Department of Health and Human Services

OFFICE OF INSPECTOR GENERAL

QUESTIONABLE BILLING FOR POLYSOMNOGRAPHY SERVICES

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Inspector General

October 2013
OEI-05-12-00340

EXECUTIVE SUMMARY: Questionable Billing for Polysomnography Services, OEI-05-12-00340

WHY WE DID THIS STUDY

Increased Medicare spending on polysomnography (a type of sleep study), along with growing concerns about fraud and abuse, prompted the Office of the Inspector General (OIG) to conduct this study. From 2005 to 2011, Medicare spending for polysomnography services rose from $407 million to $565 million, an increase of 39 percent. In addition, fraud investigators and sleep medicine professionals have identified specific vulnerabilities regarding polysomnography services. In January 2013, a provider agreed to pay $15.3 million to settle allegations of false polysomnography claims billed to Medicare and other Federal payers.

HOW WE DID THIS STUDY

We analyzed Medicare payments for polysomnography claims for 2011. The claims were from hospital outpatient departments and nonhospital providers, such as physician-owned sleep laboratories and independent diagnostic testing facilities. We identified polysomnography claims that did not meet one or more of three Medicare requirements. We also identified providers with patterns of questionable billing using 11 measures of questionable billing, which included the 3 Medicare requirements and 8 additional measures developed in consultation with fraud investigators and sleep medicine professionals within and outside of OIG.

WHAT WE FOUND

Medicare paid nearly $17 million for polysomnography services that did not meet one or more of three Medicare requirements. Payments for services with inappropriate diagnosis codes composed a majority of these payments. Eighty-five percent of claims with inappropriate diagnosis codes came from hospital outpatient departments. Inappropriate payments might have been averted with effective electronic edits that automatically deny claims or suspend them for manual review.

Further, 180 providers exhibited patterns of questionable billing for polysomnography services. Most of these providers submitted an unusually high percentage of claims for beneficiaries with another polysomnography claim on the same day, which is questionable because beneficiaries can undergo only one polysomnography service in a day, as the process requires an overnight stay.

WHAT WE RECOMMEND

To strengthen safeguards for polysomnography services, we recommend that the Centers for Medicare & Medicaid Services (CMS) implement or improve claims processing edits and consider using measures of questionable billing from this study to identify providers for further investigation. We also recommend that CMS take appropriate action regarding inappropriate payments and providers that exhibited patterns of questionable billing. CMS concurred with all four of our recommendations.

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OBJECTIVES

1. To identify inappropriate payments for polysomnography claims that did not meet certain Medicare requirements.
2. To identify providers with patterns of questionable billing for polysomnography services.

BACKGROUND

Polysomnography Services

In 2011, Medicare paid over 1 million claims for polysomnography services, totaling almost $565 million.[1] Medicare spending on polysomnography increased from $407 million to $565 million (39 percent) from 2005 to 2011.

Additionally, fraud investigators and sleep medicine professionals have identified specific vulnerabilities regarding inappropriate and fraudulent billing for polysomnography services. Most recently, in January 2013, a provider agreed to pay $15.3 million to settle allegations of false polysomnography claims billed to Medicare and other Federal payers.[2]

Polysomnography is a type of sleep study conducted to diagnose medical conditions that affect sleep (e.g., sleep apnea) and to evaluate the effectiveness of positive airway pressure (PAP) devices (a type of treatment device for sleep apnea). During a polysomnography service, a beneficiary sleeps overnight while connected to sensors that measure and record parameters of sleep, such as brain wave activity, eye movement, and airflow.[3] If polysomnography shows that a beneficiary has sleep apnea, a provider may prescribe a PAP device for treatment. Providers fit and titrate PAP devices (i.e., set them to the appropriate pressure for a beneficiary's condition), after which beneficiaries may get a PAP device for home use.[4] Providers also may prescribe a different type of treatment device, called an oral appliance, instead of a PAP device.

[1] Office of Inspector General (OIG) analysis of polysomnography claims from National Claims History data. Throughout this report, references to Medicare payment represent the total amount allowed by Medicare, which consists of payments made by Medicare plus beneficiary cost-sharing payments.

[2] U.S. Department of Justice, *Florida-Based American Sleep Medicine to Pay $15.3 Million for Improperly Billing Medicare and Other Federal Healthcare Programs* (press release). Accessed at www.justice.gov on March 29, 2013.

[3] The Centers for Medicare & Medicaid Services (CMS) considers the overnight stay to be an integral part of this service. CMS, *Medicare Benefit Policy Manual*, Pub. No. 100-02, ch. 15, § 70(B).

[4] Medicare covers prescriptions for PAP devices when an appropriate diagnosis results from a polysomnography service.

Providers can perform diagnostic and titration services in two visits or together in a single visit, known as a split-night service. Providers can perform a split-night service when a diagnosis of sleep apnea can be made within the first few hours of the polysomnography service and the provider is able to fit and titrate the PAP device in the same night. If the provider cannot make a diagnosis early in the polysomnography service, the beneficiary may need to return at a later date for an additional polysomnography service to fit and titrate the PAP device.[5]

Polysomnography services are performed in hospital outpatient departments and nonhospital locations, such as independent diagnostic testing facilities and provider-owned sleep laboratories. (In this report, we refer to these nonhospital facilities as "nonhospital providers.")

Medicare Requirements for Polysomnography Services

Medicare pays for polysomnography services under different payment systems, depending on where the services are performed. For polysomnography services performed in most hospital outpatient departments, Medicare pays under the Outpatient Prospective Payment System.[6] For polysomnography services performed by nonhospital providers, Medicare pays under the Physician Fee Schedule. In 2011, the Medicare payment rate for a polysomnography service was $780.77 for hospital outpatient departments and $618.03 for nonhospital providers.[7, 8]

CMS contracts with Medicare Administrative Contractors (MAC) to process claims. Fifteen MACs with a total of 128 distinct contracts processed polysomnography claims in 2011.[9] Each MAC may have multiple contracts to process claims.

Medicare Coverage Requirements. The Social Security Act governs Medicare payments for all services, including polysomnography.

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[5] OIG analysis of local coverage determinations (LCD) for polysomnography services from 2011.

[6] Some hospitals are exempt from the Outpatient Prospective Payment System, and instead receive cost-based reimbursement.

[7] American Medical Association, Current Procedural Terminology reference for code 95811. Accessed at hsrl.mediregs.com on April 9, 2013. Reimbursement amounts reflect unadjusted 2011 Outpatient Prospective Payment System and Physician Fee Schedule base payment rates for the technical component of the service.

[8] **The five character codes and descriptions included in this document are obtained from Current Procedural Terminology (CPT®, copyright [2011] by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures. Any use of CPT outside of this document should refer to the most current version of the Current Procedural Terminology available from AMA. Applicable FARS/DFARS apply.**

[9] OIG analysis of polysomnography claims from National Claims History data and MAC contract information from the Services Tracking, Analysis, and Reporting System.

Medicare covers services that it considers "reasonable and necessary," including services used to diagnose or treat a disorder.[10] Also, Medicare does not pay duplicate claims (i.e., multiple claims submitted for a single service performed).[11]

For all diagnostic tests, including polysomnography, CMS requires an order from the provider who evaluates or treats the beneficiary.[12, 13] Polysomnography providers must enter the name and National Provider Identifier (NPI) of this ordering provider on the polysomnography claim.[14] Statutory prohibitions on self-referral specify that beneficiaries receiving polysomnography services at hospital outpatient departments must be ordered by a provider who does not have a financial relationship with the hospital.[15]

MACs may specify additional coverage requirements through LCDs.[16] LCDs include information such as utilization guidelines, permissible CPT codes, and diagnosis codes that support medical necessity.[17] For example, all LCDs for polysomnography services list sleep apnea diagnosis codes as supporting the medical necessity of diagnostic polysomnography.[18]

Nine of the fifteen MACs had LCDs that applied to some or all of the polysomnography claims processed in 2011.[19] Of these nine MACs, eight had both LCDs that applied to hospital outpatient departments and LCDs that applied to nonhospital providers, whereas one had only LCDs that applied to nonhospital providers. The remaining six MACs had no LCDs for polysomnography in 2011.[20]

Several LCDs for polysomnography specify that one service is usually sufficient for diagnosis and titration. These LCDs note that there are some instances in which beneficiaries may need to return for repeat polysomnography services (e.g., in the case of equipment failure, inconclusive results, or titration adjustments). However, the LCDs specify

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[10] Social Security Act § 1862(a)(1)(A); 42 U.S.C. § 1395y(a)(1)(A).

[11] CMS, *Reminder to Stop Duplicate Billings*, Medicare Learning Network Matters No. SE0415. Accessed at www.cms.gov on March 26, 2013.

[12] 42 CFR § 410.32(a).

[13] CMS, *Medicare Benefit Policy Manual*, Pub. No. 100-02, ch. 15, § 70(A).

[14] CMS, *Claims Processing Manual*, Pub. No. 100-04, ch. 26, § 10.4.

[15] Social Security Act § 1877. Polysomnography services performed by nonhospital providers are not subject to the self-referral prohibition.

[16] CMS, *Medicare Program Integrity Manual*, Pub. No. 100-08, ch. 13, § 13.1.3.

[17] 42 CFR § 400.202.

[18] OIG analysis of LCDs for polysomnography services from 2011.

[19] Because LCDs are established at the contract level, a MAC with multiple contracts may process some claims under contracts with applicable LCDs and other claims under contracts without applicable LCDs.

[20] OIG analysis of LCDs for polysomnography services from 2011.

that routinely performing repeat services is not medically necessary, and that providers must have persuasive documentation to justify the necessity of repeat tests.[21]

Medicare Billing Requirements. Providers bill for polysomnography services using three CPT codes. Providers bill for diagnostic services using either CPT code 95808 or 95810, depending on how many parameters of sleep are measured. Providers bill for both full-night titration services and split-night services using CPT code 95811. See Table 1 for a description of each type of polysomnography service and associated CPT codes.

Table 1: Types of Polysomnography Services

Type of Polysomnography Service	CPT Code	Description
Diagnostic	95808	Polysomnography; sleep staging with 1-3 additional parameters of sleep, attended by a technologist.
	95810	Polysomnography; sleep staging with 4 or more additional parameters of sleep, attended by a technologist.
Titration	95811	Polysomnography; initiation of continuous positive airway pressure therapy or bilevel ventilation, attended by a technologist.
Split-night	95811	Initial diagnostic polysomnogram confirming the diagnosis of obstructive sleep apnea followed by titration during polysomnography on the same night.

Sources: AMA, CPT reference for codes 95808, 95810, and 95811; 2011 LCDs for polysomnography services.

All polysomnography services consist of two components: the administration of the test (the technical component) and the provider's interpretation of the test (the professional component). Providers generally bill separately for the technical and professional components when each is performed by a different provider; some providers may perform only one component of the service.[22] If a provider bills for the two components together, it is referred to as a "global service." There is no financial advantage to billing separately for each component as opposed to billing for a global service—for a given provider, the sum of the Medicare payments for the technical and professional components is equal to the payment for the global service.[23]

[21] OIG analysis of LCDs for polysomnography services from 2011.

[22] Most hospital outpatient departments can receive payment only for the technical component.

[23] AMA, CPT reference for codes 95808, 95810, and 95811. Accessed at hsrl.mediregs.com on August 15, 2012.

CMS requires providers to obtain an NPI and to use it when submitting Medicare claims, including claims for polysomnography services.[24, 25] NPIs should be deactivated if they are no longer in use (i.e., if the provider organization dissolves or the provider dies).[26]

CMS also requires an appropriate diagnosis code for payment for polysomnography services.[27] CMS instructs providers to list the condition that justifies the service as the primary diagnosis code.[28, 29] The primary diagnosis should be the one most relevant to the service.

Medicare Safeguards for Polysomnography Services

Medicare uses claims processing edits to prevent inappropriate payments. These electronic edits automatically pay all or part of a claim, deny all or part of a claim, or suspend all or part of the claim for manual review.

CMS has edits for certain services, including polysomnography, that deny payment when the unit of service billed is not likely for normal medical practice.[30] These edits, referred to as Medically Unlikely Edits, apply to all claims submitted nationally. Medically Unlikely Edits for polysomnography services are intended to deny payment for claims with a unit of service greater than one.[31]

MACs may choose to implement local edits to enforce their LCDs and reduce payment error.[32] For example, MACs could implement an edit to deny payment for claims without a diagnosis code supporting the medical necessity of a service. These are considered local edits because they apply only to geographic areas covered by the MAC. MACs have the discretion to implement local edits denying payment when overutilization is identified and an LCD serves as the basis for the denial.[33]

CMS also conducts data mining to identify high-risk and potentially fraudulent providers. One way CMS does this is by running algorithms on claims data using its Fraud Prevention System.[34] According to CMS staff,

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[24] CMS, Transmittal No. 1349. Accessed at www.cms.gov on March 26, 2013.
[25] 45 CFR § 162.410(a).
[26] 45 CFR § 162.408(c).
[27] CMS, *Medicare Program Integrity Manual*, Pub. No. 100-08, ch. 3, § 3.4.1.3(A).
[28] CMS, *Medicare Claims Processing Manual*, Pub. No. 100-04, ch. 25, § 75.5.
[29] Ibid., ch. 26, § 10.4.
[30] CMS, *Medically Unlikely Edits*. Accessed at www.cms.gov on March 26, 2013.
[31] Practitioner Services and Outpatient Hospital Services Medically Unlikely Edit Tables. Accessed at www.cms.gov on March 26, 2013.
[32] CMS, *Medicare Program Integrity Manual*, Pub. No. 100-08, ch. 3, § 3.4.1.5(A).
[33] Ibid., ch.3, § 3.4.1.4(B).
[34] CMS, *Center for Program Integrity: New Strategic Direction and Key Antifraud Activities*. Accessed at www.cms.gov on April 19, 2013.

the Fraud Prevention System includes algorithms to detect potentially fraudulent polysomnography providers.

Related Office of Inspector General Work

In addition to this evaluation, OIG is conducting audits of polysomnography claims for selected regions to determine whether the claims complied with Medicare requirements and were paid accurately. As part of these audits, OIG will review MAC safeguards for the selected regions. OIG is also evaluating MACs' use and evaluation of local edits.

METHODOLOGY

Scope

The findings in this report are based on analysis of Medicare claims data. We did not review medical documentation to determine the medical necessity of polysomnography services. We also did not review MAC safeguards for polysomnography services. Finally, because of data limitations, we did not analyze ownership information or other indications of self-referral, which may affect questionable billing for polysomnography services.

Data Collection

This study is based on our analysis of 100-percent Medicare claims data from CMS's National Claims History Standard Analytic File and other selected data sources. We collected Physician Fee Schedule and hospital outpatient claims from 2009 to 2011 and Durable Medical Equipment (DME) claims from 2009 to 2012. We also collected current NPI information from CMS's National Plan and Provider Enumeration System (NPPES) and LCDs for polysomnography services from CMS's Medicare Coverage Database.

To create our data set, we identified all paid claims for the technical component of polysomnography and global polysomnography services (CPT codes 95808, 95810, and 95811) from January 1, 2011, to November 30, 2011.[35, 36] The data set contained 626,212 claims for a total of $470 million, representing 7,232 unique providers and 461,363 unique beneficiaries.[37]

[35] We excluded zero-dollar claims.

[36] We excluded claims from December 2011 because certain associated claims were not available at the time of our analysis.

[37] For Physician Fee Schedule claims, we identified providers by the performing NPI listed on the claim. For hospital outpatient claims, we identified the provider by the organization NPI listed on the claim, but we also obtained the NPI of the attending physician listed on the claim for certain analyses.

Identification of Claims That Did Not Meet Medicare Requirements

We analyzed our data set to identify polysomnography claims that did not meet one or more of three Medicare requirements. Specifically, we identified claims that were: (1) submitted with inappropriate diagnosis codes, (2) for the same service date as other polysomnography claims for the same beneficiary, or (3) submitted with invalid NPIs. This analysis included all claims from the 7,232 providers in our population.

To identify polysomnography claims submitted with inappropriate diagnosis codes, we determined whether the primary diagnosis code on each claim was acceptable per the applicable LCD. We did not perform this analysis for claims without applicable LCDs. We classified an LCD as applicable if the contractor number listed on the LCD matched the contractor number listed on the claim and if the LCD was in effect on the service date for the claim. The 15 MACs that processed polysomnography claims in 2011 accounted for 128 distinct contracts, 79 of which had LCDs for polysomnography. Of the 626,204 claims in our data set, 456,096 (72.8 percent) had applicable LCDs.

After identifying polysomnography claims submitted with inappropriate diagnosis codes, we determined what percentage of those claims came from hospital outpatient departments as opposed to nonhospital providers. For comparison, we also determined what percentage of all claims came from hospital outpatient departments as opposed to nonhospital providers.

To identify polysomnography claims with the same service date as one or more other polysomnography claims for the same beneficiary, we grouped claims by beneficiary number and service date and identified groups with more than one claim. We classified one claim from each of these groups as allowable but classified the remaining claims as inappropriate.

To identify polysomnography claims that were submitted with invalid NPIs, we compared the provider NPI listed on each claim to NPI information from NPPES. We classified an NPI as invalid if it did not exist in NPPES or if its NPPES status was “inactive” on the service date.

Identification of Providers That Exhibited Patterns of Questionable Billing

We identified providers that exhibited patterns of questionable billing in three steps. First, we developed 11 measures of questionable billing and determined providers’ percentages for each measure. For this analysis, we excluded the 893 providers in our data set that had fewer than three claims, leaving a total of 6,339 providers. Next, for each measure, we identified providers that had unusually high percentages of questionable billing relative to other providers. To establish an objective benchmark,

we considered a provider's percentage to be unusually high if it was greater than the 75th percentile plus 1.5 times the interquartile range for the measure.[38] Finally, we identified providers that had unusually high percentages for three or more of the 11 measures. We defined a pattern of questionable billing as having an unusually high percentage for three or more measures.

The 11 measures of questionable billing are composed of 3 measures that identify claims that did not meet Medicare requirements (as discussed in the previous section), and 8 additional measures of questionable billing. All of these measures can represent services that were not medically necessary, not rendered, or otherwise inappropriate. The three measures that identify claims that did not meet Medicare requirements are as follows:

- *Inappropriate diagnosis code*. This measure represents the percentage of a provider's polysomnography claims that did not meet Medicare criteria because they had inappropriate diagnosis codes per the applicable LCD. Providers with unusually high percentages for this measure may be routinely performing and billing Medicare for polysomnography services that are not medically necessary.
- *Same-day duplicate claims*. This measure represents the percentage of a provider's polysomnography claims that did not meet Medicare criteria because they were for the same service date as one or more other polysomnography claims for the same beneficiary. Providers with unusually high percentages for this measure may be routinely submitting duplicate claims.
- *Invalid NPI*. This measure represents the percentage of a provider's polysomnography claims that did not meet Medicare criteria because they were submitted with invalid NPIs.[39] Providers with unusually high percentages for this measure may be billing Medicare inappropriately.

The eight additional measures of questionable billing are based on Medicare coverage and billing requirements for polysomnography services, measures used in OIG questionable-billing studies for other

[38] This is a standard exploratory method for identifying members of a population with unusually high values on a given statistic compared to the rest of the population when no established benchmarks exist. See J.W. Tukey, *Exploratory Data Analysis*, Addison-Wesley, 1977.

[39] A portion of a provider's claims may have been submitted with an invalid NPI if the provider's NPI changed from active to inactive during 2011, the timeframe of our analysis.

Medicare services, and consultations with fraud investigators and sleep medicine professionals within and outside of OIG. We consulted sleep medicine professionals to identify clinical standards and best practices for the provision of polysomnography services. These professionals included MAC clinical medical directors; a practicing physician specialist and researcher; and representatives from a professional association, an accreditation organization, and an advocacy group. We also consulted health care fraud investigators to identify data patterns that could indicate inappropriate or fraudulent billing. These individuals included OIG auditors and agents, CMS policy and technical staff, and a private-sector fraud examiner knowledgeable about polysomnography compliance issues.

The eight additional measures of questionable billing are as follows:

- *Shared beneficiaries*. This measure represents the percentage of a provider's beneficiaries who also had polysomnography claims submitted by one or more other providers. Providers with unusually high percentages for this measure may be using compromised beneficiary numbers for fraudulent billing.
- *Unbundling a split-night service*. This measure represents the percentage of a provider's diagnostic claims for which the provider also submitted a titration claim for the same beneficiary the next day. CMS allows providers to perform diagnostic and titration services on separate nights, which should be billed on two separate claims. Although there are some situations in which it may be necessary for a provider to perform these two services on consecutive nights, fraud investigators and sleep medicine professionals say it is unusual for a provider to do so routinely. Providers should not submit two separate claims if they perform a split-night service on a single night.[40] Because a split-night service involves only one overnight stay, submitting two polysomnography claims for a split-night service constitutes inappropriate unbundling. Providers with unusually high percentages for this measure may be routinely performing split-night services but submitting separate diagnostic and titration claims to increase reimbursement.
- *Double-billing for the professional component*. This measure represents the percentage of a provider's claims for global services that had a corresponding claim for the professional component. Providers with unusually high percentages for this measure may be

[40] OIG analysis of LCDs for polysomnography services from 2011.

routinely double-billing Medicare for the professional component of the polysomnography service.[41]

- *Repeated titrations*. This measure represents the percentage of a provider's beneficiaries who had three or more titration claims within a 90-day period.[42] According to fraud investigators and sleep medicine professionals, it is rarely medically necessary for a beneficiary to undergo more than two titration services in such a short time. Furthermore, most LCDs explicitly require that providers justify the medical necessity of polysomnography services beyond two nights of testing. Given this, providers with unusually high percentages for this measure may be routinely performing and billing Medicare for titration services that are not medically necessary or not rendered.
- *Missing professional component*. This measure represents the percentage of a provider's claims for the technical component that had no corresponding claim for the professional component submitted by any provider. Providers with unusually high percentages for this measure may be routinely billing for polysomnography services not rendered.
- *Titration with no corresponding treatment device*. This measure represents the percentage of a provider's titration claims for which the beneficiary has no corresponding DME claims for PAP devices or oral appliances. According to fraud investigators and sleep medicine professionals, in almost all cases beneficiaries who require a titration service are prescribed a PAP device or oral appliance. Providers with unusually high percentages for this measure may be routinely billing for services that are not medically necessary or not rendered.
- *Missing visit with ordering provider*. This measure represents the percentage of a provider's polysomnography claims for which the beneficiary had no claims with the ordering provider in the preceding year.[43] Providers with unusually high percentages for this measure may be routinely performing and billing Medicare for

[41] Double-billing is never permissible. However, the polysomnography service and the interpretation of that service may take place on different days. Accordingly, we had to approximate corresponding claims. Because of this approximation, our study characterizes instances of double-billing as only "questionable" rather than as definitively inappropriate.

[42] We excluded from our analysis all claims for incomplete titration services.

[43] Because information on referring providers was available only on Physician Fee Schedule claims, we did not perform this analysis for hospital outpatient claims.

polysomnography services for which they do not have valid orders, and therefore are not medically necessary.

- *Repeated polysomnography services*. This measure represents the percentage of a provider's beneficiaries who had two or more polysomnography claims in each of 3 consecutive years. Although it may be necessary in some cases for a beneficiary to undergo repeat tests, it is rarely medically necessary for beneficiaries to receive multiple polysomnography services in consecutive years, according to fraud investigators and sleep medicine professionals. As such, providers with unusually high percentages for this measure may be routinely performing and billing Medicare for polysomnography services that are not medically necessary or not rendered.

Limitations

The 11 measures of questionable billing used in this study do not provide conclusive evidence of fraudulent billing. Rather, the measures are intended to identify questionable scenarios on the basis of claims data. In this study, we highlight providers that, relative to their peers, have unusually high percentages of questionable scenarios for several measures. Further investigation would be required to determine whether these providers have, in fact, submitted inappropriate or fraudulent Medicare claims for polysomnography services.

Standards

This study was conducted in accordance with the *Quality Standards for Inspection and Evaluation* issued by the Council of the Inspectors General on Integrity and Efficiency.

FINDINGS

Medicare inappropriately paid nearly $17 million for polysomnography claims that did not meet certain Medicare requirements

Medicare inappropriately paid $16.8 million for polysomnography claims that did not meet one or more of three Medicare requirements. These claims had inappropriate diagnosis codes, were same-day duplicate claims, or were submitted with an invalid NPI. Of the providers with paid polysomnography claims in 2011, 35 percent (2,534 providers) submitted at least 1 claim that did not meet 1 or more of the 3 requirements. Table 2 shows the number, percentage, and amount of claims that did not meet one or more Medicare requirements.

Table 2. Polysomnography Claims That Did Not Meet One or More Medicare Requirements

Reason Claim Did Not Meet Medicare Requirements	Number of Claims	Percentage of All Claims	Amount
Inappropriate diagnosis code	20,110	3.21%	$16,050,155
Same-day duplicate claim	1,178	0.19%	$669,540
Invalid NPI	109	0.02%	$86,594
(Overlap)	(49)	(0.01%)	($28,846)
Total	**21,348**	**3.41%**	**$16,777,443**

Source: OIG analysis of National Claims History data, 2013.

A majority of the claims did not meet Medicare requirements because they had inappropriate diagnosis codes. Medicare should not pay claims with diagnosis codes that are not allowed by LCDs.[44, 45] Medicare may have paid claims with inappropriate diagnosis codes because claims processing edits to prevent inappropriate payments did not exist or were ineffective. Past OIG work has found that MACs do not always use edits to enforce LCD requirements, including those related to diagnosis codes.[46, 47]

Same-day duplicate claims were less common but also contributed to inappropriate payments. Fifteen percent of these claims resulted from providers' having indicated that multiple polysomnography services were performed, for the same beneficiary and same date of service, on a single claim submission. These types of same-day duplicate claims could be

[44] SSA §§1833(e) and 1862(a)(1)(A); 42 CFR § 400.202.

[45] CMS, *Medicare Program Integrity Manual*, Pub. No. 100-08, ch. 3, 3.4.1.3(A).

[46] OIG, *Inappropriate Medicare Payments for Transforaminal Epidural Injection Services*, OEI-05-09-00030, April 2010.

[47] OIG, *Medicare Payments for Facet Joint Injection Services*, OEI-05-07-00200, September 2008.

prevented by effective claims processing edits, such as CMS's Medically Unlikely Edits; however, a recent Government Accountability Office report found deficiencies in CMS's Medically Unlikely Edits.[48] The remaining 85 percent of same-day duplicate claims resulted from separate claims submissions, either by the same provider or different providers. Preventing payment for such claims through automatic, real-time edits may not be feasible, as it would require comparisons across multiple claim submissions on different dates.

A small proportion of claims paid inappropriately were submitted with an invalid NPI. Payments to invalid NPIs may occur if CMS does not validate NPIs. A previous OIG study found that Medicare paid $91 million for DME claims from providers with invalid or inactive provider numbers because Medicare claims processing systems verified only that the provider numbers listed on a claim met certain format requirements.[49]

Of claims that did not have an appropriate diagnosis code, 85 percent were from hospital outpatient departments

These claims accounted for $14 million of the $16 million paid for claims with inappropriate diagnosis codes. This is a disproportionately high share; only 53 percent of all polysomnography claims in 2011 came from hospital outpatient departments.

Each of the eight MACs with LCDs that applied to hospital outpatient departments processed a portion of these inappropriate claims.[50] Despite having written policies outlining appropriate diagnosis codes, these MACs were unable to prevent inappropriate payments. This may be the result of ineffective claims processing edits or not having any edits to verify that the diagnosis codes submitted were appropriate.

Only 15 percent of the claims paid with an inappropriate diagnosis code were from nonhospital providers. This is a disproportionately low share; 47 percent of all polysomnography claims in 2011 came from nonhospital providers.

MACs that processed polysomnography claims from nonhospital providers may have approved fewer inappropriate claims because they had

[48] Government Accountability Office, *Medicare Program Integrity: Greater Prepayment Control Efforts Could Increase Savings and Better Ensure Proper Payment*, GAO-13-102, November 2012.

[49] OIG, *Medical Equipment and Supply Claims with Invalid or Inactive Physician Numbers*, OEI-03-01-00110, November 2001.

[50] The remaining seven MACs that processed polysomnography claims from hospital outpatient departments in 2011 did not have applicable polysomnography LCDs, and are therefore excluded from this analysis.

effective claims processing edits. Alternatively, these providers may have submitted fewer inappropriate claims.

One hundred and eighty providers exhibited patterns of questionable billing for polysomnography services

Of the 6,339 providers of polysomnography services in our population, 180 exhibited patterns of questionable billing for such services for 2011. These providers account for 3.7 percent of the $470 million paid for polysomnography services in 2011.

These 180 providers may be submitting inappropriate Medicare claims for polysomnography services, and therefore warrant greater scrutiny. We identified these providers because they had unusually high percentages, relative to other providers, on three or more of our measures of questionable billing. Providers that frequently submit claims that do not meet Medicare requirements (such as the claims discussed in the previous finding) or are associated with other measures of questionable billing may be more broadly engaged in inappropriate billing.

Table 3 summarizes the measures of questionable billing associated with the 180 providers with patterns of questionable billing.

Table 3. Summary of 180 Providers with Patterns of Questionable Billing for Polysomnography Services, by Measure of Questionable Billing

Measure of Questionable Billing	Number of Providers With an Unusually High Percentage *
Measures That Identify Claims That Did Not Meet Medicare Requirements	
Same-day duplicate claims	105
Inappropriate diagnosis code	50
Invalid NPI	4
Additional Measures of Questionable Billing	
Shared beneficiaries	81
Unbundling a split-night service	79
Double-billing for the professional component	64
Repeated titrations	52
Missing professional component	51
Titration with no corresponding treatment device	44
Missing visit with ordering provider	31
Repeated polysomnography services	10

Source: OIG analysis of National Claims History data, 2013.

* Numbers do not sum to 180 because each provider is counted in 3, 4, or 5 rows.

Same-day duplicate claims. Most providers with patterns of questionable billing had an unusually high percentage of same-day duplicate claims.

Because an overnight stay is required for a polysomnography service, beneficiaries can undergo only one such service in a day. Therefore, same-day duplicate claims may represent claims for services not rendered. Frequent billing of same-day duplicate claims by a provider raises questions about the legitimacy of a provider's services.

Shared beneficiaries. Nearly half of providers with patterns of questionable billing had an unusually high percentage of beneficiaries who had polysomnography claims from one or more other providers in 2011. These providers may be using the same compromised beneficiary numbers as other providers to fraudulently bill for services not rendered. Past OIG investigations have uncovered schemes in which individuals have used stolen beneficiary numbers to submit false claims to Medicare.[51] More recently, an individual pled guilty to illicitly obtaining and selling Medicare beneficiary information for fraudulent billing.[52]

Unbundling a split-night service. Many providers with patterns of questionable billing had an unusually high percentage of diagnostic polysomnography claims with a titration claim for the same beneficiary on the following day. These providers may be performing split-night services but are submitting separate claims for diagnostic and titration services (i.e., unbundling the split-night service). Such unbundling inappropriately increases reimbursement by generating payment for two separate services instead of a single service. For nonhospital providers, unbundling could result in their receiving $1,186.79 instead of $618.03.[53]

For example, if a provider begins a diagnostic service at 9 p.m. and can make a diagnosis of sleep apnea early on, the provider may then begin the titration at midnight or later and complete a split-night service. In this scenario, a provider should submit a single split-night claim. Instead, the provider might submit two separate claims: one for a full-night diagnostic service on the date the split-night service began, and one for a full-night titration service on the date the split-night service ended.

Frequently performing separate diagnostic and titration services on consecutive nights is unusual, although there are situations in which it may

[51] Testimony of Gerald T. Roy, OIG Deputy Inspector General for Investigations, before the U.S. House of Representatives, Committee on Energy & Commerce, Subcommittee on Oversight & Investigations, March 2, 2011.

[52] U.S. Department of Justice, *Illegal Marketer of Medicare Information Admits Role in Detroit-area Home Health Care Fraud Scheme* (press release). Accessed at www.justice.gov on February 22, 2013.

[53] AMA, CPT reference for codes 95810 and 95811. Accessed at hsrl.mediregs.com on April 9, 2013. Reimbursement amounts reflect unadjusted 2011 Physician Fee Schedule payment rates for the technical component of the service, which may differ from nonhospital providers' actual reimbursement amounts.

be necessary. According to fraud investigators and sleep medicine professionals, scheduling a titration service on the night immediately following a diagnostic service is logistically difficult for providers and beneficiaries. After performing a diagnostic service, a provider may have difficulty fitting a patient into the sleep lab schedule for a titration service the next night. However, for beneficiaries travelling long distances, providers may opt to pre-schedule two consecutive nights of testing, and cancel the second night if it turns out to be unnecessary. Further, although beneficiaries may not want to sleep in a lab two nights in a row, a provider may deem it medically necessary to perform a titration service as soon as possible if the beneficiary is diagnosed with sleep apnea but a split-night service cannot be performed.

Missing visit with ordering provider. Some providers with patterns of questionable billing had an unusually high percentage of claims for beneficiaries with no evidence of a visit with the ordering provider in the preceding year. An in-person evaluation is required to determine whether polysomnography services are warranted; according to sleep medicine professionals, polysomnography should be performed within a year after the in-person evaluation. Given this, these providers may be performing polysomnography services for which they do not have valid orders, and that therefore are not medically necessary.

Previous OIG studies have raised the same concern for other types of claims. A 2011 OIG study on questionable Medicare billing by suppliers of lower-limb prostheses found that Medicare inappropriately paid $61 million for beneficiaries with no claims from their referring physicians.[54] Additionally, a 2009 OIG study on ultrasound services found that Medicare paid $49 million in questionable claims for beneficiaries with no prior service claims from the ordering physician.[55]

[54] OIG, *Questionable Billing by Suppliers of Lower Limb Prostheses*, OEI-02-10-00170, August 2011.

[55] OIG, *Medicare Part B Billing for Ultrasound*, OEI-01-08-00100, July 2009.

CONCLUSION AND RECOMMENDATIONS

We found that in 2011, Medicare paid nearly $17 million for polysomnography services that did not meet requirements. Although this represents a relatively small percentage of payments for polysomnography services, CMS and MACs could likely have prevented nearly all of these inappropriate payments through more effective claims processing edits, particularly prepayment edits to deny claims with inappropriate diagnosis codes. By implementing such edits, CMS and MACs could reduce future inappropriate payments for polysomnography services.

We also found that 180 providers exhibited patterns of questionable billing for polysomnography services. Although our study did not look for or find conclusive evidence of fraud, these providers warrant further scrutiny, as they may be likely to submit inappropriate or fraudulent claims for such services. Further investigation of these specific providers may also help CMS prevent future inappropriate payments.

We recommend that CMS:

Implement Claims Processing Edits or Improve Existing Edits To Prevent Inappropriate Payments

CMS should implement claims processing edits or improve existing edits for polysomnography services.

To prevent payments for claims with inappropriate diagnosis codes, CMS could encourage MACs to implement claims processing edits or improve existing edits to check claims for appropriate diagnosis codes. CMS could prioritize working with MACs that process claims from hospital outpatient departments, as payments for claims with inappropriate diagnosis codes were concentrated among these providers.

To prevent paying for same-day duplicate services, CMS could investigate why its existing Medically Unlikely Edits for polysomnography did not stop claims identified in this study. CMS could then correct any identified problems.

To prevent paying for claims with invalid NPIs, CMS could also ensure that claims processing edits validate NPIs.

Recover Payments for Claims That Did Not Meet Medicare Requirements

CMS should investigate, and recover, if appropriate, the payments identified in this study for claims that did not meet Medicare requirements. In a separate memorandum, we will refer to CMS for appropriate action the claims that did not meet Medicare requirements.

Consider Using Measures of Questionable Billing From This Study To Identify Providers for Further Investigation

CMS should consider using one or more of the measures of questionable billing in this study to improve safeguards for polysomnography services.

CMS could augment algorithms in its Fraud Prevention System to identify polysomnography providers that, on the basis of one or more of the measures of questionable billing used in this study, have questionable-billing patterns. These measures could be used as screening tools to help CMS select targets for audit or investigation.

Take Appropriate Action Regarding Providers That Exhibited Patterns of Questionable Billing

CMS should refer providers with patterns of questionable billing to contractors for further investigation to determine whether the billing patterns represent inappropriate or fraudulent billing. In a separate memorandum, we will refer to CMS for appropriate action the providers we identified as having patterns of questionable billing.

AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

CMS concurred with all four of our recommendations. To address our recommendations about inappropriate payments, CMS plans to re-review the Medically Unlikely Edits for polysomnography services and investigate their accuracy and effectiveness. In addition, CMS plans to investigate, and recover, if appropriate, the payments that did not meet Medicare requirements. To address our recommendations about providers with patterns of questionable billing, CMS plans to use the measures OIG identified in this report to develop algorithms to detect and analyze aberrant billing of polysomnography. CMS also plans to instruct contractors to review providers with inappropriate billing and take appropriate action. For the full text of CMS's comments, see Appendix A.

APPENDIX A

Agency Comments

DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

Administrator
Washington, DC 20201

DATE: AUG 15 2013

TO: Daniel R. Levinson
Inspector General

FROM: Marilyn Tavenner /S/
Administrator

SUBJECT: Office of Inspector General (OIG) Draft Report—"Questionable Billing for Polysomnography Services" (OEI-05-12-00340)

The Centers for Medicare & Medicaid Services (CMS) appreciates the opportunity to review and comment on the above-referenced OIG draft report. The purpose of this report is to analyze the increased Medicare spending on polysomnography services based on the growing concerns about fraud and abuse regarding these services.

The CMS is committed to preventing improper and fraudulent billing for polysomnography services, particularly given the rise in Medicare spending for such services. CMS pays for polysomnography services under different payment systems, relying on Medicare Administrative Contractors (MACs) to process claims. CMS is committed to working with its MACs to develop and implement claims processing edits and improve existing edits in an effort to prevent such improper payments.

We appreciate OIG's efforts in working with CMS to ensure that appropriate action is taken regarding improper payments as well as providers that exhibit patterns of questionable billing for polysomnography services. Our response to each of the OIG recommendations follows.

OIG Recommendation

The OIG recommends that CMS implement claims processing edits or improve existing edits to prevent inappropriate payments.

CMS Response

The CMS concurs with this recommendation. CMS has developed and implemented medically unnecessary edits (MUEs) for the Current Procedural Terminology codes (95808, 95810, and 95811) for polysomnography services, effective April 1, 2007. CMS also has MUEs for the new 2013 polysomnography codes 95782 and 95783, effective January 1, 2013.

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The CMS will discuss and re-review the MUEs that are currently in place for polysomnography services, and further investigate the accuracy and effectiveness of these edits in preventing duplicate and erroneous payments.

OIG Recommendation

The OIG recommends that CMS recover payments for claims that did not meet Medicare requirements.

CMS Response

The CMS concurs with this recommendation. CMS requests that the OIG furnish the necessary claims data (Medicare contractor numbers, provider numbers, claims information including the reason for denial, paid date, HIC numbers, overpayment amount, etc.), in order to investigate the payments that did not meet Medicare requirements and recover, if appropriate. Upon receipt of the files from the OIG, CMS will conduct an analysis based on contractor resources to determine an appropriate number of claims to review. CMS will instruct the contractor to review the claims and take appropriate action.

OIG Recommendation

The OIG recommends that CMS consider using measures of questionable billing from this study to identify providers for further investigation.

CMS Response

The CMS concurs with this recommendation. CMS will use the measures identified in the OIG report to develop algorithms to detect aberrant billing of polysomnography providers and analyze their billing patterns.

OIG Recommendation

The OIG recommends that CMS take appropriate action regarding providers that exhibited patterns of questionable billing.

CMS Response

The CMS concurs with this recommendation. CMS request that OIG furnish the necessary data (provider numbers, provider names, provider state, etc.). Upon receipt of the files from OIG, CMS will conduct an analysis to determine which of the providers' billing patterns represent inappropriate billing. Based on contractor resources, CMS will determine an appropriate number of providers with inappropriate billing patterns to review. CMS will instruct the contractor to review the providers and take appropriate action.

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Additionally, CMS will continue to refer providers with questionable billing patterns to the Zone Program Integrity Contractors. In cases where we believe there is potential fraud, refer to OIG as appropriate for further investigation.

Again, we appreciate the opportunity to comment on this draft report and look forward to working with OIG on this and other issues.

ACKNOWLEDGMENTS

This report was prepared under the direction of Ann Maxwell, Regional Inspector General for Evaluation and Inspections in the Chicago regional office; Thomas F. Komaniecki, Deputy Regional Inspector General; and Laura Kordish, Deputy Regional Inspector General.

Kelly Waldhoff served as team leader for this study, and Adam Freeman served as lead analyst. Other Office of Evaluation and Inspections staff from the Chicago regional office who conducted the study include Hilary Slover. Central office staff who provided support include Clarence Arnold, Meghan Kearns, Sandy Khoury, Starr Kidda, and Christine Moritz.

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