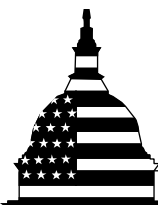January 2013

MEDICARE ADVANTAGE

Substantial Excess Payments Underscore Need for CMS to Improve Accuracy of Risk Score Adjustments

G A O

Accountability ★ Integrity ★ Reliability

MEDICARE ADVANTAGE

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Why GAO Did This Study

CMS pays plans in MA—the private plan alternative to FFS—a predetermined amount per beneficiary adjusted for health status. To make this adjustment, CMS calculates a risk score, a relative measure of expected health care for each beneficiary. Risk scores should be the same among all beneficiaries with the same health conditions and demographic characteristics. Differences in diagnostic coding between MA plans and Medicare FFS led to inappropriately high MA risk scores and payments to MA plans, and CMS adjusted for coding differences in 2010. In January 2012, GAO reported that CMS's adjustments to risk scores did not sufficiently correct for coding differences, resulting in excess payments to MA plans. Since completing the analysis for the January 2012 report, risk score data for two additional years have become available. GAO (1) determined the extent to which differences, if any, in diagnostic coding between MA plans and Medicare FFS affected MA risk scores and payments to MA plans in 2010, 2011, and 2012; and (2) identified what changes, if any, CMS made to its risk score adjustment methodology for 2013 and intends to make for future years. To do this, GAO compared risk score growth for MA beneficiaries with an estimate of what risk score growth would have been for those beneficiaries if they were in Medicare FFS for 2010 and projected the growth to 2011 and 2012, and determined if there were changes to CMS's methodology by reviewing agency documentation and interviewing agency officials.

View GAO-13-206. For more information, contact James Cosgrove at (202) 512-7114 or cosgrovej@gao.gov.

What GAO Found

GAO found that the cumulative impact of coding differences on risk scores increased from 2010 through 2012 and was greater than the Centers for Medicare & Medicaid Services' (CMS) risk score adjustment of 3.4 percent for each of the 3 years. In updating the analysis from its January 2012 report, GAO estimated that cumulative Medicare Advantage (MA) risk scores in 2010 were 4.2 percent higher than they likely would have been if the same beneficiaries had been enrolled continuously in Medicare fee-for-service (FFS). For 2011, GAO estimated that differences in diagnostic coding resulted in risk scores that were 4.6 to 5.3 percent higher than they likely would have been if the same beneficiaries had been continuously enrolled in FFS. This upward trend continued for 2012, with estimated risk scores 4.9 to 6.4 percent higher.

CMS's adjustment to risk scores for 2010 through 2012 to account for diagnostic coding differences was too low, resulting in estimated excess payments to MA plans of at least $3.2 billion. CMS's annual 3.4 percent reduction in risk scores is equivalent to $2.8 billion in 2010, $3.0 billion in 2011 and $3.2 billion in 2012. According to GAO's estimates, the amount of the excess payments to MA plans after accounting for CMS's adjustments was $0.6 billion in 2010, between $1.1 billion and $1.6 billion in 2011, and between $1.5 billion and $2.9 billion in 2012. Cumulatively across the 3 years, this equals excess payments of between $3.2 billion and $5.1 billion.

For 2013, CMS continues to use the risk score adjustment of 3.4 percent it used in 2010, 2011, and 2012. To conduct its data-based analysis, CMS officials reported that they used the same methodology used in 2010, but they incorporated more recent data. CMS officials told us that, in addition to the results of the data analysis, they incorporated additional factors such as recent payment changes made to the MA program under the Patient Protection and Affordable Care Act and the maintenance of benefits for seniors. The Social Security Act does not prescribe CMS's methodology for adjusting for differences in diagnostic coding. However, the express purpose of the requirements to conduct and incorporate into the risk scores a data-based analysis of coding differences is to ensure payment accuracy. The act does not provide for factors other than the results of the analysis to be incorporated into the adjustment, suggesting that accuracy would be ensured solely through the incorporation of analytical results. CMS officials stated that they believed there was policy discretion with respect to the most appropriate adjustment factor but did not identify the specific source of their authority to consider factors other than the required data analysis when determining the adjustment amount. While CMS did not change its risk score adjustment methodology for 2013, agency officials said they may revisit their methodology for future years.

GAO's findings underscore the importance for CMS to implement the recommendation from GAO's January 2012 report that the agency improve the accuracy of its MA risk score adjustments by taking steps such as using the most current data available and incorporating adjustments for additional beneficiary characteristics.

CMS reviewed a draft of this report and stated that it had no comments.

_____ **United States Government Accountability Office**

Contents

United States Government Accountability Office
Washington, DC 20548

January 31, 2013

The Honorable Henry A. Waxman
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Sander M. Levin
Ranking Member
Committee on Ways and Means
House of Representatives

In 2012, the federal government will spend an estimated $134.7 billion on the Medicare Advantage (MA) program, an alternative to the original Medicare fee-for-service (FFS) program, in which private health plans offer health care coverage to Medicare beneficiaries. The Centers for Medicare & Medicaid Services (CMS), the agency that administers Medicare, pays private plans a monthly amount per beneficiary to provide health care services for each beneficiary enrolled in these plans. CMS adjusts this payment to account for a beneficiary's health status, a process known as risk adjustment, and assigns to each MA beneficiary a risk score—a relative measure of expected health care costs.[1]

Risk scores for beneficiaries with the same diagnoses and characteristics should be identical, regardless of whether the beneficiaries are in an MA plan or Medicare FFS. However, MA plans have a greater incentive than FFS providers to make sure that all medical diagnoses are comprehensively coded, as this can increase beneficiaries' risk scores and ultimately the payments plans receive. This is not the case for FFS providers, who are generally paid for the services they provided and whose payments do not vary based on the diagnoses of the beneficiaries

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[1]Information on a beneficiary's age, sex, Medicaid enrollment status, original reason for Medicare entitlement (i.e., age or disability), and major medical conditions all generally factor into the calculation of the risk score. To gather information on medical diagnoses for beneficiaries in Medicare FFS, CMS analyzes the claims that FFS providers submit for payment. For beneficiaries enrolled in MA plans, instead of submitting claims, CMS requires plans to submit certain diagnosis codes for each beneficiary. Medical diagnoses are not used to calculate risk scores for beneficiaries who were not enrolled in Medicare for all of the previous year.

who received the services.[2] Consequently, risk scores for beneficiaries in MA plans may tend to be higher relative to the risk scores of beneficiaries in FFS who are in similar health and have identical characteristics. To ensure that MA plans are not overpaid as a result of these differences in diagnostic coding patterns, CMS makes a separate adjustment to MA plan payments.

In January 2012, we reported that CMS's adjustments to account for differences in diagnostic coding were inadequate and resulted in excess payments to MA plans.[3] In 2010, CMS estimated that 3.4 percent of MA beneficiary risk scores were attributable to diagnostic coding differences between MA plans and Medicare FFS providers. CMS reduced MA beneficiaries' 2010 risk scores by 3.4 percent, which resulted in the agency saving $2.7 billion in excess payments to MA plans. However, on the basis of the information available when we did our study, we estimated that the difference in diagnostic coding between MA plans and Medicare FFS providers was greater—4.8 percent to 7.1 percent— depending on the assumptions made about trends in risk score growth. Our estimate differed from CMS's because we used more recent data, incorporated the trend of coding differences over time, and accounted for additional beneficiary characteristics.

We also found that the impact of coding differences increased over time and noted that this trend suggested that the cumulative impact of coding differences in 2011 and 2012 could be larger than in 2010. However, CMS applied the same 3.4 percent adjustment to risk scores it used in 2010 to risk scores in 2011 and 2012. To help ensure appropriate payments to MA plans, we recommended that CMS take steps to improve the accuracy of the adjustment made for differences in diagnostic coding practices between MA plans and Medicare FFS.

Since we completed the analysis for our January 2012 report, risk score data for 2 additional years have become available. You asked us to update and extend our work on differences in diagnostic coding practices

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[2]One important exception is hospital acute inpatient services, for which Medicare payment is based on Medicare severity diagnosis–related groups rather than services.

[3]See GAO, *Medicare Advantage: CMS Should Improve the Accuracy of Risk Score Adjustments for Diagnostic Coding Practices*, GAO-12-51 (Washington, D.C.: Jan. 12, 2012).

between MA and Medicare FFS and their impact on MA payments. This report (1) determines the extent to which differences, if any, in diagnostic coding between MA plans and Medicare FFS affected MA risk scores and payments to MA plans in 2010, 2011, and 2012; and (2) identifies what changes, if any, CMS made to its risk score adjustment methodology for 2013 and intends to make for future years.

To determine the extent to which differences in diagnostic coding between MA plans and Medicare FFS affected MA risk scores for 2010, 2011, and 2012, we used a similar approach as for our January 2012 report. We first compared actual risk score growth for beneficiaries in MA plans with the estimated risk score growth MA beneficiaries would have had if they were enrolled in Medicare FFS. To do this, we calculated changes in disease scores—the portion of the risk score that is based on a beneficiary's coded diagnoses—for MA beneficiaries and used regression analysis to estimate what changes in disease scores would have been if those beneficiaries were enrolled in Medicare FFS.[4] We attributed differences between actual and estimated disease score growth to differences in coding practices between MA plans and Medicare FFS. We estimated the extent to which differences in diagnostic coding between MA plans and Medicare FFS affected 2010, 2011, and 2012 risk scores by estimating the cumulative impact of coding differences starting with 2007 risk scores.[5]

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[4]In our regression analysis, we accounted for the following beneficiary characteristics: age, sex, diagnoses as a proxy for health status, Medicaid enrollment status, beneficiary residential location, and whether the original reason for Medicare entitlement was disability. These characteristics may affect the frequency with which beneficiaries interact with health care providers, thereby affecting the amount of information contained within beneficiaries' medical records and the completeness with which providers code diagnoses.

[5]Our use of 2007 risk scores, based on prior-year diagnoses, as the first risk score to contribute to our cumulative coding estimate assumes that MA plans and Medicare FFS had similar coding patterns at that time. CMS believes that MA coding patterns may have been less comprehensive than FFS when the CMS-Hierarchical Condition Categories (CMS-HCC) model was first implemented, and that coding pattern differences caused MA risk scores to grow faster than FFS; therefore, there may have been a period of "catch-up" before MA coding patterns became more comprehensive than FFS. For our previous report, we evaluated how sensitive our analysis results were to our assumption that coding patterns for MA and FFS were similar in 2006—the year of coding on which 2007 risk scores were based—by evaluating how our results would change if we assumed the "catch-up" period was shorter and that MA and FFS coding patterns were similar in 2004—the first year the CMS-HCC model was implemented. Altering the year by which MA coding patterns had "caught up" to FFS coding patterns had little effect on our results.

Because 2010 risk scores were the most recent available at the time of our analysis for this report, we projected the estimated impact of coding differences to 2012 using different assumptions of trends: the lower projection assumed that the impact of coding differences on risk score growth for 2010 to 2012 was the same as it was for 2009 to 2010, while the higher projection assumed that the trend in the impacts of diagnostic coding differences on risk score growth from 2005 through 2010 continued through 2012.[6] To calculate the cumulative impact of coding differences on 2010, 2011, and 2012 MA risk scores, we summed the impacts over the previous periods, weighted by the proportion of the MA population that could have experienced risk score growth due to coding differences during that period.

We made two enhancements to the methodology used for our January 2012 report. First, we altered our assumption about which beneficiaries had risk score growth that could be affected by differences in coding practices between MA plans and Medicare FFS. Specifically, for our January 2012 report, we assumed that beneficiaries who were recently enrolled in MA without any prior Medicare FFS enrollment experienced the same risk score growth due to diagnostic coding differences as beneficiaries who were enrolled in Medicare FFS or MA the previous year. However, enrollees who are new to the Medicare program tend to be healthier than other beneficiaries and may have less contact with their health plan physicians and less information in their medical records that plans could use to adjust risk scores. Therefore, for this report, we instead made the more conservative assumption that beneficiaries new to Medicare and enrolled in MA did not have risk score growth that could be affected by differences in coding practices between MA plans and Medicare FFS. Second, we adjusted both our lower and higher cumulative estimates to account for the effect of beneficiaries who died after June 30, 2010, or otherwise left MA since 2010. For our January 2012 report, we did not make this adjustment. We determined this adjustment was needed for the current report after observing that the beneficiaries who left MA or died had, on average, a greater difference between their actual and estimated disease scores than those beneficiaries who remained in MA.

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[6]We included the impact of diagnostic coding differences for 2005-2006 and 2006-2007 on risk score growth in our trend line.

To quantify the cumulative impact of both our and CMS's estimates of coding differences on payments to MA plans, we estimated the risk score growth attributable to coding differences, as described above. We then used data on MA plan bids—plans' proposed reimbursement rates for the average beneficiary—to calculate total risk-adjusted payments for each MA plan before and after applying a coding adjustment. Finally, we calculated the difference between the two payment amounts.

We analyzed data from CMS on Medicare beneficiaries, including data collected from Medicare providers and MA plans. We assessed the reliability of the CMS data we used by interviewing officials responsible for using these data to determine MA payments, reviewing relevant documentation, and examining the data for obvious errors. We determined that the data were sufficiently reliable for the purposes of our study. See appendix I for more details on our scope and methodology.

To describe changes, if any, CMS made to its coding adjustment methodology for 2013 and intends to make for future years, we reviewed CMS documents and interviewed CMS staff. In particular, we indentified the extent to which CMS planned to update its methodology to incorporate recent data, additional beneficiary characteristics, and account for trends in practice pattern disparities.

We conducted this performance audit from March 2012 through January 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The Social Security Act requires that payments to MA plans be adjusted for variation in the cost of providing health care to beneficiaries on the basis of various risk factors, including health status.[7] For most MA beneficiaries, CMS uses its CMS-Hierarchical Condition Categories

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[7]42 U.S.C. § 1395w-23(a)(1)(C)(i).

(CMS-HCC) model to risk-adjust payments to MA plans.[8] HCCs, which represent major medical conditions, are groups of medical diagnoses where related groups of diagnoses are ranked on the basis of disease severity and cost. The CMS-HCC risk adjustment model uses enrollment and claims data from Medicare FFS. The model uses beneficiary characteristic and diagnostic data from a base year to calculate the expected health care expenditures under Medicare FFS for the following year.[9] For example, CMS used MA beneficiary diagnostic and demographic data for 2009 to determine the risk scores used to adjust payments to MA plans in 2010.

The Social Security Act further directs CMS to ensure that adjustments to payments for health status reflect changes in treatment and coding practices in Medicare FFS and differences in coding patterns between MA plans and providers under Medicare Parts A and B to the extent differences are identified.[10] To ensure payment accuracy, the act requires CMS to conduct an annual analysis of these coding differences in time to incorporate the results into the risk scores for each year. In conducting such an analysis, CMS is required to use data submitted with respect to 2004 and subsequent years as such data are available. CMS is required to continue adjusting risk scores for coding differences until the time it is able to implement risk adjustment using MA diagnostic, cost, and use data. Beginning with 2014, the diagnostic coding adjustments are subject to a statutory minimum, which was recently amended by the American

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[8]We use the term CMS-HCC model to refer specifically to CMS's community model. CMS published the details of its CMS-HCC risk adjustment model on March 28, 2003, and May 12, 2003. CMS-HCC model adjustments to MA payments were phased in from 2004 to 2010. CMS uses the CMS-HCC model to risk-adjust payments for most MA beneficiaries; however, separate models are used for beneficiaries that were not enrolled in Medicare for all of the previous year, have end-stage renal disease, or resided in an institutional facility for at least 90 consecutive days.

[9]The CMS-HCC model uses 1 calendar year of data to estimate each beneficiary's expected Medicare expenditures for the following year. Expected Medicare expenditures for each beneficiary are divided by the average Medicare expenditures for all Medicare FFS beneficiaries to generate a risk score.

[10]42 U.S.C. § 1395w-23(a)(1)(C)(ii).The requirement to adjust risk scores for differences in diagnostic coding originated in the Deficit Reduction Act of 2005, which required adjustments in 2008, 2009, and 2010. Pub. L. No. 109-171, § 5301(b), 120 Stat. 4, 51 (2006). The Health Care and Education Reconciliation Act of 2010 extended the requirement beyond 2010 and made other changes. Pub. L. No. 111-152, § 1102(e), 124 Stat. 1029, 1046.

Taxpayer Relief Act of 2012.[11] Specifically, the Social Security Act, as amended, requires CMS to reduce MA risk scores by at least 1.5 percentage points more than the 2010 adjustment (a total of 4.9 percent) for 2014 and increases the annual minimum percentage reduction to not less than 5.9 percent for 2019 and subsequent years.[12]

CMS did not adjust MA risk scores in 2008 or 2009, the first years for which a diagnostic coding adjustment was required under the Deficit Reduction Act of 2005.[13] However, for 2010 CMS estimated that 3.4 percent of MA beneficiary risk scores were attributable to differences in diagnostic coding over the previous 3 years and reduced MA beneficiaries' 2010 risk scores by 3.4 percent. To calculate this percentage, CMS estimated the annual difference in disease score growth between MA and Medicare FFS beneficiaries for three different groups of beneficiaries who were either enrolled in the same MA plan or in Medicare FFS from 2004 to 2005, 2005 to 2006, and 2006 to 2007. CMS accounted for differences in age and mortality when estimating the difference in disease score growth between MA and Medicare FFS beneficiaries for each period. Then, CMS calculated the average of the three estimates.[14] To apply this average estimate to 2010 MA beneficiaries,

- CMS multiplied the average annual difference in risk score growth by its estimate of the average length of time that 2010 MA beneficiaries had been continuously enrolled in the same MA plans over the previous 3 years,[15] and

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[11]Pub. L. No. 112-240, § 639, 126 Stat. 2313 (2013).

[12]42 U.S.C. § 1395w-23(a)(1)(C)(ii)(III).

[13]The Deficit Reduction Act required CMS to adjust risk scores for MA beneficiaries to take into account differences in treatment and diagnostic coding between MA plans and Medicare FFS to the extent that the impact of differences could be identified. For 2008 and 2009, CMS stated that it was unable to definitively attribute differences in MA and FFS risk scores to underlying diagnostic coding differences and therefore did not adjust risk scores.

[14]The average was weighted by the number of beneficiaries enrolled in the same MA plan during each period.

[15]CMS used MA enrollment data for MA beneficiaries in 2009 and the previous 3 years to estimate the average length of time that 2010 MA beneficiaries had been continuously in their MA plan during the previous 3 years.

- CMS multiplied this result by 81.8 percent, its estimate of the percentage of 2010 MA beneficiaries who were enrolled in an MA plan in 2009 and therefore were previously exposed to MA coding practices.[16]

CMS applied the same 3.4 percent adjustment to risk scores it used in 2010 to risk scores in 2011 and 2012.

CMS's Adjustment for Coding Differences for 2010 through 2012 Was Too Low, Resulting in Estimated Excess Payments to MA Plans of at Least $3.2 Billion

CMS's risk score adjustment for diagnostic coding differences for 2010 through 2012 was too low. Specifically, we estimated that the cumulative impact of coding differences on risk scores increased from 2010 through 2012 and was greater than CMS's risk score adjustment of 3.4 percent for each of the 3 years. In updating our analysis from the January 2012 report, we estimated that cumulative risk scores in 2010 were 4.2 percent higher than they likely would have been if the same beneficiaries had been enrolled continuously in FFS.[17] Using the methodology described earlier, we estimated that differences in diagnostic coding resulted in 2011 risk scores that were 4.6 to 5.3 percent higher than they likely would have been if the same beneficiaries had been continuously enrolled in FFS. This upward trend continued for 2012, with estimated risk scores 4.9 to 6.4 percent higher (see fig. 1).[18]

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[16]CMS's estimate of the percentage of 2010 MA beneficiaries whose risk scores reflected MA diagnostic coding was based on the percentage of 2009 MA beneficiaries who were also in MA plans in 2008.

[17]This estimate, based on more complete data, is less than our January 2012 estimate that the cumulative impact of coding differences on risk scores in 2010 would be between 4.8 percent and 7.1 percent.

[18]As described in our methods section detailed in app. I, we made two enhancements to our methodology for projecting the cumulative impact of coding differences on risk scores that resulted in more conservative estimates for 2011 and 2012 than what our estimates would have been if we used the methodology from our January 2012 report.

Figure 1: CMS and GAO Adjustments of Risk Scores to Account for Diagnostic Coding Differences, 2010 to 2012
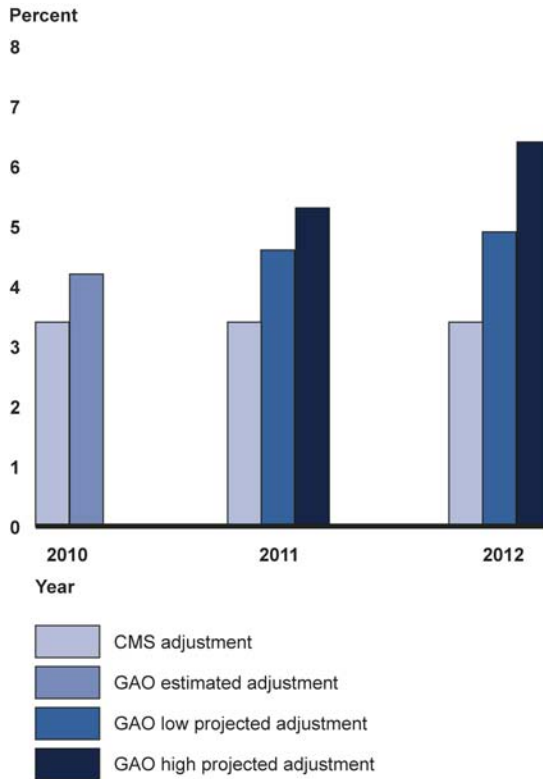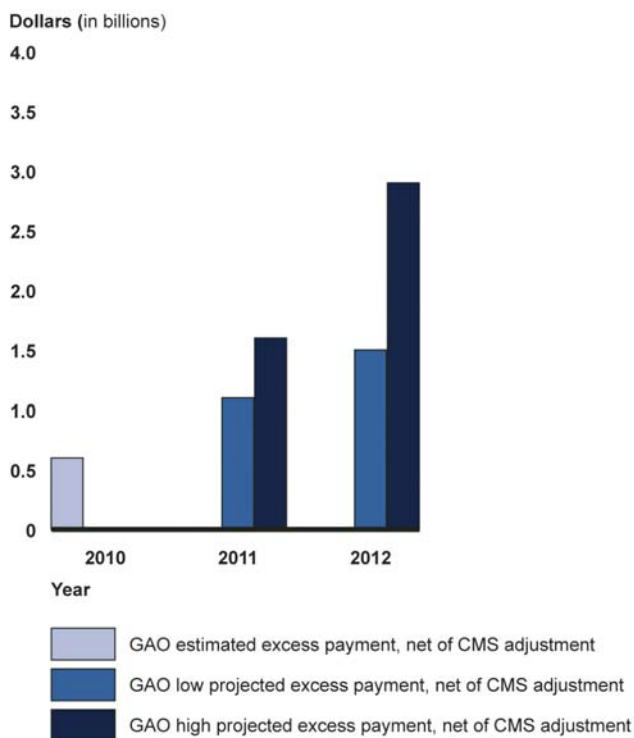

Source: GAO analysis of Medicare data.

Note: We estimated risk score adjustments for differences in diagnostic coding between MA plans and Medicare FFS for 2010, 2011, and 2012 by estimating the cumulative impact of coding differences starting with 2007 risk scores. We used two different assumptions of the effect of coding differences on risk score growth from 2010 to 2012. Our low estimate assumes that the percentage of risk score growth attributable to coding differences for 2010 to 2011 and 2011 to 2012 remains the same as it was from 2009 to 2010. Our high estimate assumes that the percentage of risk score growth attributable to coding differences for 2010 to 2011 and 2011 to 2012 continues the trend for our study population from 2005 to 2010. We adjusted our lower and higher cumulative estimates for 2011 and 2012 to account for the effect of beneficiaries who died after June 30, 2010, or otherwise left MA since 2010.

Because CMS's adjustment to risk scores for 2010 through 2012 to account for diagnostic coding differences was too low, we estimated that MA plans received excess payments of between $3.2 billion and $5.1 billion over the 3-year period. CMS's annual 3.4 percent reduction in risk scores is equivalent to reducing total payments to MA plans by an estimated $2.8 billion in 2010, $3.0 billion in 2011 and $3.2 billion in 2012. According to our estimates, the amount of the excess payments to MA plans after accounting for CMS's adjustments was $0.6 billion in 2010,

$1.1 billion to $1.6 billion in 2011, and $1.5 billion to $2.9 billion in 2012. (See fig. 2.)[19]

Figure 2: Estimated Excess Payments to MA Plans after Accounting for CMS's Risk Score Adjustments for Diagnostic Coding Differences, 2010-2012

Source: GAO analysis of Medicare data.

Note: To quantify the impact of both our and CMS's estimates of coding differences on payments to MA plans, we used data MA plans submitted to CMS to determine payments to MA plans. We calculated total risk-adjusted payments for each MA plan before and after applying a coding adjustment and calculated the difference between the two amounts. For our 2011 and 2012 coding adjustment estimates, we used two different assumptions of the effect of coding differences on risk scores from 2010 to 2012. Our low estimate assumes that the percentage of risk score growth attributable to coding differences for 2010 to 2011 and 2011 to 2012 remained the same as it was from 2009 to 2010. Our high estimate assumes that the percentage of risk score growth attributable to coding differences for 2010 to 2011 and 2011 to 2012 continues the trend for our study population from 2005 to 2010. We adjusted our lower and higher cumulative estimates for 2011 and 2012 to

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[19]Our estimate of $0.6 billion in excess payments to MA plans in 2010, after accounting for CMS's reduction, was less than what we projected in our January 2012 report. In that report, we estimated the dollar impact for 2010, after accounting for CMS's reduction, would be between $1.2 billion and $3.1 billion.

account for the effect of beneficiaries who died after June 30, 2010, or otherwise left MA since 2010. CMS's annual 3.4 percent reduction in risk scores is equivalent to $2.8 billion in 2010, $3.0 billion in 2011, and $3.2 billion in 2012. Our updated estimate of the dollar impact in 2010 risk score growth due to coding differences over the previous 3 years was equivalent to $3.4 billion in payments to MA. For 2011, we estimated that risk score growth over the previous 4 years was equivalent to at least $4.1 billion and up to $4.6 billion in payments to MA plans. For 2012, we estimated that risk growth over the previous 5 years was equivalent to at least $4.7 billion and up to $6.1 billion in payments to MA plans.

CMS Did Not Change Its Risk Score Adjustment Methodology for 2013, but May Revisit It in Future Years

According to CMS officials, the agency used the same methodology to determine the 2013 risk score adjustment as it used in 2011 and 2012, resulting in a risk score adjustment of 3.4 percent for 2013. CMS conducted a data-based analysis of coding differences for 2013 and considered the results, along with other factors, in determining the adjustment provided for in the Social Security Act. To conduct its data-based analysis, CMS officials reported that they used the same methodology they used to calculate the 3.4 percent adjustment for 2010, but incorporated more recent data.[20] In addition to the results of their data-based analysis, CMS officials told us that they took into account other factors when determining the 2013 risk score adjustment, such as payment changes made to the MA program under the Patient Protection and Affordable Care Act, the stability of the MA program, and the maintenance of benefits for seniors.[21] CMS's risk score adjustment of 3.4 percent for 2013 is the same that it used in 2010, 2011, and 2012.

The Social Security Act does not prescribe the methodology that CMS is to use in adjusting for differences in diagnostic coding and, in this regard, it provides the agency with discretion in designing and conducting its analysis of coding differences. However, the express purpose of the requirements to conduct and incorporate a data-based analysis of coding

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[20]CMS used data through 2009 to calculate risk score growth due to coding differences for 2013. In January 2012, we reported that CMS found the impact of coding differences increased from 2004 through 2008. The data-based analysis, as published in the 2010 advance notice and 2010 rate announcement, produced a single-estimate of the adjustment needed to correct for coding differences. See CMS, "Advance Notice of Methodological Changes for Calendar Year 2010 for Medicare Advantage Capitation Rates and Part C and Part D Payment Policies" (Feb. 20, 2009), pp. 9-11, and CMS, "Announcement of Calendar Year 2010 Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies" (Apr. 6, 2009), p.19.

[21]The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, included provisions that affected MA plan payments, such as a transition to a payment system based on national county benchmarks and a requirement that at least 85 percent of revenues must go towards benefits.

differences into the risk scores is to ensure payment accuracy. The statute does not provide for factors other than the results of the analysis to be incorporated into the adjustment, suggesting that accuracy would be achieved through the incorporation of these analytical results by themselves. In response to our inquiries, CMS officials told us that they reviewed a range of options when determining an adjustment for 2013, but did not explain whether these options were derived from the agency's data-based analysis. CMS officials did not identify the specific source of their authority to consider factors other than the required data-based analysis when determining the adjustment amount, but stated that they believed that there was policy discretion with respect to the most appropriate adjustment factor for the payment year. While CMS did not change its risk score adjustment methodology for 2013, agency officials said they may revisit their methodology for future years. While diagnostic coding adjustments are subject to a statutory minimum beginning in 2014, CMS may implement a diagnostic coding adjustment that is greater than the statutory minimum if they determine the minimum is too low.

Concluding Observations

Risk adjustment is important to ensure that payments to MA plans adequately account for differences in beneficiaries' health status and to maintain plans' financial incentive to enroll and care for beneficiaries regardless of their health status. Our work confirms that differences in diagnostic coding caused risk scores for MA beneficiaries to be higher than those for comparable beneficiaries in Medicare FFS in 2010, 2011, and 2012. CMS's decision to use a 3.4 percent adjustment to risk scores for 2010 through 2012 instead of the higher adjustments called for by our analysis resulted in excess payments to MA plans. The existence of such excess payments indicates that CMS's adjustment does not accurately account for differences in treatment and diagnostic coding between MA plans and Medicare FFS—the stated goal of the statute that required CMS to develop a diagnostic coding adjustment. In our January 2012 report, we recommended that CMS take steps to improve the accuracy of the adjustment to account for excess payments due to differences in diagnostic coding. We noted that CMS could, for example, account for additional beneficiary characteristics, include the most recent data available, identify and account for all the years of coding differences that could affect the payment year for which an adjustment is made, and incorporate the trend of the impact of coding differences on risk scores. CMS's adjustment for 2013 is the same as it used in 2010, 2011, and 2012. However, given our finding that this adjustment was too low and resulted in estimated excess payments to MA plans of at least $3.2 billion, we continue to believe that it is important for CMS to

implement our recommendation that it update its methodology to more accurately account for differences in diagnostic coding.

Agency Comments

We provided a draft of this report to CMS for comment. CMS did not have any general comments. The agency provided one technical comment, which we incorporated.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the Secretary of Health and Human Services, interested congressional committees, and others. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff has any questions about this report, please contact me at (202) 512-7114 or cosgrovej@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix II.

James Cosgrove
Director, Health Care

Appendix I: Scope and Methodology

This appendix describes the scope and methodology that we used to address our objective to determine the extent to which differences, if any, in diagnostic coding between Medicare Advantage (MA) plans and Medicare fee-for-service (FFS) affected risk scores and payments to MA plans in 2010, 2011, and 2012. This methodology includes enhancements from the methodology we used in our January 2012 report.

Estimating the Impact of Coding Differences on MA Risk Scores

To determine the extent to which differences, if any, in diagnostic coding between MA plans and Medicare FFS affected MA risk scores in 2010, 2011, and 2012, we compared actual risk score growth for beneficiaries in our MA study population with the estimated risk score growth these beneficiaries would have had if they had been enrolled in Medicare FFS. For our estimates, we assumed MA plans and Medicare FFS had equivalent coding patterns in 2006—the year of coding upon which 2007 risk scores were based—and therefore calculated the cumulative effect of coding differences starting with risk score data from 2007. Because 2010 risk score data were the most current data available at the time of our analysis, we projected the extent of coding differences in 2011 and 2012 on the basis of trends from 2005 through 2010.[1] To do these analyses, we used Centers for Medicare & Medicaid Services (CMS) enrollment and risk score data from 2004 through 2011. Risk scores for a given calendar year are generally based on beneficiaries' diagnoses in the previous year, so we identified our study population on the basis of enrollment data for 2004 through 2009 and analyzed risk scores for that population for 2005 through 2010.[2]

Our MA study population consisted of a retrospective cohort of 2010 MA beneficiaries who were enrolled in MA for all of 2009 and either MA or FFS in 2008, and we followed them back for the length of their continuous enrollment to 2004.[3] Beneficiaries remained in our cohort for as many

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[1]While our estimate of the cumulative impact of coding differences for 2010 is based on 3 years of coding differences, we included an additional 2 years of coding differences, going back to 2005, to identify a trend used to project estimates to 2011 and 2012.

[2]Medical diagnoses are not used to calculate risk scores for beneficiaries who were not enrolled in Medicare for all of the previous year.

[3]We included MA beneficiaries who were enrolled in health maintenance organization, preferred provider organization, and private fee-for-service plans as well as plans offered by provider-sponsored organizations.

years as they were continuously enrolled in MA, plus (if applicable) the year of Medicare FFS enrollment immediately preceding their MA enrollment.[4]

To estimate the risk score growth MA beneficiaries would have experienced in prior periods if they had been enrolled in Medicare FFS, we developed regression models based on a control population of FFS beneficiaries. Specifically, we followed the same method as described above to develop a retrospective cohort of 2010 FFS beneficiaries. For each of 5 prior periods (2005 to 2006, 2006 to 2007, 2007 to 2008, 2008 to 2009, and 2009 to 2010), we used this FFS retrospective cohort to estimate a regression model that described the relationship in Medicare FFS between a beneficiary's characteristics and growth in the beneficiary's disease score—the portion of a beneficiary's risk score that is based on a beneficiary's coded diagnoses. In the regression model we used change in disease score (year 2 - year 1) as our dependent variable and included age, sex, hierarchical condition categories (HCC), HCC interaction variables, Medicaid status, and whether the original reason for Medicare entitlement was disability as independent variables because they are specified in the CMS-HCC model.[5] We also included one urban and one rural variable for each of the 50 United States; Washington, D.C.; and Puerto Rico as independent variables to identify beneficiary residential location.[6] Then we used these regression models and data on beneficiary characteristics for our MA study population to estimate the

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[4]By including 1 year of baseline FFS data in our study period for MA beneficiaries who had been enrolled in FFS prior to joining an MA plan, we were able to analyze the impact of coding differences for MA beneficiaries during their first year in an MA plan. We excluded data for years during which a beneficiary (1) was diagnosed with end-stage renal disease; (2) resided in a long-term care facility for more than 90 consecutive days; (3) died prior to July 1, 2010; or (4) moved to a new state or changed urban/rural status.

[5]We calculated disease scores using the 2010 version of the CMS-HCC risk adjustment community model (used for payment in 2010), and summed the appropriate coefficients for each of the HCC variables. We normalized disease scores for each year to 2005 by using the FFS normalization factor that CMS used to normalize risk scores in 2010. Normalization keeps the average Medicare FFS risk score constant at 1.0 over time and is necessary to compare disease scores across years.

[6]Beneficiary residential location is a proxy for other factors that vary with geography and that may affect the frequency with which beneficiaries interact with health care providers and therefore the completeness with which providers code diagnoses, such as physician practice patterns. We did not include rural variables for Washington, D.C.; New Jersey; and Rhode Island because these locations are entirely urban.

change in disease scores that would have occurred if those MA beneficiaries had been continuously enrolled in FFS.[7]

We then compared these estimates of disease score growth under FFS to the MA beneficiaries' actual disease score growth and, because the regression model accounted for other relevant factors affecting disease score growth, we identified the difference as attributable to coding differences between MA and FFS. To calculate the cumulative impact of coding differences on 2010 MA risk scores, we summed the 2007 to 2008, 2008 to 2009, and 2009 to 2010 impact estimates for our retrospective MA cohort, weighting each impact estimate by the percentage of 2010 MA beneficiaries that could have experienced risk score growth due to coding differences during that period. To convert the cumulative impact of coding differences on 2010 MA risk scores into a percentage, we divided by the average MA risk score in 2010. To calculate the cumulative impact of coding differences on 2011 and 2012 MA risk scores, we used a similar methodology, except that we had to estimate the risk score growth due to coding differences for 2010 to 2011 and 2011 to 2012.[8]

To estimate the risk score growth due to coding differences for 2010 to 2011 and 2011 to 2012, we used the estimates based on our 2010 retrospective cohorts for five time periods—2005 to 2006, 2006 to 2007, 2007 to 2008, 2008 to 2009, and 2009 to 2010—and made two different projection assumptions. One projection, which we used to calculate our high cumulative impact estimate, assumed that the trend over 2005 to 2010 continued through 2012.[9] We also provided a more conservative estimate that assumed the annual growth trend in coding differences from

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[7]Our analysis also accounted for mortality by requiring all beneficiaries in our study populations to be alive through June 30, 2010.

[8]In addition, because CMS would not have enrollment data after January 2010 when publishing its 2011 adjustment and after January 2011 when publishing its 2012 adjustment, we used data from prior years to estimate the percentage of 2011 and 2012 MA beneficiaries that could have experienced risk score growth due to coding differences during each period.

[9]For this projection, we fit a logarithmic trend line to 2005-2006, 2006-2007, 2007-2008, 2008-2009, and 2009-2010 impact estimates and used the resulting expression to extrapolate impact estimates to 2010-2011 and 2011-2012. We used the following coordinates (annual impact, period) for all MA beneficiaries to estimate the model: (-0.0091, 1), (0.0177, 2), (0.0203, 3), (0.0227, 4), and (0.0229, 5).

2010 to 2012 stabilized at the same level as 2009-2010. We provided this lower estimate to account for the possibility that the growth rate will flatten as MA plans improve their systems for comprehensively coding diagnoses.

Our updated methodology includes two major enhancements to the methodology used for our January 2012 report. First, we altered our methodology to make a more conservative assumption of the risk score growth due to coding differences for beneficiaries that recently enrolled in MA without any prior Medicare FFS enrollment. These beneficiaries are new to the Medicare program and tend to be healthier than other beneficiaries. Therefore, they may have less contact with their health plan physicians and less information in their medical records that plans could use to adjust risk scores. As a result, for MA beneficiaries that had a risk score based on MA coding for the second year of the period but did not have a risk score based on either MA or FFS coding for the first year of the period, we altered our methodology to assume that these beneficiaries had zero risk score growth due to coding differences during the period.[10] For the January 2012 report, we had assumed that these beneficiaries experienced the same risk score growth due to coding differences, on average, as did those beneficiaries for which we could measure risk score growth due to coding differences.

Second, we adjusted our cumulative impact estimates for 2011 and 2012 to account for the effect of beneficiaries who died after June 30, 2010, or otherwise left MA since 2010. We determined an adjustment was needed after observing that the impacts of coding differences for the time periods 2005-2006, 2006-2007, and 2007-2008 were smaller for the 2010 retrospective cohort used for this study than for the 2008 retrospective cohort used for our January 2012 report. We attributed these differences to beneficiaries who were in our 2008 cohort but not our 2010 cohort as having, on average, greater differences between their actual and estimated disease scores than those beneficiaries who remained in MA. It is possible this is due to sicker beneficiaries with greater coding differences relative to Medicare FFS leaving the study cohort as they aged, either because of death or to rejoin Medicare FFS. We expect that

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[10]For both our January 2012 report and this report, we excluded new enrollees from our analysis as they had only one risk score and it was not based on their diagnoses. Thus, new enrollees did not have the opportunity to experience risk score growth due to coding differences.

beneficiaries who leave MA or die after 2010 would have a similar effect on our 2011 and 2012 projections. To address this, we adjusted our estimates of the impact of coding differences on the basis of the magnitude of differences in the impact of coding differences for our 2008 and 2010 retrospective cohorts during each period.[11] We applied these adjustments relative to the projection year (i.e., half of the differences between the 2008 and 2010 cohorts for periods 2005-2010 were applied to 2006-2011 for our 2011 projection and the full difference between the cohorts was applied to 2007-2012 for our 2012 projection).

Estimating the Impact on Payments to MA Plans in 2010, 2011, and 2012

To quantify the impact of both our and CMS's estimates of coding differences on payments to MA plans in 2010, 2011, and 2012, we used data on MA plan bids—plans' proposed reimbursement rates for the average beneficiary—which are used to determine payments to MA plans and information on MA plan enrollment. We analyzed monthly MA enrollment for 2010 and 2011, and because enrollment data for 2012 was incomplete, we used the annual trend for these 2 years in conjunction with actual enrollment for the first 9 months of 2012 to estimate total 2012 MA enrollment. We used these data to calculate total risk-adjusted payments for each MA plan before and after applying a coding adjustment, and then used the differences between these payment levels to estimate the percentage reduction in total projected payments to MA plans resulting from adjustments for coding differences in 2010, 2011, and 2012.[12] Then we applied the percentage reduction in payments associated with each adjustment to the estimated total payments to MA plans—$114.8 billion in 2010, $122.9 billion in 2011, and $133.5 billion in 2012—and accounted for reduced Medicare Part B premium payments

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[11]We calculated the difference in annual impacts between the 2008 and 2010 cohorts for 2005-2006, 2006-2007, and 2007-2008 and then projected the linear trend of those differences forward to 2008-2009 and 2009-2010.

[12]We assumed that MA plans did not adjust their bids in 2010, 2011, and 2012 as a result of the adjustment for coding differences.

received by CMS, which offset the reduction in MA payments (see table 1).[13]

Table 1: Impact of Adjustments for Coding Differences on Total Payments to MA Plans in 2010, 2011, and 2012

Adjustment applied to reduce MA risk scores (source)	Reduction in MA payments	
	Percentage	Dollars (in billions)
2010		
3.4 percent (CMS)	2.4%	$2.8
4.2 percent (GAO)	3.0	3.4
2011		
3.4 percent (CMS)	2.4	3.0
4.6 percent (GAO)[a]	3.3	4.1
5.3 percent (GAO)[b]	3.8	4.6
2012		
3.4 percent (CMS)	2.4	3.2
4.9 percent (GAO)[a]	3.5	4.7
6.4 percent (GAO)[b]	4.6	6.1

Source: GAO analysis of Medicare data.

Notes: We analyzed a retrospective cohort of beneficiaries from 2005 to 2010 to estimate the impact of coding differences on MA risk scores and used two different assumptions of the effect of coding differences on risk scores from 2010 to 2012. The percentage reduction in 2010, 2011, and 2012 MA payments is less than the adjustment applied to 2010, 2011, and 2012 MA risk scores because the impact of the adjustment to risk scores is reduced by additional payments some MA plans are eligible to receive.

[a]GAO low estimate assumes the annual impacts from 2010 to 2012 are the same as the impact from 2009 to 2010, after adjusting our estimate to account for beneficiaries who left MA or died between July 1, 2010, and 2011 for our 2011 estimate or between July 1, 2010, and 2012 for our 2012 estimate.

[b]GAO high estimate assumes the annual impacts from 2010 to 2012 continue the trend of increasing annual impacts from 2005 to 2010 after adjusting our estimate to account for beneficiaries who left MA or died between July 1, 2010 and 2011 for our 2011 estimate or between July 1, 2010 and 2012 for our 2012 estimate.

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[13]We estimated $114.8 billion to be the total payments to MA plans without adjustments CMS made in 2010 for budget neutrality and for coding differences. Each estimate in table 1 does not incorporate the impact of CMS's 2010, 2011, or 2012 adjustment. All estimates of the dollar impact of the adjustment for coding differences account for offset due to reduced Medicare Part B premiums received by Medicare—11.92 percent in 2010, 11.91 percent in 2011 and 11.93 percent in 2012. Additionally, estimates do not include Medicare savings for a small number of beneficiaries with end-stage renal disease whose risk scores were adjusted for coding differences.

We analyzed data from CMS on Medicare beneficiaries, including data collected from Medicare providers and MA plans. We assessed the reliability of the CMS data we used by interviewing officials responsible for using these data to determine MA payments, reviewing relevant documentation, and examining the data for obvious errors. We determined that the data were sufficiently reliable for the purposes of our study.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact	James Cosgrove, (202) 512-7114 or cosgrovej@gao.gov
Staff Acknowledgments	In addition to the contact named above, Christine Brudevold, Assistant Director; Alison Binkowski; William A. Crafton; Gregory Giusto; Andrew Johnson; Richard Lipinski; Elizabeth Morrison; and Jennifer Whitworth made key contributions to this report.

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