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SUBJECT: Memorandum Report: "Comparison of Third-Quarter 2008 Average Sales Prices and Average Manufacturer Prices: Impact on Medicare Reimbursement for First Quarter 2009," OEI-03-09-00150

This review was conducted in accordance with the congressional mandate for the Office of Inspector General (OIG) to review average sales prices (ASP) and average manufacturer prices (AMP) for Medicare Part B prescription drugs and identify ASPs that exceed AMPs by at least 5 percent. The review also determined the impact of lowering reimbursement amounts for drugs that meet the 5-percent threshold.

Since the advent of the ASP reimbursement methodology in 2005, OIG has issued 10 reports comparing ASPs to AMPs. This is OIG's 11th pricing comparison, and it examines drugs that met the 5-percent threshold based on either complete or partial AMP data in the third quarter of 2008.¹ Of the 325 drugs with complete AMP data, 15 met the 5-percent threshold under the revised ASP payment methodology recently mandated by statute. Twelve of these fifteen drugs were previously eligible for price adjustment under the revised methodology, with two drugs meeting the 5-percent threshold in each of the past seven quarters. We estimate that, if reimbursement amounts for all 15 drugs had been based on 103 percent of the AMPs, Medicare expenditures would have been reduced by almost three-quarters of a million dollars in the first quarter of 2009. Of the 129 drugs with only partial AMP data in the third quarter of 2008, 21 had ASPs that exceeded the AMPs by at least 5 percent in the third quarter of 2008. Under the revised methodology, 12 of the 21 drugs would have met the 5-percent threshold in at least two of the past seven quarters, dating back to the first quarter of 2007. We estimate that Medicare expenditures would have been reduced by \$9 million during the first quarter of 2009 if reimbursement amounts for all 21 drugs had been based on 103 percent of the AMPs. We could not perform pricing comparisons for an additional 67 drugs because none of the drug products

¹ In quarters prior to 2008, OIG performed pricing comparisons only for those drugs with AMP data for every drug product used by the Centers for Medicare & Medicaid Services (CMS) to calculate the Medicare reimbursement amount. As of the first quarter of 2008, we began additionally examining drugs with only partial AMP data (i.e., drugs with AMP data for some, but not all, of the products used to establish Medicare reimbursement). This ensures that a broader range of drugs is subject to OIG's pricing comparisons.

used to establish Medicare reimbursement had corresponding AMP data. Manufacturers for almost 30 percent of those drug products had Medicaid drug rebate agreements and were therefore generally required to submit AMPs. OIG will continue to work with CMS to evaluate and pursue appropriate actions against those manufacturers that fail to submit required data.

BACKGROUND

Section 1847A(d)(2)(B) of the Social Security Act (the Act) mandates that OIG compare ASPs to AMPs. Pursuant to sections 1847A(d)(3)(A) and (B) of the Act, if OIG finds that the ASP for a drug exceeds the AMP by a certain percentage (currently 5 percent), the Secretary of the Department of Health and Human Services (the Secretary) may disregard the ASP for the drug when setting reimbursement amounts. Section 1847A(d)(3)(C) of the Act goes on to state that “. . . the Inspector General shall inform the Secretary (at such times as the Secretary may specify to carry out this subparagraph) and the Secretary shall, effective as of the next quarter, substitute for the amount of payment . . . the lesser of (i) the widely available market price . . . (if any); or (ii) 103 percent of the average manufacturer price”

Medicare Part B Coverage of Prescription Drugs

Medicare Part B covers only a limited number of outpatient prescription drugs. Covered drugs include injectable drugs administered by a physician; certain self-administered drugs, such as oral anticancer drugs and immunosuppressive drugs; drugs used in conjunction with durable medical equipment; and some vaccines.

Medicare Part B Payments for Prescription Drugs

CMS contracts with private companies, known as Medicare Administrative Contractors (MAC), to process and pay Medicare Part B claims, including those for prescription drugs. To obtain reimbursement for covered outpatient prescription drugs, physicians and suppliers submit claims to their MACs using procedure codes. CMS established the Healthcare Common Procedure Coding System (HCPCS) to provide a standardized coding system for describing the specific items and services provided in the delivery of health care. In the case of prescription drugs, each HCPCS code defines the drug name and dosage size but does not specify manufacturer or package size information.

Medicare and its beneficiaries spent approximately \$11 billion for Part B drugs in 2007.² Although Medicare paid for more than 600 outpatient prescription drug HCPCS codes that year, most of the spending for Part B drugs was concentrated on a relatively small subset of those codes. In 2007, 52 codes accounted for 90 percent of the expenditures for Part B drugs, with only 11 of these drugs representing half of the total Part B drug expenditures.

² Medicare expenditures for Part B drugs were calculated using 2007 data in CMS’s Part B Extract and Summary System (BESS), which were 98 percent complete at the time of extraction.

Reimbursement Methodology for Part B Drugs and Biologicals

Since January 2005, Medicare Part B has been paying for most covered drugs using a reimbursement methodology based on ASPs.³ Section 1847A(c) of the Act, as added by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, P.L. No. 108-173, defines an ASP as a manufacturer's sales of a drug to all purchasers in the United States in a calendar quarter divided by the total number of units of the drug sold by the manufacturer in that same quarter. The ASP is net of any price concessions, such as volume discounts, prompt pay discounts, cash discounts, free goods contingent on purchase requirements, chargebacks, and rebates other than those obtained through the Medicaid drug rebate program.⁴ Sales that are nominal in amount are exempted from the ASP calculation, as are sales excluded from the determination of "best price" in the Medicaid drug rebate program.^{5 6}

Manufacturers report ASPs by national drug codes (NDC), which are 11-digit identifiers that indicate the manufacturer, product dosage form, and package size of the drug. Manufacturers must provide CMS with the ASP and volume of sales for each NDC on a quarterly basis, with submissions due 30 days after the close of each quarter.⁷

Because Medicare Part B reimbursement for outpatient drugs is based on HCPCS codes rather than NDCs and more than one NDC may meet the definition of a particular HCPCS code, CMS has developed a file that "crosswalks" manufacturers' NDCs to HCPCS codes. CMS uses information in this crosswalk file to calculate volume-weighted ASPs for covered HCPCS codes.

Calculation of Volume-Weighted Average Sales Prices

To calculate volume-weighted ASPs, CMS uses an equation that involves the following variables: the ASP for the 11-digit NDC as reported by the manufacturer, the volume of sales for the NDC as reported by the manufacturer, and the number of billing units in the NDC as determined by CMS. The amount of the drug contained in an NDC may differ from the amount of the drug specified by the HCPCS code that providers use to bill Medicare. Therefore, the number of billing units in an NDC describes the number of HCPCS code units that are in that NDC. For instance, an NDC may contain a total of 10 milliliters of Drug A, but the corresponding HCPCS code may be defined as only 5 milliliters of Drug A. In this case, there are two billing units in the NDC. CMS calculates the number of billing units in each NDC when developing its crosswalk files.

³ In 2004, the reimbursement amount for most covered drugs was based on 85 percent of the average wholesale price as published in national pricing compendia, such as the "Red Book." Before 2004, Medicare Part B reimbursed for covered drugs based on the lower of either the billed amount or 95 percent of the average wholesale price.

⁴ Section 1847A(c)(3) of the Act.

⁵ Pursuant to section 1927(c)(1)(C)(i) of the Act, "best price" is the lowest price available from the manufacturer during the rebate period to any wholesaler, retailer, provider, health maintenance organization, nonprofit entity, or governmental entity within the United States, with certain exceptions.

⁶ Section 1847A(c)(2) of the Act.

⁷ Section 1927(b)(3) of the Act.

Before April 2008, CMS calculated volume-weighted ASPs using the equation presented in Appendix A. However, section 112(a) of the Medicare, Medicaid, and SCHIP Extension Act of 2007, P.L. No. 110-173, changed section 1847A(b) of the Act to require that CMS compute volume-weighted ASPs using a revised methodology, effective April 2008. This revised methodology was proposed by OIG in a February 2006 report entitled “Calculation of Volume-Weighted Average Sales Price for Medicare Part B Prescription Drugs” (OEI-03-05-00310). The revised equation for calculating volume-weighted ASPs is also provided in Appendix A.

First-quarter 2009 Medicare allowances for most covered drug codes were based on third-quarter 2008 ASP submissions from manufacturers, which were volume-weighted using the revised methodology. Under the ASP pricing methodology, the Medicare allowance for most Part B drugs is equal to 106 percent of the volume-weighted ASP for the HCPCS code. Medicare beneficiaries are responsible for 20 percent of this amount in the form of coinsurance.

The Medicaid Drug Rebate Program and Average Manufacturer Prices

For Federal payment to be available for covered outpatient drugs provided under Medicaid, sections 1927(a)(1) and (b)(1) of the Act mandate that drug manufacturers enter into rebate agreements with the Secretary and pay quarterly rebates to State Medicaid agencies. Under these rebate agreements and pursuant to section 1927(b)(3) of the Act, manufacturers must provide CMS with the AMP for each of their NDCs on a quarterly basis, with submissions due 30 days after the close of each quarter.⁸

As generally defined in section 1927(k)(1) of the Act, the AMP is the average price paid to the manufacturer for the drug in the United States by wholesalers for drugs distributed to the retail pharmacy class of trade. Before the passage of the DRA, manufacturers were required to deduct customary prompt pay discounts when calculating AMPs. However, section 6001(c)(1) of the DRA amended section 1927(k)(1) of the Act, such that AMPs must be determined without regard to customary prompt pay discounts, effective January 2007. In December 2006, CMS instructed manufacturers to exclude customary prompt pay discounts from their AMP calculations as of January 2007.⁹ In July 2007, CMS published a final rule at 72 Fed. Reg. 39142 (July 17, 2007) that, among other things, implements section 6001(c)(1) of the DRA and clarifies the way in which the AMP must be calculated. Specifically, 42 CFR § 447.504 of the final regulation clarifies the manner in which the AMP is to be determined.¹⁰

⁸ Section 6001(b)(1)(A) of the Deficit Reduction Act of 2005 (DRA), P.L. No. 109-171, changed section 1927(b) of the Act to require that manufacturers also report AMPs on a monthly basis, effective January 2007. Drug manufacturers will continue to report quarterly AMP data in addition to their monthly submissions.

⁹ CMS, Medicaid Drug Rebate Program, “Bulletin for Participating Drug Manufacturers,” Release No. 76, December 15, 2006.

¹⁰ In December 2007, the United States District Court for the District of Columbia preliminarily enjoined the implementation of the regulation for certain purposes not relevant to this report. Section 203 of the Medicare Improvements for Patients and Providers Act of 2008 also delayed the implementation of certain aspects of the regulation and the DRA requirements. Again, those aspects are not relevant for the purposes of this report.

The AMP is generally calculated as a weighted average of prices for all of a manufacturer’s package sizes of a drug sold during a given quarter and is reported for the lowest identifiable quantity of the drug (e.g., 1 milliliter, 1 tablet, 1 capsule).

If a manufacturer fails to provide AMP data in a timely manner, civil monetary penalties may be imposed.¹¹ In addition, pursuant to section 1927(b)(4)(B) of the Act, the Secretary may terminate a rebate agreement “for violation of the requirements of the agreement or other good cause shown.” CMS has terminated a number of manufacturers for failure to report drug-pricing data as required by section 1927 of the Act. CMS has also provided OIG with information about manufacturers that failed to submit drug-pricing data for the purposes of evaluating potential civil monetary penalty actions.

Office of Inspector General’s Monitoring of Average Sales Prices and Average Manufacturer Prices

In accordance with its congressional mandate, OIG has issued nine quarterly pricing comparisons since the ASP reimbursement methodology for Part B drugs was implemented in January 2005. In addition, OIG recently completed an annual overview of ASPs and AMPs, which examined data across all four quarters of 2007 using the revised ASP payment methodology recently implemented by CMS. A list of all 10 reports is provided in Appendix B.

Although CMS has acknowledged the Secretary’s authority to adjust ASP payment limits based on the findings of OIG’s pricing comparisons, CMS has yet to make any changes to Part B drug reimbursement as a result of these studies. Rather, CMS has emphasized both the complexity of substituting payment amounts and the importance of proceeding cautiously to avoid unintended consequences.¹² In commenting on OIG’s reports, CMS has expressed a desire to both better understand fluctuating differences between ASPs and AMPs and engage stakeholders, with the intent of developing a process for making price substitutions.¹³ However, CMS has not specified what, if any, steps it will take to adjust Medicare reimbursement amounts for drugs that meet the 5-percent threshold specified in section 1847A(d)(3) of the Act.

OIG will continue to meet its congressional mandate by issuing reports based on quarterly pricing comparisons, along with annual overviews to summarize findings across each calendar year.

METHODOLOGY

We obtained a file from CMS containing NDC-level ASP data from the third quarter of 2008, which were used to establish Part B drug reimbursement amounts for the first quarter of 2009. This file also includes information that crosswalks NDCs to their corresponding HCPCS codes.

¹¹ Pursuant to section 1927(b)(3)(C) of the Act.

¹² OEI-03-08-00450, December 2008.

¹³ OEI-03-07-00140, July 2007, and OEI-03-08-00450, December 2008.

Both the ASP data and the crosswalk data were current as of December 18, 2008. We also obtained AMP data from CMS for the third quarter of 2008, which were current as of November 6, 2008.

Analysis of Average Sales Price Data From the Third Quarter of 2008

As mentioned previously, Medicare does not base reimbursement for covered drugs on NDCs; instead, it uses HCPCS codes. Therefore, CMS uses ASP information submitted by manufacturers for each NDC to calculate a volume-weighted ASP for each covered HCPCS code. When calculating these volume-weighted ASPs, CMS includes only NDCs with ASP submissions that are deemed valid.

As of December 2008, CMS had established prices for 532 HCPCS codes based on the revised ASP reimbursement methodology mandated by section 112(a) of the Medicare, Medicaid, and SCHIP Extension Act of 2007.¹⁴ Reimbursement amounts for the 532 HCPCS codes were based on ASP data for 3,340 NDCs.

Analysis of Average Manufacturer Price Data From the Third Quarter of 2008

In quarters prior to 2008, OIG performed pricing comparisons for only those drug codes with AMP data for every drug product used by CMS to calculate the Medicare reimbursement amount. As a result of that conservative approach, at least 17 percent of HCPCS codes were excluded from our analysis in any given quarter. As of the first quarter of 2008, we began additionally examining drug codes with only partial AMP data (i.e., drug codes with AMP data for some, but not all, of the products used to establish Medicare reimbursement). This ensures that a broader range of drug codes is subject to OIG's pricing comparisons.

For the purposes of this report, we divided HCPCS codes into the following three groups:

- (1) HCPCS codes with AMP data for every NDC that CMS used in its calculation of volume-weighted ASPs,
- (2) HCPCS codes with AMP data for only some of the NDCs that CMS used in its calculation of volume-weighted ASPs, and
- (3) HCPCS codes with no AMP data for any of the NDCs that CMS used in its calculation of volume-weighted ASPs.

As previously noted, the AMP for each NDC is reported for the lowest identifiable quantity of the drug contained in that NDC (e.g., 1 milliliter, 1 tablet, 1 capsule). In contrast, the ASP is reported for the entire amount of the drug contained in the NDC (e.g., for 50 milliliters, for 100 tablets). To ensure that the AMP would be comparable to the ASP, it was necessary to convert the AMP for each NDC so that it represented the total amount of the drug contained in that NDC.

¹⁴ Several Part B drugs, including certain vaccines and blood products, are not paid under the ASP methodology.

To calculate “converted AMPs” for NDCs in the first and second groups, we multiplied the AMP by the total amount of the drug contained in each NDC, as identified by sources such as the CMS crosswalk file, manufacturer Web sites, the “Red Book,” and the Food and Drug Administration’s NDC directory. For certain NDCs, we were unable to successfully identify the amount of the drug reflected by the ASP and therefore could not calculate a converted AMP. Because of these unsuccessful AMP conversions, 11 HCPCS codes were removed from our analysis.

Using NDCs with successful AMP conversions, we then calculated a volume-weighted AMP for each of the corresponding HCPCS codes, consistent with the revised methodology for calculating volume-weighted ASPs. Appendix C provides a more detailed description of the methods we used to both convert AMPs and calculate volume-weighted AMPs. Table 1 provides the final number of HCPCS codes and NDCs included in our analysis after we removed NDCs with either no AMP data or unsuccessful AMP conversions.

Table 1: Number of Drug Codes and NDCs Included in OIG’s Pricing Comparison

Availability of AMP Data for HCPCS Code	Number of HCPCS Codes	Number of NDCs
Complete AMP Data	325	1,291
Partial AMP Data	129	1,083
No AMP Data	67	222

Source: OIG analysis of third-quarter 2008 ASP and AMP data, 2009.

Comparing Volume-Weighted ASPs to Volume-Weighted AMPs for the Third Quarter of 2008 Using the Revised ASP Payment Methodology

For each of the HCPCS codes included in our study, we compared the volume-weighted ASP and AMP and determined whether the ASP for the code exceeded the AMP by at least 5 percent.

For those HCPCS codes that met or exceeded the 5-percent threshold, we reviewed the associated NDCs to verify the accuracy of the billing unit information. According to our review, NDCs for four codes had billing unit information in CMS’s crosswalk file that may not have accurately reflected the number of billing units actually contained in the NDC. Because volume-weighted ASPs and AMPs are calculated using this billing unit information, we could not be certain that the results for these codes were correct. Therefore, we did not consider these four HCPCS codes as having met the 5-percent threshold.

For the remaining HCPCS codes, we then estimated the monetary impact of lowering reimbursement to 103 percent of the AMP.¹⁵ For each of the HCPCS codes that met the

¹⁵ Section 1847A(d)(3)(C) of the Act directs the Secretary to replace payment amounts for drugs that meet the 5-percent threshold with the lesser of the widely available market price for the drug (if any) or 103 percent of the AMP. For the purposes of this study, we used 103 percent of the AMP to estimate the impact of lowering reimbursement amounts. If widely available market prices had been available for these drugs and lower than 103 percent of the AMP, the savings estimate presented in this report would have been greater.

5-percent threshold, we calculated 103 percent of the volume-weighted AMP and subtracted this amount from the first-quarter 2009 reimbursement amount for the HCPCS code, which is equal to 106 percent of the volume-weighted ASP. To estimate the financial effect for the first quarter of 2009, we then multiplied the difference by one-fourth of the number of services that were allowed by Medicare for each HCPCS code in 2007, as reported in BESS.¹⁶ This estimate assumes that the number of services that were allowed by Medicare in 2007 remained consistent from one quarter to the next and that there were no significant changes in utilization between 2007 and 2008.

Identifying Codes That Would Also Have Met the 5-Percent Threshold in Previous Quarters Under the Revised Payment Methodology

Using volume-weighted ASPs and AMPs calculated under the revised ASP payment methodology,¹⁷ we determined whether codes meeting the 5-percent threshold in the third quarter of 2008 would have also met the 5-percent threshold in any of the six previous quarters, dating back to the first quarter of 2007.

Limitations

We did not verify the accuracy of manufacturer-reported ASP and AMP data, nor did we verify the underlying methodology used by manufacturers to calculate ASPs and AMPs. Furthermore, we did not verify the accuracy of CMS's crosswalk files or examine NDCs that CMS opted to exclude from its calculation of Part B drug reimbursement amounts.

Manufacturers are required to submit their quarterly ASP and AMP data to CMS 30 days after the close of the quarter. Our analyses were performed on ASP and AMP data compiled by CMS soon after that deadline. We did not verify whether manufacturers later provided revised or missing data to CMS.

Furthermore, the definition of AMP changed effective January 2007, such that AMPs must now be determined without regard to customary prompt pay discounts.¹⁸ Because manufacturers are still required to include customary prompt pay discounts in their ASP calculations, the dynamic between ASPs and AMPs may be different in this report as compared to that in OIG reports using prices submitted before 2007.

Standards

This inspection was conducted in accordance with the "Quality Standards for Inspections" issued by the President's Council on Integrity and Efficiency and the Executive Council on Integrity and Efficiency.

¹⁶ At the time of extraction, 2007 BESS data were 98 percent complete.

¹⁷ CMS was not required to apply the revised ASP payment methodology to ASP data submitted by manufacturers prior to the fourth quarter of 2007. However, to establish a more useful and consistent benchmark for comparisons of ASPs and AMPs over time, OIG recently completed a report examining ASPs and AMPs for all four quarters of 2007 using the revised methodology (i.e., we recalculated volume-weighted ASPs and AMPs using the revised methodology for the first three quarters of 2007). We used these recalculated ASPs and AMPs in this current report.

¹⁸ Section 1927(k)(1) of the Act (as amended by section 6001(c)(1) of the DRA) and CMS, Medicaid Drug Rebate Program, "Bulletin for Participating Drug Manufacturers," Release No. 76, December 15, 2006.

RESULTS

Of the 325 Drug Codes With Complete AMP Data, Volume-Weighted ASPs for 15 Exceeded the Volume-Weighted AMPs by at Least 5 Percent

Consistent with sections 1847A(d)(2)(B) and 1847A(d)(3) of the Act, OIG compared ASPs to AMPs to identify instances in which the ASP for a particular drug exceeded the AMP by a threshold of 5 percent. Under the revised ASP payment methodology mandated by statute, 15 of the 325 HCPCS codes with complete AMP data (5 percent) met this 5-percent threshold in the third quarter of 2008. A list of the 15 HCPCS codes, including their descriptions and HCPCS dosage amounts, is presented in Appendix D.

Table 2 describes the extent to which ASPs exceeded AMPs for the 15 HCPCS codes.¹⁹ For four of the codes, volume-weighted ASPs exceeded volume-weighted AMPs by 20 percent or more. The ASPs for two of these codes were more than double the AMPs.

Table 2: Extent to Which ASPs Exceeded AMPs for 15 HCPCS Codes With Complete AMP Data

Percentage by Which ASP Exceeded AMP	Number of HCPCS Codes
5.00%–9.99%	7
10.00%–19.99%	4
20.00%–29.99%	1
30.00%–39.99%	0
40.00%–49.99%	0
50.00%–59.99%	1
60.00%–69.99%	0
70.00%–79.99%	0
80.00%–89.99%	0
90.00%–99.99%	0
100% and above	2
Total	15

Source: OIG analysis of third-quarter 2008 ASP and AMP data, 2009.

Most of the HCPCS codes (12 of 15) were previously identified by OIG as having ASPs that exceeded the AMPs by at least 5 percent.²⁰ Under the revised methodology, two HCPCS codes (J1364 and Q0169) would have met the 5-percent threshold in each of the past seven quarters, dating back to the first quarter of 2007. The remaining 10 HCPCS codes would have met the 5-percent threshold in two of the seven quarters if the revised methodology had

¹⁹ Because of the confidential nature of ASP data, the information in the table is presented in ranges.

²⁰ We compared the results from this report to those in recent OIG reports (OEI-03-09-00050, OEI-03-08-00530, and OEI-03-08-00450) that examined ASPs and AMPs for the first and second quarters of 2008 and all four quarters of 2007 using the revised methodology.

been used since the beginning of 2007. Table 3 presents a breakdown of the 12 HCPCS codes that previously met the threshold for price adjustments under the revised methodology.

Table 3: Twelve HCPCS Codes That Met the 5-Percent Threshold in the Third Quarter of 2008 and Previous Quarters Using Complete AMP Data

OIG Reports Comparing ASP and AMP							
HCPCS Code	Third Quarter 2008	Second Quarter 2008	First Quarter 2008	Fourth Quarter 2007	Third Quarter 2007	Second Quarter 2007	First Quarter 2007
J1364	X	X	X	X	X	X	X
Q0169	X	X	X	X	X	X	X
J8515	X	X					
J9040	X	X*					
J9225	X	X					
J9370	X	X*					
J9375	X	X*					
J9380	X	X*					
J1020	X		X				
J2792	X		X				
J7500	X				X		
J7631	X				X		

* These codes met the 5-percent threshold in the second quarter of 2008 based on partial AMP data.
 Source: OIG analysis of ASP and AMP data from the first three quarters of 2008 and all four quarters of 2007.

Lowering reimbursement amounts for the 15 HCPCS codes to 103 percent of the AMPs would have reduced Medicare allowances by almost three-quarters of a million dollars in the first quarter of 2009. Sections 1847A(d)(3)(A) and (B) of the Act provide that the Secretary may disregard the ASP pricing methodology for a drug with an ASP that exceeds the AMP by at least 5 percent. Pursuant to section 1847A(d)(3)(C) of the Act, “. . . the Secretary shall, effective as of the next quarter, substitute for the amount of payment . . . the lesser of (i) the widely available market price . . . (if any); or (ii) 103 percent of the average manufacturer price”²¹ In this study, we identified 15 HCPCS codes that met the 5-percent threshold specified in the Act. We estimate that, if reimbursement amounts for these 15 codes had been based on 103 percent of the AMPs during the first quarter of 2009, Medicare expenditures would have been reduced by \$720,000 in that quarter.^{22 23}

²¹ For the purposes of this study, we used 103 percent of the AMP to estimate the impact of lowering reimbursement amounts. If widely available market prices had been available for these drugs and lower than 103 percent of the AMP, the savings estimates presented in this report would have been greater.

²² This savings estimate assumes that the number of services that were allowed by Medicare in 2007 remained consistent from one quarter to the next and that there were no significant changes in utilization between 2007 and 2008.

²³ One of the fifteen HCPCS codes did not have any services in the 2007 BESS file. As a result, a savings estimate could not be calculated for this code.

One of the fifteen HCPCS codes accounted for over 70 percent of the estimated savings. If the reimbursement amount for code J9225 had been based on 103 percent of the AMP during the first quarter of 2009, Medicare expenditures would have been reduced by an estimated \$509,000.

Of the 129 Drug Codes With Partial AMP Data, Volume-Weighted ASPs for 21 Exceeded the Volume-Weighted AMPs by at Least 5 Percent

In addition to examining HCPCS codes with complete AMP data, we examined 129 HCPCS codes for which only partial AMP data were available. Under the revised payment methodology, ASPs for 21 of these 129 HCPCS codes (16 percent) exceeded the AMPs by at least 5 percent in the third quarter of 2008. A list of the 21 HCPCS codes, including their descriptions and HCPCS dosage amounts, is presented in Appendix E.

Table 4 describes the extent to which ASPs exceeded AMPs for the 21 HCPCS codes.²⁴ For almost half of the codes (10 of 21), volume-weighted ASPs exceeded volume-weighted AMPs by 20 percent or more. The ASPs for three of these codes were more than double the AMPs.

Table 4: Extent to Which ASPs Exceeded AMPs for 21 HCPCS Codes With Partial AMP Data

Percentage by Which ASP Exceeded AMP	Number of HCPCS Codes
5.00%–9.99%	9
10.00%–19.99%	2
20.00%–29.99%	4
30.00%–39.99%	0
40.00%–49.99%	0
50.00%–59.99%	0
60.00%–69.99%	1
70.00%–79.99%	0
80.00%–89.99%	1
90.00%–99.99%	1
100% and above	3
Total	21

Source: OIG analysis of third-quarter 2008 ASP and AMP data, 2009.

Over half of the 21 HCPCS codes with partial AMP data were previously identified by OIG as having ASPs that exceeded the AMPs by at least 5 percent.²⁵ Under the revised methodology, one HCPCS code (J9260) would have met the 5-percent threshold in five of the past seven quarters. Another six HCPCS codes would have met the 5-percent threshold in three of the seven quarters if the revised methodology had been used since the beginning of 2007. Table 5

²⁴ The information in the table is presented in ranges because of the confidential nature of ASP data.

²⁵ Results from this report were compared to those in recent OIG reports (OEI-03-09-00050, OEI-03-08-00530, and OEI-03-08-00450) that examined ASPs and AMPs for the first and second quarters of 2008 and all four quarters of 2007 using the revised methodology.

presents a breakdown of the 12 HCPCS codes that previously met the threshold for price adjustments under the revised methodology.

Table 5: Twelve HCPCS Codes That Met the 5-Percent Threshold in the Third Quarter of 2008 and Previous Quarters Using Partial AMP Data

HCPCS Code	OIG Reports Comparing ASP and AMP						
	Third Quarter 2008	Second Quarter 2008	First Quarter 2008	Fourth Quarter 2007	Third Quarter 2007	Second Quarter 2007	First Quarter 2007
J9260	X	X	X*		X		X
J0560	X	X*	X*				
J0670	X	X*	X*				
J1190	X	X*	X*				
J2310	X	X*	X*				
J9060	X		X*				X
J9062	X		X*				X
J1642	X	X*					
J7506	X	X*					
J9185	X	X*					
J0170	X		X*				
J0278	X		X				

* These codes previously met the 5-percent threshold during the specified quarter based on partial AMP data. Source: OIG analysis of ASP and AMP data from the first two quarters of 2008 and all four quarters of 2007.

Lowering reimbursement amounts for the 21 HCPCS codes to 103 percent of the AMPs would have reduced Medicare allowances by an estimated \$9 million in the first quarter of 2009.^{26 27 28} One of the twenty-one HCPCS codes accounted for almost 80 percent of the \$9 million. If the reimbursement amount for code J7614 had been based on 103 percent of the AMPs during the first quarter of 2009, Medicare expenditures would have been reduced by an estimated \$6.8 million.

²⁶ For the purposes of this study, we used 103 percent of the AMP to estimate the impact of lowering reimbursement amounts. If widely available market prices had been available for these drugs and lower than 103 percent of the AMP, the savings estimates presented in this report would have been greater.

²⁷ This savings estimate assumes that the number of services that were allowed by Medicare in 2007 remained consistent from one quarter to the next and that there were no significant changes in utilization between 2007 and 2008.

²⁸ Two of the twenty-one HCPCS codes did not have any services in the 2007 BESS file. As a result, savings estimates could not be calculated for these codes.

Pricing Comparisons Could Not Be Performed on 67 Drug Codes Because No AMP Data Were Available

For 67 HCPCS codes, OIG could not compare ASPs and AMPs because there were no AMP data for any of the 222 NDCs that CMS used when calculating drug reimbursement amounts for these codes. In 2007, Medicare allowances for these 67 codes totaled \$15 million.²⁹

Almost 30 percent of NDCs without AMP data belonged to manufacturers with Medicaid drug rebate agreements.³⁰ Manufacturers for 29 percent of the NDCs without AMP data (65 of 222) participated in the Medicaid drug rebate program as of the third quarter of 2008 and were therefore generally required to submit AMP data.^{31 32} The majority (65 percent) of these 65 NDCs belonged to three manufacturers.

Manufacturers for the remaining 157 of 222 NDCs did not participate in the Medicaid drug rebate program and therefore were not required to submit AMP data.

CONCLUSION

To monitor Medicare reimbursement amounts based on ASPs and consistent with sections 1847A(d)(2)(B) and 1847A(d)(3) of the Act, OIG compared ASPs and AMPs to identify instances in which the ASP for a particular drug exceeded the AMP by at least 5 percent. This is OIG's 11th report comparing ASPs and AMPs, and it examines HCPCS codes with AMP data for every NDC that CMS used to establish reimbursement amounts, as well as HCPCS codes with only partial AMP data.

Using the revised ASP payment methodology recently implemented by CMS, we identified a total of 36 HCPCS codes in the third quarter of 2008 that met the threshold for price adjustment. Fifteen of the thirty-six HCPCS codes had complete AMP data. Of these 15 codes, 12 were previously identified by OIG as having ASPs that exceeded the AMPs by at least 5 percent under the revised methodology. Two of the twelve HCPCS codes (J1364 and Q0169) met the 5-percent threshold in each of the past seven quarters, dating back to the first quarter of 2007. The remaining 21 of 36 HCPCS codes also met the 5-percent threshold in the third quarter of 2008 but did not have AMP data for every NDC that CMS used when calculating reimbursement. Finally, we could not compare ASPs and AMPs for 67 HCPCS codes because AMP data were not submitted for any of the NDCs that CMS used to calculate reimbursement. Manufacturers for almost 30 percent of these NDCs had Medicaid drug rebate agreements and

²⁹ Of the 67 HCPCS codes with no associated AMP data, 21 did not have any services in the 2007 BESS file. As a result, these codes were not included in the total Medicare allowances for the year.

³⁰ To determine whether a manufacturer participated in the Medicaid drug rebate program, we consulted the list of participating drug companies posted on CMS's Web site.

³¹ Although manufacturers with rebate agreements are generally required to submit AMP data, there may be valid reasons why an AMP was not provided for a specific NDC in a given quarter. For example, a manufacturer may not have been required to submit an AMP if the drug product had been terminated and there was no drug utilization during the quarter.

³² These 65 NDCs were crosswalked to 29 HCPCS codes.

were therefore generally required to submit AMPs. OIG will continue to work with CMS to evaluate and pursue appropriate actions against those manufacturers that fail to submit required data.

Some of OIG’s previous reports comparing ASPs and AMPs have contained recommendations, which we continue to support.³³ We are not making additional recommendations in this report and, as such, are issuing the report directly in final form. If you have comments or questions about this report, please provide them within 60 days. Please refer to report number OEI-03-09-00150 in all correspondence.

³³ For example, OIG, “Comparison of Average Sales Prices and Average Manufacturer Prices: An Overview of 2007,” OEI-03-08-00450, December 2008.

APPENDIX A

Equations Used by the Centers for Medicare & Medicaid Services To Calculate Volume-Weighted Average Sales Prices

In the following equations, a “billing unit” is defined as the number of Healthcare Common Procedure Coding System (HCPCS) code units that are contained in a national drug code (NDC).

1. The Revised Equation Used by the Centers for Medicare & Medicaid Services (CMS) To Calculate Volume-Weighted Average Sales Prices (ASP) Beginning April 1, 2008

$$\text{Volume-Weighted ASP for the Billing Unit of HCPCS Code} = \frac{\text{Sum of (ASP for NDC * Number of NDCs Sold)}}{\text{Sum of (Number of NDCs Sold * Billing Units in NDC)}}$$

2. The Equation Used by CMS To Calculate Volume-Weighted ASPs Before April 1, 2008

$$\text{Volume-Weighted ASP for the Billing Unit of HCPCS Code} = \frac{\text{Sum of } \left[\frac{\text{ASP for NDC}}{\text{Billing Units in NDC}} * \text{Number of NDCs Sold} \right]}{\text{Sum of Number of NDCs Sold}}$$

APPENDIX B

Previous Office of Inspector General Reports Comparing Average Sales Prices and Average Manufacturer Prices

- “Monitoring Medicare Part B Drug Prices: A Comparison of Average Sales Prices to Average Manufacturer Prices” (OEI-03-04-00430), April 2006
- “Comparison of Fourth-Quarter 2005 Average Sales Prices to Average Manufacturer Prices: Impact on Medicare Reimbursement for Second Quarter 2006” (OEI-03-06-00370), July 2006
- “Comparison of Third-Quarter 2006 Average Sales Prices to Average Manufacturer Prices: Impact on Medicare Reimbursement for First Quarter 2007” (OEI-03-07-00140), July 2007
- “Comparison of First-Quarter 2007 Average Sales Prices to Average Manufacturer Prices: Impact on Medicare Reimbursement for Third Quarter 2007” (OEI-03-07-00530), September 2007
- “Comparison of Second-Quarter 2007 Average Sales Prices and Average Manufacturer Prices: Impact on Medicare Reimbursement for Fourth Quarter 2007” (OEI-03-08-00010), December 2007
- “Comparison of Third-Quarter 2007 Average Sales Prices and Average Manufacturer Prices: Impact on Medicare Reimbursement for First Quarter 2008” (OEI-03-08-00130), May 2008
- “Comparison of Fourth-Quarter 2007 Average Sales Prices and Average Manufacturer Prices: Impact on Medicare Reimbursement for Second Quarter 2008” (OEI-03-08-00340), August 2008
- “Comparison of Average Sales Prices and Average Manufacturer Prices: An Overview of 2007” (OEI-03-08-00450), December 2008
- “Comparison of First-Quarter 2008 Average Sales Prices and Average Manufacturer Prices: Impact on Medicare Reimbursement for Third Quarter 2008” (OEI-03-08-00530), December 2008
- “Comparison of Second-Quarter 2008 Average Sales Prices and Average Manufacturer Prices: Impact on Medicare Reimbursement for Fourth Quarter 2008” (OEI-03-09-00050), February 2009

APPENDIX C

Detailed Methodology for Converting and Volume-Weighting Average Manufacturer Prices for the Third Quarter of 2008

Healthcare Common Procedure Coding System codes with complete average manufacturer price data. Of the 532 Healthcare Common Procedure Coding System (HCPCS) codes with reimbursement amounts based on average sales prices (ASP), 335 had average manufacturer prices (AMP) for every national drug code (NDC) that the Centers for Medicare & Medicaid Services (CMS) used to calculate volume-weighted ASPs. These 335 HCPCS codes represented 1,372 NDCs. For 15 NDCs, we could not successfully identify the amount of the drug reflected by the ASP and therefore could not calculate a converted AMP. These 15 NDCs were crosswalked to 10 HCPCS codes. We did not include these 10 HCPCS codes (81 NDCs) in our final analysis.

Using the converted AMPs for the remaining 1,291 NDCs, we then calculated a volume-weighted AMP for each of the remaining 325 HCPCS codes consistent with the revised methodology for calculating volume-weighted ASPs.

HCPCS codes with partial AMP data. There were 130 HCPCS codes with AMP data for only some of the NDCs that CMS used in its calculation of volume-weighted ASPs. These 130 HCPCS codes represented a total of 1,746 NDCs. AMP data were either missing or unavailable for 648 of these NDCs, which were then excluded from our calculation of volume-weighted AMPs.³⁴

We calculated converted AMPs for each of the remaining 1,098 NDCs. For 15 of the 1,098 NDCs, we could not successfully identify the amount of the drug reflected by the ASP and therefore could not calculate a converted AMP. We removed these 15 NDCs from our analysis.³⁵ As a result, one HCPCS code no longer had any NDCs with AMP data. Therefore, this HCPCS code was removed from our analysis.

Using the converted AMPs for the remaining 1,083 NDCs, we then calculated a volume-weighted AMP for each of the remaining 129 HCPCS codes consistent with the revised methodology for calculating volume-weighted ASPs.

³⁴ Although AMP data for these 648 NDCs were excluded from our calculation of volume-weighted AMPs, the corresponding ASPs were not excluded from the volume-weighted ASPs as determined by CMS. Volume-weighted ASPs remained the same, regardless of the availability of AMP data.

³⁵ Although we removed NDCs with problematic AMP conversions, we did not remove the corresponding HCPCS codes, provided that other NDCs for those drug codes had usable AMP data. This differs from our analysis of HCPCS codes with complete AMP data, in which we removed not only the NDCs with problematic AMP conversions, but also the corresponding HCPCS codes.

HCPCS codes with no AMP data. For 67 HCPCS codes, there were no AMP data for any of the NDCs that CMS used in its calculation of volume-weighted ASPs. These 67 HCPCS codes represented 222 NDCs.

APPENDIX D

Fifteen Drug Codes With Complete Average Manufacturer Price Data That Met the 5-Percent Threshold in the Third Quarter of 2008

Drug Code	Short Description	Drug Code Dosage
J0330	Succinycholine chloride injection	20 mg
J0720	Chloramphenicol sodium injection	1 g
J1020	Methylprednisolone injection	20 mg
J1364	Erythro lactobionate	500 mg
J2765	Metoclopramide HCl injection	10 mg
J2792	Rho(D) immune globulin	100 units
J7500	Azathioprine, oral	50 mg
J7631	Cromolyn sodium inhalation solution	10 mg
J8515	Cabergoline, oral	0.25 mg
J9040	Bleomycin sulfate injection	15 units
J9225	Histrelin implant	50 mg
J9370	Vincristine sulfate injection	1 mg
J9375	Vincristine sulfate injection	2 mg
J9380	Vincristine sulfate injection	5 mg
Q0169	Promethazine HCl, oral	12.5 mg

Source: Office of Inspector General analysis of third-quarter 2008 average sales price and average manufacturer price data, 2009.

APPENDIX E

Twenty-One Drug Codes With Partial Average Manufacturer Price Data That Met the 5-Percent Threshold in the Third Quarter of 2008

Drug Code	Short Description	Drug Code Dosage
J0170	Adrenalin epinephrin injection	1 mL
J0278	Amikacin sulfate injection	100 mg
J0560	Penicillin G benzathine injection	600000 units
J0640	Leucovorin calcium injection	50 mg
J0670	Mepivacaine HCl injection	10 mL
J1190	Dexrazoxane HCl injection	250 mg
J1642	Heparin sodium injection	10 units
J2310	Naloxone HCl injection	1 mg
J3250	Trimethobenzamide HCl injection	200 mg
J7506	Prednisone, oral	5 mg
J7612	Levalbuterol non-compounded	0.5 mg
J7614	Levalbuterol non-compounded	0.5 mg
J9045	Carboplatin injection	50 mg
J9060	Cisplatin injection	10 mg
J9062	Cisplatin injection	50 mg
J9185	Fludarabine phosphate injection	50 mg
J9260	Methotrexate sodium injection	50 mg
J9390	Vinorelbine tartrate	10 mg
Q0179	Ondansetron HCl, oral	8 mg
Q9965	Low osmolar contrast material, 100-199 mg/mL iodine	1 mL
Q9966	Low osmolar contrast material, 200-299 mg/mL iodine	1 mL

Source: Office of Inspector General analysis of third-quarter 2008 average sales price and average manufacturer price data, 2009.