries in employer-sponsored plans often have limited control over their decision to join or leave MA, there were limited opportunities for favorable selection for those plans. We tested this assumption across multiple years of spending in the year before MA entry. From 2016 through 2021, we estimated that their average risk-standardized spending was above the spending for other MA entrants but also below the average spending for beneficiaries who stayed in FFS (i.e., there was consistent evidence of at least some favorable selection).[21] The Commission previously reported that employer plan enrollees have favorable quality ratings, which may be due to higher average income, better health, and better access to health care (Medicare Payment Advisory Commission 2020a). These characteristics may also contribute to this group of beneficiaries having lower spending relative to their risk scores in their local areas.

In addition, to improve on the Commission's June 2023 report, we included beneficiaries who received hospice care during either the reference year (i.e., the year before MA entry) or the subsequent year. This technical revision improves our analysis because the nonhospice spending for beneficiaries who receive hospice care is included in MA benchmarks. In addition, hospice enrollees typically have high risk-standardized spending but receive their Medicare Part A and Part B coverage from FFS and not from MA plans. Thus, we estimate that FFS beneficiaries who elect hospice are typically unfavorable to MA plans and remain in FFS—resulting in an additional form of favorable selection. Further, the inclusion of hospice users is consistent with both our retrospective and prospective comparisons of MA payments relative to FFS spending (Medicare Payment Advisory Commission 2023c).

For the comparison population, we used FFS beneficiaries who did not switch to MA. We included any FFS beneficiaries who met our inclusion criteria for sufficient data and would have been part of CMS's MA benchmark calculation. These beneficiaries had to have both Part A and Part B coverage for at least two full years by the end of the reference year (the study population's last year of FFS enrollment). For both our MA and FFS comparison populations, we required that beneficiaries live in the same county during the reference year because we used county-level figures in our spending calculations.

We excluded beneficiaries from either population if they had end-stage renal disease (ESRD) or if they had another source of health coverage for which Medicare acted as a secondary payer during the reference year. CMS excludes beneficiaries with ESRD from benchmark calculations, pays MA plans for ESRD beneficiaries based on state-based FFS rates, and adjusts benchmarks and payments for those with Medicare as a secondary payer to remove the secondary-payer effect.

Calculation of average FFS spending per capita

We calculated the average FFS spending per capita for the study and comparison populations using beneficiary-level spending data in each county. We then aggregated the county-level figures into an overall national average.

- We divided each beneficiary's actual FFS spending in the reference year by their CMS–HCC risk score for that year to generate their risk-standardized annual spending; we then divided that figure by 12 to produce the beneficiary's average risk-standardized monthly spending amount.
- We then calculated the average risk-standardized monthly spending in each county for the study and comparison populations. We multiplied the beneficiary-level figures by the number of months in the following year that beneficiaries were enrolled in MA (for the study population) or FFS (for the comparison population), and then we divided those amounts by the total number of MA or FFS enrollment months in the county. For beneficiaries who had some MA enrollment and some FFS enrollment during the year, we allocated their spending based on the number of months enrolled in each program. When a county's study or comparison population had fewer than 1,000 beneficiaries, we blended its average spending figure with the corresponding figures

for neighboring counties, similar to the "credibility adjustment" that CMS makes to MA benchmarks to ensure that they are reliable.

- Then we calculated a national figure for average risk-standardized monthly spending for the study and comparison populations. We summed the FFS and MA county-level spending figures weighted by the number of MA enrollment months and the average MA risk score (using the FFS experience of MA enrollees) for each county, and then we divided by the national total of MA enrollment months. This approach for standardizing ensured that the figure for the comparison population (FFS stayers) had the same geographic distribution and risk scores as the figure for the study population (new MA entrants).

We performed separate calculations for each annual cohort of MA entrants and its corresponding comparison population.

Estimating the effect of favorable selection on benchmarks

We estimated the effect of favorable selection for each cohort by dividing the national figure for average risk-standardized monthly spending for the study population (new MA entrants) by the corresponding figure for the comparison population (FFS stayers) and converting the result into a percentage, called the selection percentage (Figure 13-5, p. 440). There was favorable selection in MA if the selection percentage was less than 100 percent and unfavorable selection if the percentage was more than 100 percent. For example, an estimate of 95 percent means that the prior-year FFS spending for new MA entrants was 5 percent less than the prior-year spending for beneficiaries who remained in FFS, even after adjusting for differences in the risk scores and geographic distribution of the two groups.

Beneficiaries enrolling in MA showed evidence of favorable selection at the time of MA entry throughout the period from 2007 to 2021

We examined the prior-year spending of MA entrants nationally and found evidence of favorable selection among new MA enrollees throughout the period from 2007 to 2021 (Figure 13-6). We estimate that the selection percentage ranged from 90 percent to 96 percent during the period. Favorable selection at MA enrollment was highest in 2011 (MA spending was 10.3 percent less than FFS spending for a beneficiary with the same risk score, a selection percentage of 89.7) and began to steadily decline through 2016, which had the lowest amount of favorable selection (MA spending was 4.2 percent less than FFS spending for a beneficiary with the same risk score, a selection percentage of 95.8). After 2016, favorable selection at MA enrollment began to steadily increase, reaching risk-standardized spending that was 10 percent below the local FFS average (a selection percentage of 90 percent) in 2021. The increase in favorable selection as of 2017 coincided with changes to the CMS–HCC risk-adjustment model, which segmented full and partial dual-eligible beneficiaries by disability status. Thus, as dual-eligible beneficiaries were no longer unfavorable in the risk-adjustment model, the effect of favorable selection among MA entrants began to increase—coinciding with a continued increase in the share of dual-eligible beneficiaries who enrolled in MA during the 2017 to 2021 period.

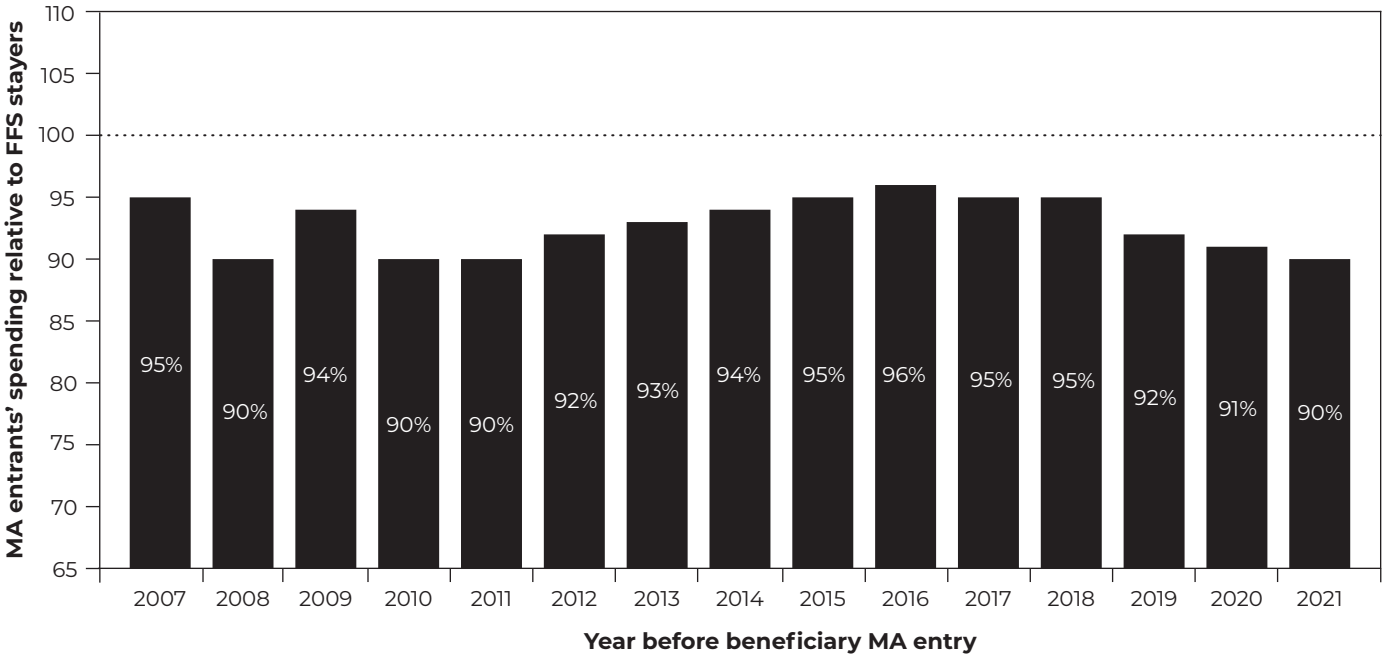
The effects of favorable selection among MA entrants were not explained by risk-score differences with the comparison population. For example, the prior-year average risk score of MA entrants from 2020 through 2022 was only 3 percent lower than the prior-year average risk score of FFS stayers during those years (data not shown), a period during which the effects of favorable selection far exceeded these risk-score differences. Consistent with prior MedPAC research (Medicare Payment Advisory Commission 2012), this suggests that MA enrollees have lower spending relative to FFS enrollees with the same set of chronic conditions.

Estimating the overall effect of favorable MA selection

While the conventional approach of examining FFS spending prior to MA entry suggests favorable selection when beneficiaries first enroll in MA, it does not provide an estimate of the overall impact of favorable selection on the FFS spending estimates used for MA benchmarks in any given year. The conventional approach can be limited because it does not account for subsequent changes that can either increase or reduce favorable selection. Figure 13-7 (p. 444) shows how the estimate of favorable selection for the 2017 cohort of MA entrants could change between 2017 and 2021.

FIGURE 13–6

Beneficiaries' FFS spending in the year before MA enrollment suggests favorable selection into MA from 2007 to 2021



Note: FFS (fee-for-service), MA (Medicare Advantage). MA entrants are beneficiaries who switched from FFS to MA. FFS stayers are beneficiaries who remained in FFS. Spending reflects the year prior to MA entry and is risk standardized. Lower MA entrant spending relative to FFS stayers reflects a greater effect of favorable selection. The analysis excludes beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the year of MA entry as well as those who joined a non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory).

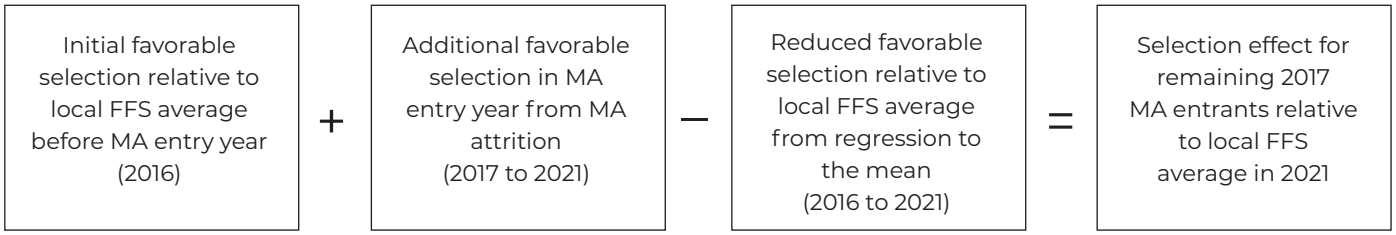
Source: MedPAC analysis of Medicare enrollment (2006–2022), Medicare claims spending (2007–2021), and risk-adjustment files (2007–2021).

The effect of favorable selection for a cohort of MA enrollees is potentially affected by both attrition out of MA over time and the convergence of risk-standardized spending for the beneficiaries who remain in the MA cohort toward the annual average risk-standardized spending. Estimates of the overall effects of favorable selection need to account for both factors.

- After the initial year of MA entry, some enrollees will either return to FFS or die. Because beneficiaries who leave MA or die are likely to have high utilization of services, the attrition in MA enrollment likely increases favorable selection for MA plans. Thus, the selection percentage that we calculated for the initial year of MA entry (shown in Figure 13-6) must be adjusted to reflect the population that is still enrolled in MA in later years.
- While a cohort of MA enrollees may have favorable risk-adjusted spending relative to the local FFS population when they first enter MA, the effect of favorable selection may become smaller in later years. This concept is often referred to as "regression to the mean," but previous studies have largely assumed it occurs rather than measured it directly.[22] Regression to the mean assumes that the effects of favorable selection will decline over a period of time because the growth in spending for MA enrollees will exceed their growth in risk scores during their enrollment (independent of the effects of coding differences and any plan interventions). To the extent that risk scores of MA entrants grow at the same rate as their spending, the effect of favorable selection of MA entrants will not decline (i.e., there will be no regression to the mean).

FIGURE 13-7

Illustration of the components that determine the net amount of favorable selection in 2021 for remaining MA entrants from 2017



Note: MA (Medicare Advantage), FFS (fee-for-service). Favorable selection is the percentage of risk-standardized spending below the local FFS average prior to any MA efficiencies or coding. Attrition of MA enrollment reflects the beneficiaries who were not continuously enrolled in MA from 2017 through at least the first month of 2021. The effects of attrition and regression to the mean can be either positive or negative.

Source: MedPAC.

These two factors work in opposite directions: Attrition due to beneficiaries leaving MA or dying tends to reinforce (or possibly increase) favorable selection, while regression to the mean tends to reduce favorable selection. On net, however, the effects of favorable selection may remain roughly constant, increase, or decrease over time for a given cohort of MA entrants.

In our June 2023 report to the Congress, we estimated the cumulative effect of favorable selection for all MA enrollees in 2019. In this chapter, we estimate the cumulative effect of favorable selection on MA benchmarks in each year from 2017 through 2021. To make this estimate, we largely aligned our approach to estimating favorable selection with CMS's method for calculating FFS spending in order to construct MA benchmarks, which are based on risk-standardized county-level averages of FFS spending.

Our approach for measuring overall favorable selection accounts for both the attrition of MA enrollees and the potential for spending on the remaining MA enrollees to converge toward the mean of the MA average (rather than the FFS average).

- First, we accounted for the subsequent attrition of beneficiaries who either died or switched back to FFS by estimating the selection percentages for the subset of each MA entry cohort who were continuously enrolled in MA through each measurement year (2017, 2018, 2019, 2020, and 2021). For example, we compared the 2016 FFS spending of beneficiaries who switched to MA in 2017 and remained in MA through 2021 with the 2016 FFS spending of beneficiaries who remained in FFS in 2017.
- Second, we estimated the "regression to the mean" effect of MA enrollees by measuring the change in the selection percentage during MA enrollment from the base year (i.e., the year prior to MA entry) through the measurement year. To estimate regression to the mean, we used the spending history (going back to 2007) of proxy cohorts of FFS beneficiaries who entered MA in the year immediately after the measurement year (2018, 2019, 2020, 2021, or 2022).
  - For example, we estimated the base-year selection percentage by comparing the 2016 FFS spending of beneficiaries who were in FFS from 2015 through 2021 and enrolled in MA in 2022 with the 2016 FFS spending of all other beneficiaries who were in FFS from 2015 through 2016 (and did not enter MA in 2016).
  - For the same set of beneficiaries who were in FFS from 2015 through 2021 and enrolled in MA in 2022, we estimated their measurement-year selection percentage by comparing their

FFS spending in 2021 with beneficiaries who were in FFS from 2020 through 2022 (and did not enter MA in 2022). The change in relative FFS spending from 2016 to 2021 was used to estimate the change in the selection percentage during the 2016 to 2021 period.

- We add this change in selection percentage to the initial selection percentage estimated for 2017 MA entrants who were continuously in MA through 2021. This step effectively trends forward the initial selection percentage of the 2017 MA entrants to 2021 (i.e., the years of MA enrollment).
- As a technical improvement to our method in the June 2023 report to the Congress, we aligned the initial selection percentage levels of the MA entrants and proxy cohorts before trending the selection percentage forward. We grouped the initial selection percentage of the MA entrants and the proxy cohort into 45 sub-cohorts based on their initial selection percentage.[23] For example, the 2017 MA cohort with an initial selection percentage between 0 percent and 5 percent (in 2016) had their selection percentage trended forward by the overall change in selection percentage from the proxy cohort with an initial selection percentage between 0 percent and 5 percent (in 2016).

Favorable selection in MA tends to increase when lower-spending enrollees remain in MA longer and higher-spending enrollees leave MA

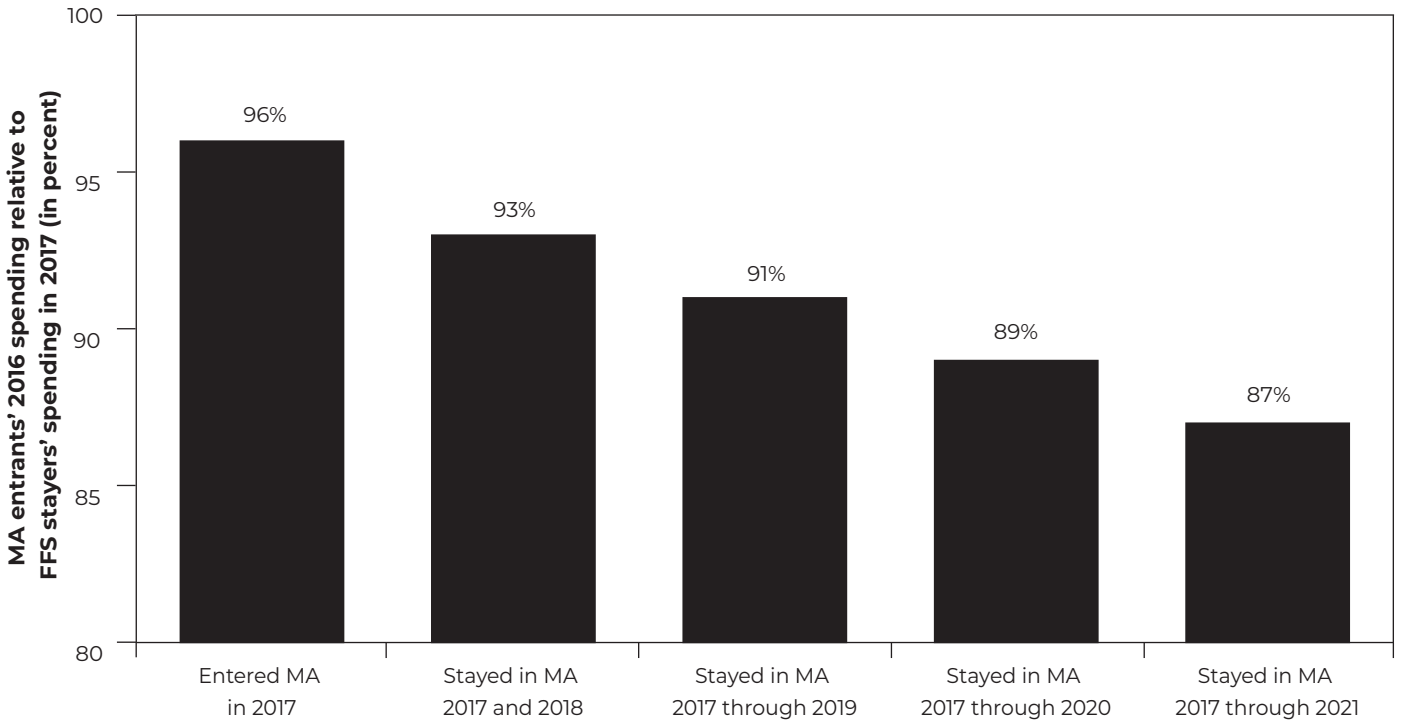
An estimate of favorable selection solely among MA entrants is limited because it does not account for differences between the beneficiaries who subsequently leave MA (either through FFS enrollment or death) and those who remain enrolled. The starting selection percentage for any cohort of MA entrants will change based on who is still enrolled in MA (i.e., the population of MA entrants will always change over time). In addition to calculating any effect of regression to the mean, selection estimates must account for the effect of MA attrition. The initial selection percentage of a cohort of MA entrants in Figure 13-6 (p. 443) may not represent the amount of favorable selection in a future year. For example, the MA entry cohort in 2017 may have changed substantially by 2021. Thus, the initial favorable selection for 2017 MA entrants in the 2016 reference year (i.e., the selection percentage "starting point") would have to be recalculated using only the MA entrants who were continuously in MA through 2021.

Prior research on disenrollment from MA to FFS While some MA enrollees die while being continuously enrolled in MA, a notable share disenroll from MA and enroll (or reenroll) in FFS. Studies following the same cohort of beneficiaries over several years show that over time, a larger share of beneficiaries switch from MA to FFS than would be apparent from a one-year snapshot of switching across all cohorts (Dong et al. 2022, Meyers and Trivedi 2022, Newhouse et al. 2019). One study examined the rate of switching for beneficiaries who were newly eligible for Medicare in 2008 and elected MA in that year; after 5 years, 19 percent of enrollees had switched to FFS at some point during the period, and the switching rate was somewhat higher (23 percent) among enrollees who initially switched from FFS to MA (Newhouse et al. 2019). Another study followed all MA entrants who had switched from FFS during the 2011 through 2019 period; this study similarly found that 23 percent of these beneficiaries switched back to FFS at some point within five years of MA enrollment (Meyers and Trivedi 2022). We identified all beneficiaries who entered MA in 2010 and followed their enrollment for a nine-year period. By 2019, 51 percent of MA entrants in 2010 remained continuously enrolled in MA, 31 percent switched to FFS at some point between 2011 and 2019, and an additional 18 percent died while enrolled in MA (data not shown).[24]

While beneficiaries with full Medicaid benefits are increasingly likely to join an MA plan (Figure 13-1, p. 424), studies have shown that beneficiaries who are chronically ill, or beneficiaries who have nursing home use or high costs in their final year of life, are disproportionately likely to leave MA (Goldberg et al. 2017, Government Accountability Office 2021, James et al. 2023, Meyers et al. 2019, Rahman et al. 2015, Xu et al. 2023). Because these beneficiaries may be more likely to use more services relative to what their risk scores predict, we should expect the effects of favorable selection to increase at least somewhat when beneficiaries either leave MA for FFS or die (and thus are no longer compared with the local FFS average for benchmark purposes). If the beneficiaries who leave

FIGURE 13–8

2017 MA entrants who remained in MA through 2021 had lower pre-enrollment spending than the original cohort of 2017 MA entrants



Note: MA (Medicare Advantage), FFS (fee-for-service). MA entrants are beneficiaries who switched from FFS to MA. FFS stayers are beneficiaries who remained in FFS. MA entrants who stayed in MA through 2021 are those with at least one month of MA enrollment in 2021. Spending reflects the year prior to MA entry and is risk standardized. Lower MA entrant spending relative to FFS stayers reflects a greater effect of favorable selection. The figure excludes beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the year of MA entry as well as those who joined an employer plan or non-MA private plan (e.g., cost plan), elected hospice, had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory). Because CMS–HCC risk scores prospectively rely on risk scores from the prior calendar year, we require two full years of FFS enrollment to help ensure comparability between beneficiaries who switched from FFS to MA and beneficiaries who stayed in FFS.

Source: MedPAC analysis of Medicare enrollment, Medicare claims spending, and risk-adjustment files, 2015–2021.

an MA cohort have higher risk-standardized spending, over time, it could reinforce the effects of favorable selection and may even exacerbate those effects for several years after the cohort initially joined an MA plan.

Estimating the effect of MA attrition As we did with our previous analysis of cohorts of MA entrants, we estimated the effects of attrition by identifying the subset of beneficiaries in each cohort who remained in MA until the measurement year. For example, when measuring the 2021 selection effect in the 2017 cohort of MA entrants, we identified the beneficiaries who were still enrolled in MA through the beginning of 2021. Thus, a beneficiary in that cohort who switched to FFS or died before 2021 would be excluded from the subset that was still enrolled in MA in 2021. We then recalculated the initial selection percentage for each subset of beneficiaries who remained in MA until the measurement year. Because favorable selection in MA benchmarks would always be relative to the local FFS average, the local FFS average continues to be our comparison group.

Consistent with our previous analysis, we found that beneficiaries who remained in MA for longer periods of time had lower risk-standardized FFS spending prior to their enrollment in MA than the beneficiaries who left MA (Figure 13-8). We analyzed sub-cohorts of the 2017 MA entry cohort based on the duration of their MA enrollment. While the full cohort of 2017 MA entrants had prior-year FFS spending that equaled 96 percent of the 2016 FFS average, the sub-cohort of 2017 MA entrants who remained in MA through 2021 had prior-year FFS spending that equaled 87 percent of the 2016 FFS average, while beneficiaries who left MA between 2016 and 2021 (and either returned to FFS or died) were substantially unfavorable to MA plans in 2016. These MA "leavers" had prior-year FFS spending that equaled 117 percent of the 2016 FFS average (data not shown). These analyses suggest that favorable selection for MA plans may increase over time, as favorable (lower-spending) beneficiaries tend to remain in MA while relatively unfavorable (higher-spending) beneficiaries tend to leave MA. This phenomenon effectively redefines the selection percentage "starting point" for an MA entrant cohort in future years as MA attrition increases. Thus, any estimate of favorable selection should account for the effect of MA attrition.

Across all cohorts, estimates of MA attrition suggest that more favorable MA enrollees remained in MA longer

We recalculated the base-year selection percentage for each cohort of MA entrants in each measurement year to incorporate our estimates of attrition. Similar to the analysis shown in Figure 13-8 (which analyzed the effects of favorable selection for sub-cohorts of 2017 MA entrants), we examined the effects of favorable selection within each cohort of MA entrants from 2008 to 2020 by examining the pre-enrollment spending of the subset of enrollees who were still in MA in 2021 (and repeated this analysis for MA enrollees in 2017 to 2020). We estimate that, across all cohorts, MA entrants who remained enrolled in MA for longer periods had lower risk-standardized average spending in the year prior to joining MA (Figure 13-9, p. 448), well below the levels observed for all MA entrants (as shown in Figure 13-6, p. 443). By contrast, we estimate that MA enrollees who disenrolled or died prior to 2021 had average spending either near or above the FFS local average in the year prior to joining an MA plan (data not shown). The differences in the favorable selection starting point (i.e., at the time of MA entry) appear greater for beneficiaries in earlier years because we estimate that the effects of attrition increase over time.

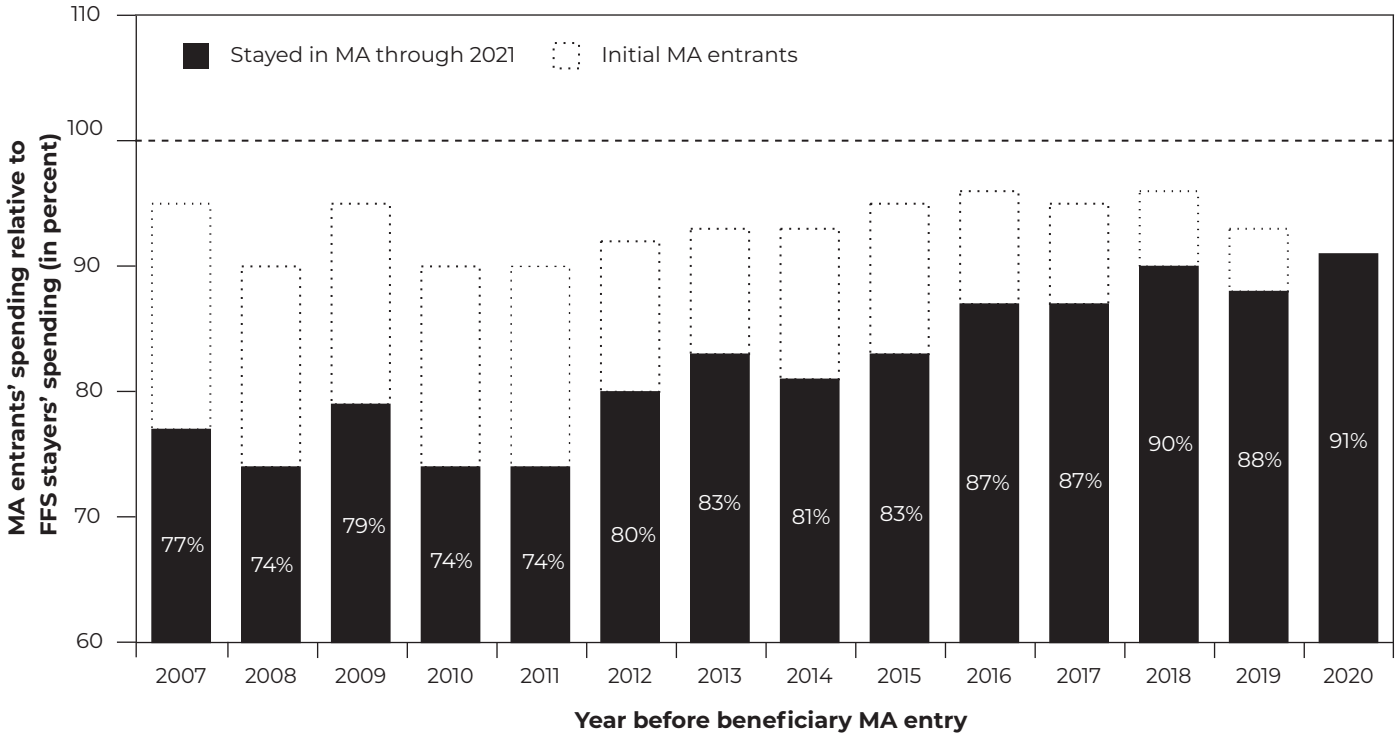
Estimating changes in favorable selection from regression to the mean for beneficiaries who remain enrolled in MA

One limitation of the conventional approach to measuring favorable selection based on prior FFS spending is that it focuses on selection at the time of MA entry. Favorable selection may change while beneficiaries are enrolled in MA, but we cannot directly measure those changes due to the lack of beneficiary-level spending data for MA enrollees. Even if that data were available, the analysis would be limited because MA enrollee risk scores would be affected by plans' benefit design, utilization management, and diagnostic coding practices. Prior research implies that the effects of favorable selection will "regress to the mean" such that favorable selection essentially fades away; however, the regression to the mean assumption had never been tested until the Commission's June 2023 report estimated the historical change in FFS spending for cohorts of 2020 MA entrants. We created non–mutually exclusive cohorts that were conditioned on continuous FFS enrollment through 2019. We found that all cohorts—irrespective of how long they had been in FFS prior to enrolling in MA—regressed to nearly the same selection percentage (94 percent to 95 percent) in 2019. For example, even beneficiaries with at least 13 consecutive years in FFS had a selection percentage of 95 percent in 2019. Thus, historical trends of MA entrants suggest that we would expect MA entrants—after attrition—to regress to the MA mean over time. We would not expect MA entrants to regress to the mean of the FFS population, which consistently shows patterns of higher risk-standardized spending.

We calculated the net selection effect for each MA entry cohort (going back to MA entrants in 2008) that was still enrolled in MA in a given measurement year. (See Figure 13-7, p. 444, for an illustration of the net selection-effect calculation of one cohort that accounts for attrition and regression to the mean.) The cumulative selection effect for all cohorts in one measurement year is equal to the enrollment-weighted sum of each cohort's net selection effect. Therefore, to estimate the cumulative selection effect for each measurement year (2017, 2018, 2019, 2020, and 2021), we approximated the net change in favorable selection

FIGURE 13–9

Beneficiary spending in the year before MA suggests greater favorable selection for enrollees who stayed in MA through 2021



Note: MA (Medicare Advantage), FFS (fee-for-service). MA entrants are beneficiaries who switched from FFS to MA. MA entrants who stayed in MA through 2021 are those with at least one month of MA enrollment in 2021. Beneficiaries who left MA after the entry year either returned to FFS or died during the period. Spending reflects the year prior to MA entry and is risk adjusted. Lower MA entrant spending relative to FFS stayers reflects a greater effect of favorable selection. The analysis excludes beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the year of MA entry as well as those who joined an employer plan or non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory).

Source: MedPAC analysis of Medicare enrollment (2006–2022), Medicare claims spending (2007–2021), and risk-adjustment files (2007–2021).

for the applicable cohorts of MA entrants from 2008 to 2021 while they were enrolled in MA by looking at the past experience of a proxy group of beneficiaries who entered MA in the year immediately after the measurement year (2018, 2019, 2020, 2021, or 2022) but had FFS coverage for many years before that. We calculated the change in the selection percentage for those beneficiaries during those prior years of FFS enrollment and assumed that the selection percentage for beneficiaries who were in MA during the same period changed by the same amount (after adjusting for differences in the distribution of the initial selection percentage, as described earlier). This approach estimates the degree of regression to the mean for enrollees in MA by using a proxy population that likely had coverage preferences that were similar to MA cohorts' preferences in terms of coverage (i.e., they had historically favorable risk-standardized spending and eventually chose to enroll in MA) and for which we have complete spending data. Although we cannot directly measure the effects of favorable selection during MA enrollment, using this proxy population has several advantages:

- It estimates favorable selection independent of the effects of MA plan efficiencies and coding.
- It reflects the observation that MA entrants have favorable risk-adjusted spending in the years prior to joining an MA plan, as estimated in Table 13-4 (p. 452).
- It estimates the change in favorable selection for the proxy group of future MA entrants who had favorable risk-standardized spending prior to MA entry.
- It measures the relative change in selection percentage over the same period of time that the cohort of earlier MA entrants remained in MA.
- It reflects the same FFS spending, risk score, and MA entrant eligibility criteria for both the proxy group of future MA entrants and the actual cohort of earlier MA entrants; these criteria are applied to both the MA entry year and the measurement year.
- Similar to the method used to calculate MA benchmarks, it accounts for the geographic differences between MA and FFS, which also account for the geographic variation in risk-score prediction of the CMS–HCC model.
- As a technical revision to our June 2023 report, using the proxy population aligns the initial estimated selection percentage levels of the MA entrants and proxy cohorts so that they have similar starting points.
- Because the change in favorable selection is indexed to a change in selection percentage and because risk scores account for differences in demographic characteristics (e.g., age, sex, Medicaid eligibility), our proxy population serves as a reasonable estimate for the change in favorable selection for each additional year of MA enrollment.
- Our proxy population are future MA entrants who, when faced with similar incentives for choosing to enroll in MA or FFS, ultimately selected an MA plan—indicating that they likely had preferences that were similar to the beneficiaries' preferences in the earlier MA entry cohorts. (See text box describing the plan and beneficiary incentives that may lead to favorable MA selection, pp. 436–437.)
- Our proxy population reflects the propensity of MA enrollees to regress to the mean of the MA population rather than to a FFS population that includes beneficiaries who may never enroll in MA. This decision was informed by the differences that persist between the MA and FFS decedent populations, which suggest that the MA population would not likely regress to the mean of the FFS population.[25] (See text box describing our sensitivity analyses to address unobservable data, pp. 455–457.)

Figure 13-10 (p. 450) illustrates how we approximated the change in selection percentage for the 2017 cohort of MA entrants who were continuously enrolled in MA through the beginning of 2021:

- We identified a proxy group of beneficiaries in the 2022 cohort of MA entrants who had both Part A and Part B and were enrolled in FFS from 2015 through 2021. As a result, this subset met the same criteria as the 2017 cohort of MA entrants, except they remained in FFS through 2021 (step 2).
- We estimated the selection percentage (i.e., spending relative to the risk-adjusted local FFS average) for this subset of 2022 MA entrants in 2016 (the spending reference year for the 2017 cohort of MA entrants) and 2021 (step 2).
- We grouped the initial selection percentage of each beneficiary in the 2017 MA cohort and each beneficiary in the proxy group into 45 sub-cohorts based on their initial selection percentage (step 3).
- Within each sub-cohort of initial selection percentage, we calculated the overall change in selection percentage for the subset of 2022 MA entrants over the period from 2016 through 2021. This calculation measures the change in the effect of favorable selection over time (i.e., regression to the mean) for a group of beneficiaries that is comparable with the 2017 MA entry cohort (step 4).
- If the selection percentage increased, the effect of favorable selection decreased during the period; if the selection percentage decreased, the reverse was true (step 4).

FIGURE 13-10

Illustrative example estimating net favorable selection in 2021 for the 2017 cohort of MA entrants

Step 1: For each beneficiary in the 2017 cohort who was continuously enrolled in MA through 2021, estimate the initial selection percentage in the pre-entry MA year. The requirement for continuous MA enrollment accounts for the attrition shown in Figure 13-9.

Selection percentage in 2016 = MA pre-entry spending / Local area FFS average: Risk-standardized FFS spending (adjusted by MA months and risk score) = **87% (overall)**

Step 2: Using the historical FFS spending of 2022 MA entrants as a proxy (for changes in favorable selection during MA enrollment), estimate the relative spending for each proxy beneficiary in the base year (2016) and the measurement year (2021).

	Inclusion criteria	Spending year(s)
MA cohort	2015–2016 FFS enrollment & 2017–2021 MA enrollment	2016
T_1 comparator	2015–2016 FFS enrollment & no MA entry in 2017	2016
Proxy cohort	2015–2021 FFS enrollment & 2022 MA entry	2016; 2021
T_1 proxy comparator	2015–2016 FFS enrollment & no MA entry in 2017 & 2022	2016
T_2 proxy comparator	2020–2022 FFS enrollment & no MA entry in 2017 & 2022	2021

Step 3: Assign the initial selection percentage of each beneficiary in the 2017 MA cohort and each beneficiary in the proxy group into 45 sub-cohorts based on their initial selection percentage in 2016.

Step 4: Estimate the overall change in selection percentage within each proxy group sub-cohort and apply the selection percentage change to the MA cohort beneficiaries in each initial selection percentage sub-cohort.

Proxy selection percentage in T_1 = **Proxy T_1** / **Comparator T_1**

Proxy selection percentage in T_2 = **Proxy T_2** / **Comparator T_2**

△ **= T_2 selection percentage – T_1 selection percentage = +2% (adjusted for the initial selection percentage of the MA cohort)**

Step 5: Estimate net favorable selection in 2021 for the 2017 MA cohort.

Step 1 result 2016 initial selection percentage (87%) + **Step 4 result** 2016–2021 expected change in selection percentage (+2%) = **Estimated 2021 selection percentage for 2021 MA cohort (89%)**

Note: MA (Medicare Advantage), FFS (fee-for-service), T_1 (time period 1 = 2016), T_2 (time period 2 = 2021). Analyses exclude beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the years of MA entry (2017 and 2022) as well as those who joined a non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory). The 2022 MA entrants (proxy cohort) are mutually exclusive of the comparator groups of FFS enrollees. Comparator spending reflects the county-level average, adjusted by the geographic and risk-score distribution of the MA cohort in step 1 and the proxy cohort in step 2. The selection percentage reflects the risk-standardized spending below the local FFS average prior to any MA efficiencies or coding differences. Lower MA entrant spending relative to FFS stayers reflects a greater effect of favorable selection. Totals and differences may not sum due to rounding in step 5.

Source: MedPAC analysis of Medicare enrollment, Medicare claims spending, and risk-adjustment files, 2015–2022.

- We then estimated the effect of favorable selection in 2021 for the 2017 cohort of MA entrants who remained in MA through 2021 by adding the initial selection percentage for each beneficiary in the cohort to the change in the selection percentage from 2016 to 2021 that we calculated for the subset (i.e., proxy group) of 2020 MA entrants with the same initial selection percentage (i.e., within the same sub-cohort of initial selection percentage) (step 5).

For measurement year 2021, we repeated the steps above for each of the 2008–2021 cohorts of MA entrants. The subsets of beneficiaries from the 2022 cohort of MA entrants that we used to calculate the change in the selection percentage were not mutually exclusive. For example, a beneficiary in the 2022 cohort of MA entrants who was in FFS from 2017 through 2021 would be in the subsets of beneficiaries that we used to estimate the change in favorable selection for the 2018, 2019, 2020, and 2021 cohorts of MA entrants.

After we estimated the initial selection percentages for the 2008 to 2021 cohorts of MA entrants, we trended those figures forward to 2021 using the methodology illustrated in Figure 13-10. These trends include a technical improvement from our June 2023 report in which we also trend forward the 2020 selection percentage of 2021 MA entrants to 2021 (rather than assuming their selection percentage would be unchanged in 2021). We then estimated the overall effect of favorable selection in MA in 2021 by calculating the enrollment-weighted average of the trended selection percentages for each cohort. In our calculation, we assumed that the effect of favorable selection for MA enrollees who joined prior to 2008 (which we did not estimate) was the same as the amount for the 2008 cohort. When we calculated the enrollment weights for each cohort, we excluded any beneficiaries who had at least one month during which they had end-stage renal disease or Medicare acted as a secondary payer.

The pre-MA enrollment spending history of MA entrants suggests favorable selection persists throughout the duration of MA enrollment

The extent to which favorable selection for 2021 MA enrollees persisted depends largely on how much the selection percentage changed after initially enrolling in MA.[26] For MA entrants from 2018 through 2022, we retrospectively examined several prior years of their FFS spending to assess whether lower risk-standardized spending is persistent over time. If lower risk-standardized spending persists, then favorable selection among MA enrollees is likely to be found across all years of their MA enrollment.

We analyzed cohorts of MA entrants from 2018 through 2022 based on the number of consecutive years of FFS enrollment prior to joining MA and compared them with the remaining beneficiaries in FFS. We retrospectively calculated the selection percentage for each MA entrant cohort while they were in FFS. Across all years and cohorts, MA entrants systemically exhibited favorable risk-standardized spending in multiple years prior to joining MA (Table 13-4, p. 452). For example, among beneficiaries who entered MA in 2018, their risk-standardized spending was 95 percent of the local FFS average one year before MA entry, 91 percent of the local FFS average two years before MA entry, 91 percent of the local FFS average five years before MA entry, and 87 percent of the local FFS average 10 years before MA entry. In fact, all MA entrants from 2018 to 2022 had a selection percentage between 86 percent and 89 percent 10 years before they enrolled in an MA plan. In all instances, the average beneficiary with at least 10 consecutive years of FFS enrollment was also favorable in the year before MA entry (data not shown). These results suggest that MA entrants not only show evidence of favorable selection in the year prior to joining MA, they have a history of lower risk-standardized spending several years before entering MA. These analyses suggest that the effects of favorable selection persist in the absence of any intervention from MA plans.

Results suggest that MA payments were overestimated by 13 percent in 2021 due to favorable selection

To estimate the cumulative annual impact of favorable selection on spending for MA enrollees from 2017 to 2021, we combined our estimates of favorable selection in the year prior to joining MA (accounting for MA enrollment attrition in the measurement year) with estimates of the change in the level of favorable selection over time (accounting for regression to the mean). Figure 13-9 (p. 448) shows the estimates of risk-standardized spending relative to risk-standardized spending for FFS stayers in the year prior to joining MA for the 14 MA entry cohorts (2008 through 2021) for our 2021 estimate. These cohorts were continuously

TABLE 13–4

For 2018–2022 MA entrants, the estimated effects of favorable selection were persistent across all prior years of FFS enrollment

	Selection percentage, by years prior to MA entry			
MA entry year	**1 year**	**2 years**	**5 years**	**10 years**
2018	95%	91%	91%	87%
2019	95	92	92	89
2020	92	91	90	88
2021	91	90	88	86
2022	90	89	88	89

Note: MA (Medicare Advantage), FFS (fee-for-service). MA entrants are beneficiaries who switched from FFS to MA. The selection percentage is derived by taking the spending of MA entrants divided by the local area average spending of FFS stayers (i.e., beneficiaries who remained in FFS). Spending is risk standardized. Lower MA entrant spending relative to FFS stayers reflects a greater effect of favorable selection. The analysis excludes beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the year of MA entry as well as those who joined a non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory).

Source: MedPAC analysis of Medicare enrollment, Medicare claims spending, and risk-adjustment files, 2006–2022.

enrolled in MA through 2021 and therefore accounted for the effects of attrition. To account for regression to the mean, we trended these estimates of favorable selection using the cohorts of 2022 MA entrants' change in risk-standardized spending relative to FFS stayers in Table 13-5.[27] We matched the initial favorable selection estimates by MA entry-year cohort with the cohort of 2022 MA entrants based on years of consecutive FFS enrollment (Table 13-5). This matching uses the change in risk-adjusted FFS spending for 2022 MA entrants relative to FFS stayers as a proxy for the change in favorable selection for MA enrollees that would have occurred during their MA enrollment. After matching each MA entry cohort to its expected change in selection percentage, we found that the estimate for all cohorts converged closely toward the 2021 selection percentage of 2022 MA entrants (90.3 percent) (data not shown).

By taking the enrollment-weighted sum across all cohorts, we estimate that beneficiaries in MA plans in 2021 had spending that was approximately 11.4 percent lower than the spending of beneficiaries in FFS with the same risk scores (i.e., their risk-standardized spending was 88.6 percent of the FFS-stayer comparison population). In addition, our sensitivity analyses of the population that did not meet our inclusion criteria (i.e., two prior years of FFS spending) indicate that including this population would not decrease our estimate of favorable selection. (See text box on our sensitivity analyses of unobservable data, pp. 455–457.) Thus, because beneficiary risk scores do not fully account for the local area spending differences between the FFS and MA populations (prior to the effects of differences in coding practices between MA and FFS), we estimate that MA payments were increased by approximately 12.8 percent (100 percent divided by 88.6 percent) due to favorable selection alone.

We estimated the trend in the annual impact of favorable selection from 2017 to 2021. To make this estimate, we repeated the analytic steps that generated Table 13-5 to estimate the cumulative selection in each year from 2017 to 2021 (using cohorts of MA entrants and proxy groups that tracked spending relative to the local FFS average beginning in 2007). We estimate that the cumulative annual effect of favorable selection increased from spending 6 percent below FFS in 2017 to spending 11 percent below FFS in 2021 (Figure 13-11, p. 454). We estimate that about one-fifth of this increase was due to the effects of attrition. These estimates equate to payments that were 6 percent above FFS

TABLE 13–5

Estimated favorable selection implied substantially lower risk-standardized spending for MA enrollees in 2021

MA entrant	*(14)* 2008	*(13)* 2009	*(12)* 2010	*(11)* 2011	*(10)* 2012	*(9)* 2013	*(8)* 2014	*(7)* 2015	*(6)* 2016	*(5)* 2017	*(4)* 2018	*(3)* 2019	*(2)* 2020	*(1)* 2021
	(Consecutive years in MA) MA entrant year													
Spending relative to FFS stayers	77%	74%	79%	74%	74%	80%	83%	81%	83%	87%	87%	90%	88%	91%
Approximate change in selection percentage while in MA	10%	13%	9%	14%	14%	8%	6%	8%	6%	2%	3%	0%	2%	–2%
Selection percentage trended forward to 2021	87%	87%	88%	88%	88%	88%	89%	89%	89%	89%	89%	90%	89%	88%
Overall plan spending relative to 2021 average across 14 cohorts (enrollment weighted)														88.6%
Overall impact on MA payments relative to FFS spending (100% divided by 88.6%)														12.8%

Note: MA (Medicare Advantage), FFS (fee-for-service). MA entrants are beneficiaries who switched from FFS to MA. FFS stayers are beneficiaries who remained in FFS. MA entrants who stayed in MA through 2021 are those with at least one month of MA enrollment in 2021. Spending reflects the year prior to MA entry and is risk adjusted. Lower MA entrant spending relative to FFS stayers reflects a greater effect of favorable selection. The analysis excludes beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the year of MA entry as well as those who joined a non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory). The approximate change in relative risk-standardized spending is based on the historical experience of beneficiaries with continuous years of FFS enrollment before entering MA in 2022. This historical experience is used to trend forward the selection percentage of each MA entry cohort. Estimates for 2008 are used for enrollees who entered MA prior to 2008. Totals may not sum due to rounding.

Source: MedPAC analysis of Medicare enrollment, Medicare claims spending, and risk-adjustment files, 2006–2022.

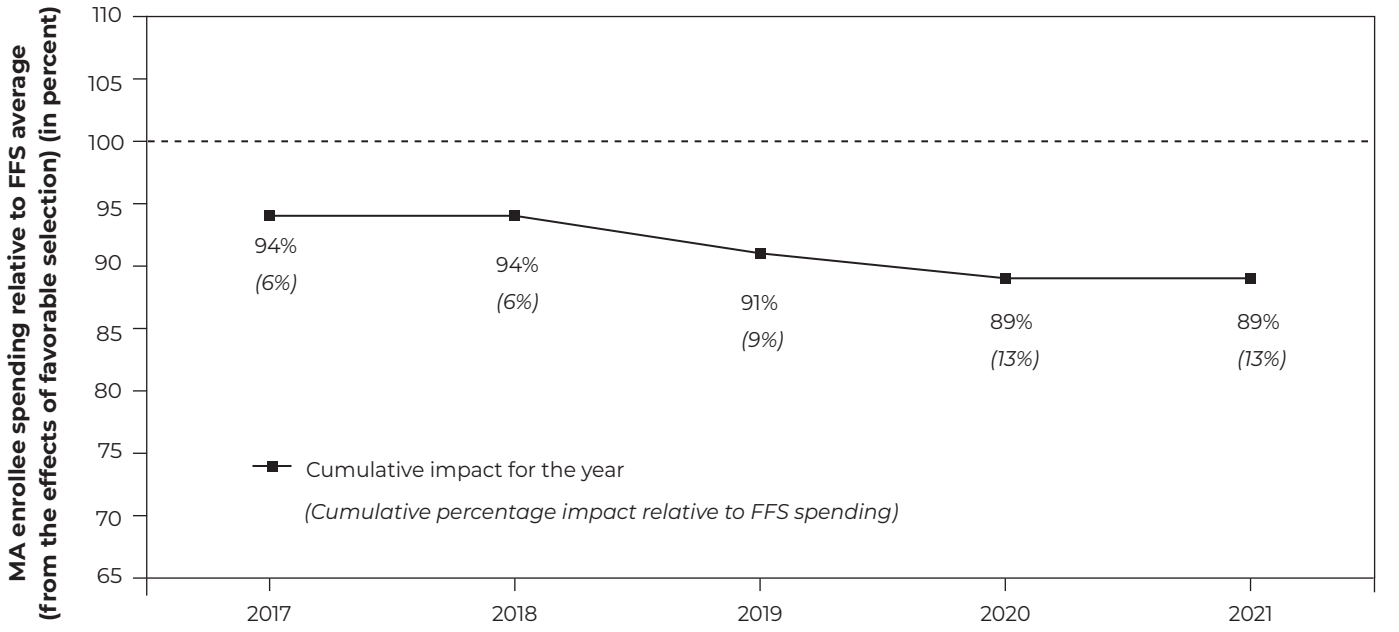
spending in 2017 and 13 percent above FFS spending in 2021. In addition, the technical improvements to our June 2023 report (described earlier) decreased our overall 2019 selection estimate by 2 percentage points (a selection percentage that changed from 89.5 percent to 91.5 percent). Further, the overall selection percentage in each year during the 2017 to 2021 period was similar to the reference-year selection percentage of MA entrants from 2018 to 2022 (reflecting spending from 2017 to 2021). For example, the overall selection percentage in 2020 was 88.8 percent compared with the 2020 reference-year selection percentage of 90.6 percent for 2021 MA entrants. Thus, the selection percentage of prior MA entrants regressed to the mean of the most recent MA entrant population rather than the mean of the most recent FFS population. This finding suggests that favorable selection will likely persist in future years rather than converge toward the FFS average.

The Commission's revised method of estimating favorable selection appears reasonably robust

Prior research has shown evidence of favorable selection in MA. Despite differences in analytic method and years evaluated, we estimate a generally similar

FIGURE 13–11

Estimate of cumulative favorable selection increased from 2017 to 2021



Note: MA (Medicare Advantage), FFS (fee-for-service). Spending is risk standardized and reflects differences due to favorable selection alone (prior to any intervention from MA plans). Lower MA entrant spending relative to FFS stayers reflects a greater effect of favorable selection. The analysis excludes beneficiaries without at least two full years of enrollment in FFS Part A and Part B prior to the measurement year as well as those who joined a non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory). Estimates incorporate the historical experience of beneficiaries with continuous years of FFS enrollment before entering MA. Estimates are rounded to the nearest percent.

Source: MedPAC analysis of Medicare enrollment (2006–2022), Medicare claims spending (2007–2021), and risk-adjustment files (2007–2021).

magnitude of impact as in prior studies. Further, our estimate has been reasonably robust as we have continued refining our approach. Like our June 2023 report, our analysis suggests that favorable selection in MA is likely to persist rather than regress to the mean of the FFS population, as has been posited by other researchers. First, enrollees who have more unfavorable (or less favorable) spending at the time of MA entry are more likely to either die or leave MA sooner, thereby reinforcing the effects of favorable selection among remaining MA enrollees. Second, our analysis suggests that lower risk-standardized spending is persistent over time in the years prior to MA entry. Although the effects of favorable selection (after accounting for attrition) can subside, the rate of decline is slow and generally converges toward the mean of the average MA entrant, such that at the time of joining MA, beneficiaries still have lower risk-standardized spending than beneficiaries remaining in FFS. Third, our analysis studied spending patterns over a much longer time period than other studies and found consistent evidence of favorable selection among MA entrants and consistent evidence that this effect persists over time. Chapter 12 provides our current estimates of the effects of favorable selection and its impact on payments to MA plans, as well as discussion of the Commission's past recommendations to improve the program.

We continue to conduct sensitivity analyses of certain aspects of our method, particularly related to how our analysis deals with regression to the mean and attrition of beneficiaries from MA cohorts. To the extent that these sensitivity analyses suggest that our methods require further refinements, we will incorporate those refinements in future analyses. ■

Sensitivity analyses to address unobservable data in our favorable selection estimates

Our approach of estimating favorable selection by using FFS spending prior to enrolling in MA assumed that the effect of favorable selection for the Medicare Advantage (MA) entrants who were not in our study population was the same as for the MA entrants who were in our study population. Primarily, we did not estimate the effect of favorable selection for MA enrollees with less than two full calendar years of prior fee-for-service (FFS) coverage. As a secondary issue, we were not able to include an estimate of favorable selection during the year of death for any MA enrollees. These two assumptions may tend to underestimate the extent of favorable selection because of the design of our analysis, the consistent evidence of favorable selection prior to beneficiaries enrolling in MA (see Table 13-4, p. 452, and Table 13-5, p. 453), and the results from sensitivity analyses that we conducted.

Beneficiaries with less than two years of prior FFS coverage

Based on available evidence, we expect that MA enrollees with less than two years of prior FFS coverage would have a larger effect of favorable selection than MA enrollees with at least two years of prior FFS coverage. As a sensitivity analysis, we examined the effect of favorable selection for beneficiaries who had only one full year of prior FFS enrollment (and thus had a full year of FFS spending). These beneficiaries did not have risk scores that included diagnostic information in the reference year (i.e., the year prior to MA entry), so we instead calculated their risk-standardized spending in the reference year using risk scores during the MA entry year. This relatively "concurrent" risk score reflects diagnoses from the reference year and demographic information from the MA entry year. We found that the effect of favorable selection was consistently greater for these beneficiaries than those who had at least two years of FFS enrollment before joining MA (Figure 13-12, p. 456). This finding is consistent with a study that used mortality as a rough proxy for MA favorable selection (i.e., to the extent that the prevalence of conditions that affect mortality are correlated with selection) and found substantially lower mortality rates among enrollees that elected MA during their first year of Medicare eligibility (Newhouse et al. 2019).[28] The study found mortality differences that somewhat diminished but persisted after five years. However, the study did not consider whether these differences diminished because of beneficiaries who switched from MA to FFS (19 percent to 22 percent of beneficiaries in the study's cohorts) and switched from FFS to MA (9 percent to 12 percent of beneficiaries in the study's cohorts) during the study period. In addition, one recent study found that a small sample of beneficiaries who elected MA at age 65 had substantially favorable pre-Medicare risk-standardized spending relative to the pre-Medicare spending of beneficiaries who elected FFS at age 65 (Teigland et al. 2023a).[29] Our analysis combined with the results of other research suggests that the effect of favorable selection for MA entrants who had less than two years of prior FFS coverage, or none at all, may also be larger than what we observed in our study population.

In addition, our estimate of favorable selection does not include beneficiaries with one full year of FFS who were previously enrolled in MA. We examined one year of spending data for these beneficiaries and applied risk-adjusted spending using risk scores in the year after FFS entry (avoiding any effect from MA coding intensity). We found that beneficiaries who were in FFS in 2018 but had been in MA in 2017 had average spending per capita that was 19 percent higher than our FFS comparison population. Thus, if we had included these MA-to-FFS switchers in our comparison population, our estimate of favorable selection may have been larger.

Favorable selection during the year of death

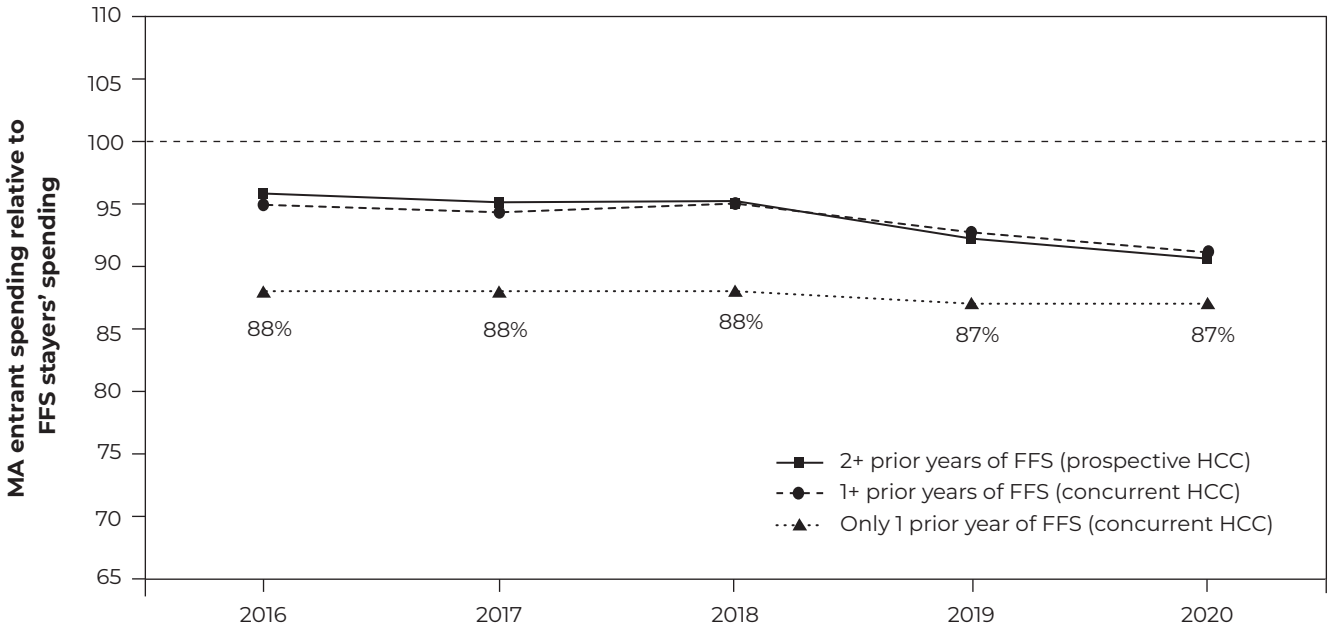
Based on available evidence, we expect that including a favorable selection effect during the

(continued next page)

Sensitivity analyses to address unobservable data in our favorable selection estimates (cont.)

FIGURE 13–12

Beneficiaries with only one year of prior FFS spending likely had a large favorable selection effect



Note: FFS (fee-for-service), MA (Medicare Advantage), HCC (hierarchical condition category). MA entrants are beneficiaries who switched from FFS to MA. Beneficiaries who left MA after the entry year either returned to FFS or died during the period. Spending reflects the year prior to MA entry and is risk adjusted. Lower MA entrant spending relative to FFS stayers' spending reflects a greater effect of favorable selection. All analyses exclude beneficiaries without at least one full year of enrollment in FFS Part A and Part B prior to the year of MA entry as well as those who joined a non-MA private plan (e.g., cost plan), had end-stage renal disease, had Medicare as a secondary payer, resided in multiple counties during the year, or resided in Puerto Rico (due to the relatively small number of FFS beneficiaries in that territory). Analyses that require only one full year of enrollment in FFS Part A and Part B were risk adjusted using CMS–HCC risk scores in the year of MA entry (reflecting diagnoses in the year before MA entry).

Source: MedPAC analysis of Medicare enrollment, Medicare claims spending, and risk-adjustment files, 2006–2021.

year in which beneficiaries died (i.e., decedents) would not significantly change our overall results and may increase the effect of favorable selection. As a sensitivity analysis, we compared the share of enrollment months for beneficiaries who died in FFS or in MA in each year from 2017 to 2022, and we adjusted the FFS population to match the geographic distribution (i.e., county-level enrollment) of the MA population.[30] Overall, we find that the share of MA enrollment months among decedents is small (less than 2 percent in each year) and that the share of MA decedent months is consistently smaller than the share of FFS decedent enrollment months. Because risk-standardized spending is somewhat higher among decedents relative to the overall Medicare population, the higher share of decedents in FFS would mitigate the potential for selective attrition in our estimates. In our sensitivity analyses, we did not observe any unfavorable selection among MA decedents (relative to FFS decedents) that would

(continued next page)

Sensitivity analyses to address unobservable data in our favorable selection estimates (cont.)

negate this potential additional favorable selection. Because the favorable selection implications are different for beneficiaries in hospice, we separately analyzed decedents who used hospice and decedents who did not.[31]

Hospice users

In each year, about half of the decedent enrollment months in each program are for beneficiaries in hospice. Because MA plans do not generally provide coverage for Part A and Part B benefits during the months an MA enrollee elects hospice, we would expect decedents who use hospice to contribute to greater favorable selection for MA plans during the months of hospice election.[32,33] Our estimates of regression to the mean during MA enrollment cannot account for this type of favorable selection. In addition, although MA enrollees who elect hospice are not considered FFS enrollees during the months of their hospice use, we found consistently higher shares of decedents who used hospice in FFS compared with MA. For example, in 2022, there were 20 percent more hospice-user decedent months in FFS than MA (after adjusting for the number of MA enrollees in each county). Thus, to the extent that beneficiaries who used hospice and died had higher risk-standardized spending, including spending during the year of death would have potentially increased the effect of favorable selection in MA.

Nonhospice users

Among decedents who did not use hospice, we also consistently found higher shares of enrollment months in FFS than MA. From 2017 to 2022, this difference in decedent months steadily narrowed. However, in 2022, there were 11 percent more nonhospice decedent months in FFS than MA (after adjusting for the number of MA enrollees in each county). Thus, unless MA nonhospice decedents had far more unfavorable spending relative to FFS nonhospice decedents, including the spending for these populations would have likely increased the effect of favorable selection. As a sensitivity analysis, we compared the pre-entry spending of MA nonhospice decedents with the spending of FFS nonhospice decedents. To capture spending that closely reflects the spending of decedents, we limited our analysis to beneficiaries who died within the first six months of the MA entry year. This choice limited our analysis to a small group of 2,000 to 3,000 MA decedents (measured in person-years during the year of death) in each year from 2017 to 2021. We found that risk-standardized decedent spending was larger than that of the general population, and these beneficiaries were consistently favorable for MA plans (relative to decedents in FFS). In addition, the MA selection percentage among these decedents was similar to the selection percentage for the general MA and FFS population. For example, the MA selection percentage among nonhospice decedents was 90 percent (the same as nondecedents) in 2021. The cumulative evidence therefore suggests that including these beneficiaries in our analysis would not have had a marked impact on our overall results, and would have likely marginally increased our estimate of favorable selection in MA. ■

Endnotes

1 The difference in MA and FFS risk scores was reduced relative to the prior year in 2014, 2016, and 2017 due to new versions of the risk-adjustment model that reduced the gap in MA and FFS diagnostic coding differences. In 2016 and 2017, there was less difference because FFS risk scores grew faster (matching or nearly matching MA risk score growth rates), likely due to Medicare's transition from using International Classification of Diseases (ICD)–9 to ICD–10 diagnosis codes in October 2015 (Medicare Payment Advisory Commission 2023c).

2 The coding intensity adjustment factor is applied to new enrollee, community, long-term institutional (LTI), and postgraft ESRD risk scores, but not ESRD risk scores for beneficiaries in dialysis or transplant status because those risk-score models use a different denominator. Excluding beneficiaries with LTI and postgraft ESRD risk scores is a minor limitation of this analysis.

3 Long-term institutional status is defined monthly for beneficiaries who have had a 90-day Minimum Data Set assessment and continue to reside in a facility at the start of the month. These beneficiaries have always had a risk score based on an "institutional" model rather than the "community" model.

4 The demographic risk model used in the DECI method is not used for payments to MA plans. It is calibrated on all FFS beneficiaries with Part A and Part B and is used to calculate demographic risk scores for all MA and FFS beneficiaries in the analysis. The demographic risk model differs from the new enrollee CMS–HCC risk-score model, which also uses only demographic information, because the new enrollee model is calibrated on beneficiaries with less than one calendar year of Part B enrollment and is used only to pay MA plans for such enrollees.

5 The plan-level risk-score data for 2019 include risk scores for the roughly 97 percent of MA enrollees who are in HMO, preferred provider organization, private FFS, and Medical Savings Account plans with sufficient enrollment to be publicly reported (11 or more enrollees). Generally, these risk scores are for MA enrollees with both Part A and Part B, except for enrollees in a small number of plans covering Part B services only (representing less than 0.1 percent of enrollment in the plan-level risk-score data).

6 CMS publishes the average FFS risk scores because they are the basis for estimating the FFS normalization factor. In the advance notice for 2021, part II, CMS stated that "The normalization factors for the CMS-HCC risk adjustment models are applied to the community non-dual aged, community non-dual disabled, community full benefit dual aged, community full benefit dual disabled, community partial benefit dual aged, community partial benefit dual disabled, institutional, *new enrollee, and C-SNP new enrollee* risk scores" (Centers for Medicare & Medicaid Services 2020a). Because the normalization factor is applied to both new enrollee and continuing (not new) enrollee risk models, we conclude that the average FFS risk scores used as the basis for the normalization factors are estimated using all FFS beneficiaries, including those with Part A only (but without ESRD). It would not be appropriate for CMS to apply the same normalization factor to new and continuing enrollee risk models if that normalization factor were calculated using only continuing enrollee risk scores.

7 In 2019, the share of full-benefit Medicaid beneficiaries was almost equal in MA and FFS at about 11 percent, but the share of partial-benefit Medicaid beneficiaries in FFS was about 3 percentage points lower than in MA (4.4 percent vs. 7.3 percent). Furthermore, the "state buy-in" indicator identifies only the beneficiaries for whom the state Medicaid agency paid their Medicare Part B premium. Therefore, the indicator excludes about 10 percent of Medicaid-eligible beneficiaries (most of whom are eligible for full Medicaid benefits) who pay their own Medicaid premiums, which often occurs because of "spend-down" requirements by some state Medicaid agencies.

8 Medicaid eligibility is defined based on the monthly Medicare-Medicaid dual status code (Research Data Assistance Center 2023).

9 The 2019 average risk score is based on a blend of V22 and V23 risk models that was used for payment.

10 The exact effect of constraining new enrollees to have no coding intensity depends on the order in which the effects are calculated. To estimate the –1.1 percentage point effect of constraining new enrollees to have no coding intensity in 2019, we first produced a DECI estimate of coding intensity with new enrollees included. Second, we produced a DECI estimate with new enrollees excluded and then weighted that estimate by the share of continuing (not new) enrollees in the analysis, effectively applying a 1.0 DECI estimate to the share of new enrollees in the analysis. For 2019, we produced a DECI estimate including new enrollees of 13.2 percent, and a DECI estimate excluding new enrollees of 13.3 percent, which after weighting by the share of not-new enrollees (91.2 percent) produces a DECI estimate that is applicable to all MA enrollees (new and continuing) of 12.1 percent. We concluded that the effect of constraining new enrollees to have no coding intensity is –1.1 percentage points, the difference between 13.2 percent and 12.1 percent. This approach to

constraining the influence of new enrollees is similar to the approach CMS took (called the "stayer percentage") in its original coding adjustment of 3.41 percent (Centers for Medicare & Medicaid Services 2010).

11 See Figure 1 on p. 30 of the advance notice for 2018.

12 See Figure II-1 on p. 44 of Part II of the advance notice for 2022.

13 Because plans are paid based on the risk profile of their individual enrollees, plans still have the incentive to enroll beneficiaries who have above-average spending, such as beneficiaries who are dually eligible for Medicaid and Medicare. In fact, plans that exclusively enroll dual-eligible beneficiaries (i.e., dual-eligible special needs plans) consistently report higher profit margins relative to conventional MA plans (Medicare Payment Advisory Commission 2023c, Medicare Payment Advisory Commission 2022, Medicare Payment Advisory Commission 2021, Medicare Payment Advisory Commission 2020b).

14 While the most common supplemental benefits offered by MA plans (e.g., gym benefits and worldwide travel coverage) may initially be most attractive to relatively healthy beneficiaries, the preference for these benefits may not persist.

15 MA plans can also encourage enrollment by offering extra benefits beyond the standard Medicare benefit package. Popular benefits include integrated Part D coverage for no additional premium, gym memberships, and worldwide emergency and urgent care coverage. However, some supplemental benefits (e.g., worldwide emergency and urgent care coverage) are only or disproportionately attractive to relatively healthy beneficiaries, which may contribute to favorable selection in MA plans. These benefits can serve as a signaling mechanism to indicate the type of beneficiary the plan is trying to attract.

16 We do not include beneficiaries with ESRD, including those who do not have Medicaid supplemental coverage, in our comparisons of MA payments relative to what FFS spending would have been for MA enrollees. As a greater share of beneficiaries with ESRD enroll in MA, we will continue to monitor the potential effects of these enrollees on MA payments.

17 One study found that more generous out-of-pocket maximums did not result in enrollment gains in 2022 (Cates et al. 2022). Instead, the study found that lower premiums and a higher prevalence of supplemental benefits were associated with plans that experienced enrollment growth. This finding is consistent with prior research that found premiums were a driving factor in beneficiary plan selection (Jacobson et al. 2016a, Jacobson et al. 2014, Medicare Payment Advisory Commission 2015, Meyers et al. 2019, Skopec et al. 2019).

18 MA entrants do not include beneficiaries who have ESRD or have Medicare as a secondary payer. We also excluded beneficiaries who enrolled in Medicare plans that are not part of the MA program, such as cost plans.

19 From 2017 through 2021, at least 51 percent of MA entrants had at least two years of FFS enrollment prior to joining an MA plan.

20 Among all MA entrants from 2008 through 2021 who were enrolled in MA at any time in 2021, 10 percent had between 3 and 11 months of prior FFS enrollment.

21 From 2016 through 2021, the selection percentage (i.e., risk-standardized spending relative to the local FFS average in the year before MA entry) of employer plan enrollees in each year was 99 percent, 95 percent, 98 percent, 97 percent, 92 percent, and 92 percent, respectively.

22 One study approximated regression to the mean of mortality rates after the initial year in MA, but the authors noted that this method could not account for the effect of continuous enrollment in MA (Newhouse et al. 2019).

23 Our 45 sub-cohorts based on initial selection percentage had 20 sub-cohorts with a selection percentage under 100 percent (separated by intervals of 5 percentage points), 10 sub-cohorts with a selection percentage between 100 percent and 200 percent (separated by intervals of 10 percentage points), and 15 sub-cohorts with a selection percentage above 200 percent (separated by intervals that gradually widened). To have a sufficient number of beneficiaries assigned to each sub-cohort, the intervals of the sub-cohorts were informed by the distribution of the initial selection percentage for the MA entrant cohorts in 2008 and 2021.

24 We examined the 2018 risk-standardized spending of FFS beneficiaries who were in MA at any time between 2006 and 2016. These beneficiaries had spending that was 107 percent of their local FFS average—indicating that they would have been unfavorable to MA plans. These beneficiaries were included in our FFS comparator when estimating favorable selection.

25 Nevertheless, we conducted a sensitivity analysis to estimate the effects of favorable selection using the assumption that the initial favorable selection of the MA cohorts regresses to the mean of the FFS population. To implement this assumption, we used alternative proxy groups made up of FFS beneficiaries who did not enter MA and found that the results are similar to the results of our original analysis. For

2019, we estimated regression to the mean using a proxy group made up of the 2020 FFS population that did not enter MA and found that our 2019 favorable selection estimate decreased from 9.3 percent (for the FFS proxy group entering MA) to 7.9 percent (for the FFS proxy group not entering MA). We also considered a slightly different sensitivity analysis using the assumption that the initial favorable selection of the MA cohorts regresses to the weighted average mean of the MA and FFS populations. To implement that assumption, we weighted the two FFS proxy groups—those that entered and did not enter MA—to reflect a regression to the mean of the entire Medicare population and found that our 2019 favorable selection estimate decreased from 9.3 percent (for the FFS proxy group entering MA) to 8.4 percent.

26 If the FFS population used for county benchmarks changes only incrementally from year to year (e.g., some beneficiaries die while other individuals become newly eligible), the cohort of MA entrants in a particular year would get older and develop more chronic conditions over time (i.e., the constant MA entry cohort in a particular year would not gain new entrants).

27 Beginning our analyses with FFS spending in 2008, we used the FFS historical change in selection percentage of MA entrants from 2018 to 2022 as our proxy groups to trend forward the selection percentages of MA enrollees in the prior year (2017 to 2021). As described in Figure 13-10 (p. 450), each proxy cohort was further grouped into sub-cohorts based on their initial selection percentage. We found that beneficiaries with the lowest initial selection percentage tended to have larger convergence toward the FFS mean, but these beneficiaries still had the lowest selection percentage in the year before MA entry (data not shown). In addition, beneficiaries who were initially unfavorable tended to converge toward being favorable in the year before MA entry. These patterns were exhibited by 2022 MA entrants who were continuously enrolled in FFS from 2006 through 2021. All 20 sub-cohorts with an initial selection percentage below 100 percent remained favorable between 2008 and 2021; 13 of the remaining 25 sub-cohorts that were initially unfavorable in 2008 were favorable in 2021. Thus, regression to the mean occurred in both directions and did not dissolve the favorability of beneficiaries who were already favorable 14 years prior to joining an MA plan.

28 The number of conditions that significantly affect mortality are generally far smaller than the number of conditions that affect spending (https://www.cms.gov/files/document/hybrid-hospital-wide-all-condition-all-procedure-risk-standardized-mortality-measure-electronic.pdf).

29 One group of researchers examined pre-Medicare spending for a small sample of about 11,000 beneficiaries who enrolled in MA at age 65 between 2015 and 2019. When comparing the risk-standardized pre-Medicare spending of these MA enrollees with the risk-standardized pre-Medicare spending of a small sample of beneficiaries who elected FFS at age 65, these researchers found favorable risk-standardized spending of about 13 percent relative to the sample of FFS beneficiaries (Teigland et al. 2023a). Using a somewhat larger but limited sample of 25,000 beneficiaries who enrolled in MA at age 65, the researchers found that these MA enrollees had pre-Medicare risk scores and comorbidity scores that were 10 percent lower than a small sample of beneficiaries who enrolled in FFS at age 65. In addition, this comparison found that beneficiaries who enrolled in FFS were more likely to have cancer, joint issues (rheumatoid arthritis, osteoarthritis, and osteoporosis), and heart issues (ischemic heart disease and prior experience with heart failure) (Teigland et al. 2023b).

30 Our sensitivity analysis of beneficiaries who died applied similar exclusions to our main analysis of favorable selection (i.e., beneficiaries with end-stage renal disease, Medicare as a secondary payer, or enrollment in non-MA private plans). The results of our sensitivity analyses were similar even after adjusting for the geographic distribution of MA enrollees.

31 We tested the extent to which beneficiaries who died in the baseline year had an effect on our overall estimate of favorable selection in 2019. To conduct this sensitivity analysis, in the year before MA entry, we compared the risk-standardized spending of cohorts of MA entrants who remained in MA through the measurement year with those who remained in FFS through the measurement year. Because our new FFS comparator was no longer the local FFS mean in the baseline year, we changed our regression to the mean method to reflect that our new proxy FFS comparator was the set of beneficiaries who were in FFS from the baseline year through the year after the measurement year. We found that this method reduced our overall estimate of favorable selection in 2019 by 2 percentage points.

32 During the time that the hospice election is in effect, CMS reduces the monthly capitation payment to an MA plan. CMS does not make payments to an MA plan on behalf of a Medicare enrollee who has elected hospice care, except for the portion of the payment attributable to plan rebate and the applicable amount of the monthly prescription drug payment.

33 In March 2014, the Commission recommended including hospice in the MA benefit package (Medicare Payment Advisory Commission 2014).

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