

Department of Health and Human Services

**OFFICE OF  
INSPECTOR GENERAL**

**MEDICARE IMPROPERLY PAID  
HOSPITALS MILLIONS OF DOLLARS FOR  
INTENSITY-MODULATED RADIATION  
THERAPY PLANNING SERVICES**

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## Report in Brief

Date: August 2018

Report No. A-09-16-02033

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES  
**OFFICE OF INSPECTOR GENERAL**



### Why OIG Did This Review

Intensity-modulated radiation therapy (IMRT) is an advanced type of radiation procedure used to treat difficult-to-reach tumors, and IMRT planning is a computer-based method of developing a plan for delivering the radiation. Medicare makes a bundled payment to hospitals to cover a range of IMRT planning services that may be performed to develop an IMRT treatment plan. However, prior OIG reviews found that some hospitals improperly received separate payments for these services in addition to receiving the bundled payment.

Our objective was to determine whether payments for outpatient IMRT planning services complied with Medicare billing requirements.

### How OIG Did This Review

For calendar years (CYs) 2013 through 2015 (audit period), Medicare paid 1,193 hospitals \$109.2 million in bundled payments for IMRT planning, and we identified up to \$25.8 million in potential overpayments for separately billed planning services. (We used data for this period because it was the most recent data available as we began our audit.) These services were billed up to 14 days before the procedure code for the bundled payment was billed by the same hospital for the same beneficiary. Our sampling frame consisted of line items for complex simulations, for which Medicare paid \$21.5 million. We selected a random sample of 100 line items.

## Medicare Improperly Paid Hospitals Millions of Dollars for Intensity-Modulated Radiation Therapy Planning Services

### What OIG Found

Payments for outpatient IMRT planning services did not comply with Medicare billing requirements. Specifically, for all 100 line items in our sample, the hospitals separately billed for complex simulations when they were performed as part of IMRT planning. The overpayments primarily occurred because the hospitals appeared to be unfamiliar with or misinterpreted the Centers for Medicare & Medicaid Services (CMS) guidance. In addition, the claim processing edits did not prevent the overpayments because the edits applied only to services billed on the same date of service as the billing of the procedure code for the bundled payment, and the services in our sample were billed on a different date of service.

On the basis of our sample results, we estimated that Medicare overpaid hospitals nation-wide as much as \$21.5 million for complex simulations billed during our audit period. In addition, we identified \$4.2 million in potential overpayments for other IMRT planning services that were not included in our sample. In total, Medicare overpaid hospitals as much as \$25.8 million during our audit period.

For IMRT planning services billed in the 2 years after our audit period (for CYs 2016 and 2017), we identified an additional \$3.7 million in potential overpayments for complex simulations and \$1.7 million for other IMRT planning services. In total, Medicare overpaid hospitals as much as \$5.4 million after our audit period.

### What OIG Recommends and CMS Comments

We recommend that CMS (1) implement an edit to prevent improper payments for IMRT planning services that are billed before (e.g., up to 14 days before) the procedure code for the bundled payment for IMRT planning is billed, which could have saved as much as \$25.8 million during our audit period and as much as \$5.4 million in the 2 years after our audit period, and (2) work with the Medicare contractors to educate hospitals on properly billing Medicare for IMRT planning services.

In written comments on our draft report, CMS concurred with our recommendations and provided information on actions that it had taken or planned to take to address our recommendations.

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## INTRODUCTION

### WHY WE DID THIS REVIEW

Intensity-modulated radiation therapy (IMRT) is an advanced type of radiation procedure used to treat difficult-to-reach tumors, and IMRT planning is a computer-based method of developing a plan for delivering the radiation. Medicare makes a bundled payment to hospitals to cover a range of IMRT planning services that may be performed to develop an IMRT treatment plan. However, prior Office of Inspector General (OIG) reviews found that some hospitals improperly received separate payments for these services in addition to receiving the bundled payment.<sup>1</sup> Using computer matching, data mining, and data analysis techniques, we identified payments for separately billed IMRT planning services that were at risk for noncompliance with Medicare requirements.

### OBJECTIVE

Our objective was to determine whether payments for outpatient IMRT planning services complied with Medicare billing requirements.

### BACKGROUND

#### The Medicare Program

The Medicare program provides health insurance coverage to people aged 65 and over, people with disabilities, and people with end-stage renal disease. Medicare Part B provides supplementary medical insurance for medical and other health services, including coverage of hospital outpatient services. The Centers for Medicare & Medicaid Services (CMS) administers Medicare.

CMS contracts with Medicare contractors to, among other things, process and pay Medicare claims submitted for services, conduct reviews and audits, and safeguard against fraud and abuse.

#### Hospital Outpatient Prospective Payment System and Healthcare Common Procedure Coding System Codes

Under the outpatient prospective payment system, Medicare pays for hospital outpatient services on a rate-per-service basis that varies according to the assigned ambulatory payment classification (APC). CMS uses Healthcare Common Procedure Coding System (HCPCS) codes

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<sup>1</sup> This issue was identified in multiple OIG reviews of hospitals' compliance with Medicare billing requirements. The reports are available on the OIG website at <https://oig.hhs.gov/newsroom/podcasts/hospital-compliance>.

and descriptors to identify and group the services within each APC group.<sup>2</sup> All services and items within an APC group are comparable clinically and require comparable resources.

HCPCS codes are divided into two groups: level I and level II. Level I HCPCS codes consist of Current Procedural Terminology (CPT<sup>3</sup>) codes, a numeric coding system maintained by the AMA, and are used primarily to identify medical services and procedures furnished by physicians and other health care professionals. Level II HCPCS codes are based on a standardized coding system and are used primarily to identify products, supplies, and services not included in the CPT codes. Hospitals bill radiology services, including IMRT services, using the CPT codes listed in the 70000 series of the level I HCPCS codes.

### **Medicare Requirements for Hospital Claims and Payments**

Medicare payments may not be made for items or services that are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member (the Social Security Act (the Act) § 1862(a)(1)(A)). In addition, payments may not be made to any provider of services or other person without information necessary to determine the amount due the provider (the Act § 1833(e)). Providers must complete claims accurately so that Medicare contractors may process them correctly and promptly (*CMS's Medicare Claims Processing Manual*, Pub. No. 100-04 (the Manual), chapter 1, § 80.3.2.2).

### **Intensity-Modulated Radiation Therapy**

IMRT is a procedure that uses advanced computer programs to plan and deliver radiation to tumors with high precision. The intensity of the radiation can be adjusted to deliver higher doses to a treatment area while reducing exposure to surrounding healthy tissue.

IMRT is provided in two treatment phases: planning and delivery. The planning phase is a multistep process in which imaging, calculations, and simulations are performed to develop an IMRT treatment plan (IMRT planning). During the delivery phase, radiation is delivered to a beneficiary's treatment site (i.e., a tumor) at the various intensity levels prescribed in the IMRT treatment plan.

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<sup>2</sup> HCPCS codes are used throughout the health care industry to standardize coding for medical procedures, services, products, and supplies.

<sup>3</sup> The five character codes and descriptions included in this report are obtained from Current Procedural Terminology (CPT<sup>®</sup>), copyright 2013–2017 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 report should refer to the most current version of the Current Procedural Terminology available from AMA. Applicable FARS/DFARS apply.



## **CMS and Medicare Contractor Guidance for Intensity-Modulated Radiation Therapy Services**

During our audit period (calendar years (CYs) 2013 through 2015), the Manual stated that hospitals must use CPT code 77301 to bill for IMRT planning and listed specific planning services that are included in the APC payment for this code (i.e., a bundled payment). These services may not be billed separately if they are performed as part of developing an IMRT treatment plan, regardless of whether they are billed on the same or a different date of service (the Manual, chapter 4, §§ 200.3.1 and 200.3.2). These services are not specific to IMRT and include common radiology procedures, such as complex simulations<sup>4</sup> billed using CPT code 77290. (Appendix B lists the services included in the bundled payment for IMRT planning CPT code 77301.)

In addition, some Medicare contractors published Local Coverage Determinations (LCDs) containing guidance to assist providers in submitting claims for IMRT services.<sup>5</sup> However, these LCDs do not take precedence over the guidance published in the Manual.<sup>6</sup>

### **National Correct Coding Initiative and Procedure-to-Procedure Claim Processing Edits**

To promote correct coding by providers and to prevent Medicare payments for improperly coded services, CMS developed the National Correct Coding Initiative (NCCI).<sup>7</sup> Medicare contractors implemented NCCI edits within their claim processing systems for dates of service on or after January 1, 1996.<sup>8</sup>

The NCCI edits include procedure-to-procedure edits that define pairs of HCPCS codes and CPT codes (i.e., code pairs) that generally should not be reported together for the same beneficiary

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<sup>4</sup> During a simulation, the radiation oncologist uses simulation equipment to define the exact treatment position for the patient and to acquire the images and data necessary to develop the optimal radiation treatment plan. Complex simulations involve three or more treatment areas or any number of treatment areas if certain issues are involved, such as any use of contrast materials.

<sup>5</sup> LCDs are administrative and educational tools published by Medicare contractors to assist providers in submitting correct claims for payment.

<sup>6</sup> Medicare contractors are required to ensure that LCDs are consistent with all statutes, rulings, and regulations and national coverage, payment, and coding policies (CMS's *Medicare Program Integrity Manual*, Pub. No. 100-08, chapter 13, § 13.1).

<sup>7</sup> The NCCI coding policies are based on coding conventions defined in AMA's *Current Procedural Terminology (CPT) Manual* and on national and local policies and edits, coding guidelines developed by national societies, a review of current coding practices, and an analysis of standard medical and surgical practices.

<sup>8</sup> An edit is programming within the standard claim processing system that selects certain claims; evaluates or compares information on the selected claims or other accessible sources; and, depending on the evaluation, takes action on the claims, such as paying them in full, paying them in part, denying payment for them, or suspending them for manual review.

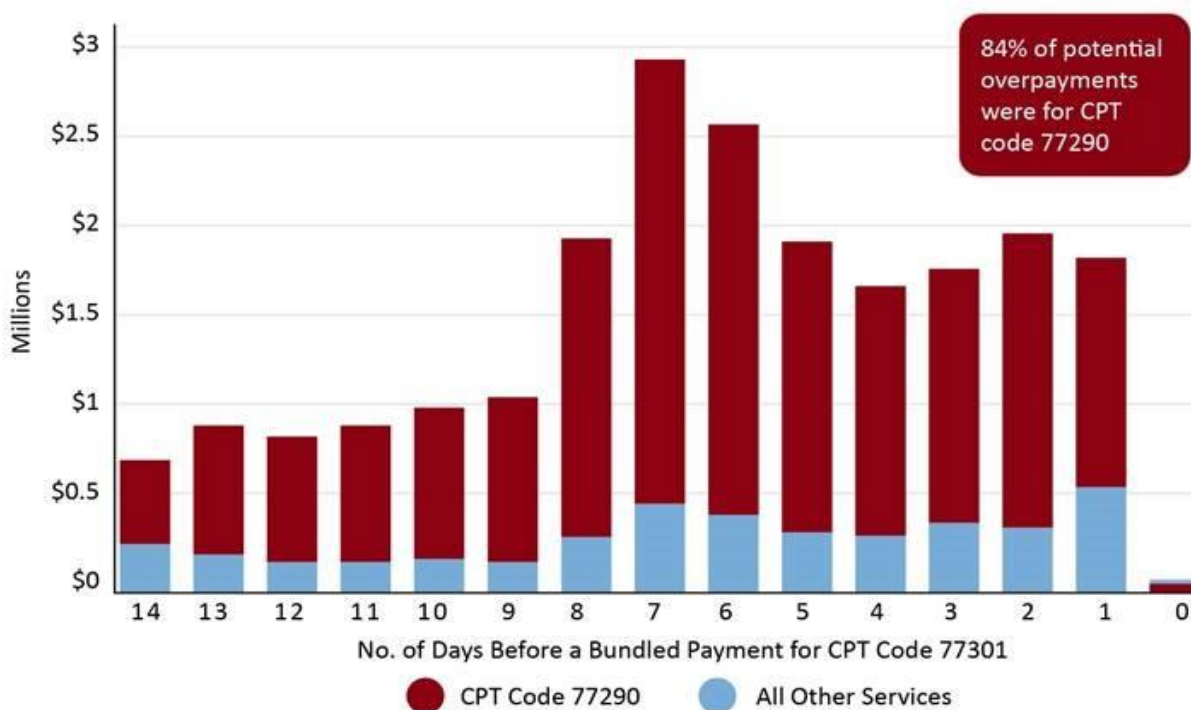
on the same date of service. These automated prepayment edits apply to IMRT planning services. They generally prevent improper payments when any of the individual planning services listed in the Manual are billed on the same date of service as CPT code 77301 (which includes these individual services as part of the bundled payment for this code). However, these edits do not prevent overpayments when these planning services are billed on a different date of service.

## HOW WE CONDUCTED THIS REVIEW

For our audit period,<sup>9</sup> Medicare paid 1,193 hospitals \$109,197,933 in bundled payments for IMRT planning CPT code 77301, and we identified up to \$25,754,171 in potential overpayments for separately billed outpatient IMRT planning services. These services were billed up to 14 days before CPT code 77301 was billed by the same hospital for the same beneficiary. (For example, a potential overpayment would exist if CPT code 77290 (for a complex simulation, which is an individual IMRT planning service) was billed between the 1<sup>st</sup> and the 15<sup>th</sup> of the month, and CPT code 77301 was billed on the 15<sup>th</sup> of the month.)

After analyzing payment data, we determined that complex simulations billed using CPT code 77290 made up approximately 84 percent of the potential overpayments (\$21,543,154). All other services made up approximately 16 percent of the potential overpayments (\$4,211,017). See the figure below.

**Figure: Payment for Planning Services Billed Up to 14 Days Before CPT Code 77301**



<sup>9</sup> We used data for CYs 2013 through 2015 because it was the most recent data available as we began our audit.

As a result, we reviewed only planning services billed using CPT code 77290, representing 99,731 line items for which Medicare paid \$21,543,154 to 1,127 hospitals. (A line item represented a complex simulation billed by a hospital on a claim that included one or more services.) We selected a simple random sample of 100 line items, representing payments of \$21,390 to 91 hospitals. We evaluated compliance with selected billing requirements and used a medical review contractor to review 82 of the 100 line items to determine whether the services were performed as part of developing an IMRT treatment plan.<sup>10</sup>

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

Appendix A contains the details of our audit scope and methodology, Appendix C contains our statistical sampling methodology, and Appendix D contains our sample results and estimates.

## FINDINGS

Payments for outpatient IMRT planning services did not comply with Medicare billing requirements. Specifically, for all 100 line items in our sample, the hospitals separately billed for complex simulations when they were performed as part of IMRT planning. As a result, the hospitals received overpayments of \$21,390. The overpayments primarily occurred because the hospitals appeared to be unfamiliar with or misinterpreted the CMS guidance for billing IMRT planning services. In addition, existing NCCI code-pair edits did not prevent these overpayments because the edits applied only to planning services billed on the same date of service as the billing of IMRT planning CPT code 77301, and the services in our sample were billed on a different date of service.

On the basis of our sample results, we estimated that Medicare overpaid hospitals nation-wide as much as \$21,543,154 for complex simulations billed during our audit period. In addition, we identified \$4,211,017 in potential overpayments for the other IMRT planning services listed in the Manual (i.e., the CPT codes other than 77290 that were included in the bundled payment for IMRT planning CPT code 77301). In total, Medicare overpaid hospitals as much as \$25,754,171 during our audit period.

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<sup>10</sup> For the remaining 18 line items, as a result of our audit, hospitals determined that 17 line items were improperly billed and provided evidence they had refunded the overpayments. For one line item, the hospital refunded the overpayment before our review because it determined that the service was performed as part of IMRT planning and should not have been billed separately. Because we considered all 18 line items to be errors, we did not subject them to medical review.

For IMRT planning services billed in the 2 years after our audit period (with dates of service during CYs 2016 and 2017), we identified an additional \$3,675,988 in potential overpayments for complex simulations and \$1,736,309 in potential overpayments for other IMRT planning services. In total, Medicare overpaid hospitals as much as \$5,412,297 after our audit period.

## **FEDERAL REQUIREMENTS**

Providers must complete claims accurately so that Medicare contractors may process them correctly and promptly (the Manual, chapter 1, § 80.3.2.2). In addition, hospitals must use CPT code 77301 to bill for IMRT planning services and may not separately bill for a range of services, including complex simulations, if they are provided as part of developing the IMRT treatment plan, regardless of whether they are billed on the same or a different date of service (the Manual, chapter 4, §§ 200.3.1 and 200.3.2).

## **MEDICARE IMPROPERLY PAID HOSPITALS FOR INTENSITY-MODULATED RADIATION THERAPY PLANNING SERVICES**

For all 100 sampled line items, Medicare improperly paid the hospitals for services that were performed as part of IMRT planning and should not have been billed separately. In each case, a complex simulation was billed with CPT code 77290 on a different date of service from the IMRT planning code (i.e., up to 14 days before CPT code 77301 was billed). However, both services were performed for the same treatment site (e.g., the prostate). According to the independent medical review contractor, for each sampled line item, the complex simulation was performed as a part of the beneficiary's overall IMRT treatment planning and therefore should not have been billed separately.

The hospitals performed their own reviews for 99 sampled line items:<sup>11</sup>

- For 68 line items, hospital officials appeared to be unfamiliar with the CMS guidance for billing IMRT planning services. These officials stated that the complex simulations were performed as part of developing an IMRT treatment plan, but the services were billed separately.
- For 21 line items, hospital officials appeared to misinterpret the CMS guidance for billing IMRT planning services. These officials stated that the complex simulations were not performed as part of developing an IMRT treatment plan, and many of them cited LCDs that were in effect at the time of billing as support.<sup>12</sup> However, these LCDs do not take precedence over the guidance published in the Manual.

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<sup>11</sup> We did not receive a hospital review for one of the line items.

<sup>12</sup> The LCDs cited by these hospital officials were retired on or before September 30, 2015. However, one Medicare contractor issued a new LCD, effective October 1, 2015, with guidance similar to the retired LCDs.

- For 10 line items, hospital officials did not state whether the complex simulations were performed as part of developing an IMRT treatment plan.

As a result of the improper billing, the hospitals received overpayments of \$21,390.

### **HOSPITALS DID NOT FOLLOW EXISTING GUIDANCE AND SYSTEM EDITS WERE INADEQUATE TO PREVENT IMPROPER PAYMENTS**

Medicare overpaid the hospitals for the complex simulations because the hospitals did not follow existing guidance and system edits were inadequate to prevent improper payments for IMRT planning services. Specifically, the hospitals appeared to be unfamiliar with or misinterpreted the CMS guidance for billing IMRT planning services. In addition, the NCCI procedure-to-procedure edits applicable to IMRT planning services did not prevent the overpayments because the edits applied only to planning services billed on the same date of service as the billing of CPT code 77301, and the services in our sample were billed on a different date of service.

After our audit period, CMS updated the guidance in the Manual to state that complex simulations are included in the APC payment for IMRT planning services “when provided *prior to or as part of* the development of the IMRT plan” (emphasis added). However, as of the end of our fieldwork, the only edits that applied to IMRT planning services were the NCCI procedure-to-procedure edits.

### **MEDICARE OVERPAID HOSPITALS AS MUCH AS \$25.8 MILLION DURING OUR AUDIT PERIOD AND \$5.4 MILLION AFTER OUR AUDIT PERIOD**

On the basis of our sample results, we estimated that Medicare overpaid hospitals nation-wide as much as \$21,543,154 for complex simulations billed during our audit period. In addition, we identified \$4,211,017 in potential overpayments for the other IMRT planning services listed in the Manual (i.e., the CPT codes other than 77290 that were included in the bundled payment for IMRT planning CPT code 77301). Based on our findings for complex simulations, we believe that the other planning services we identified were also improperly billed. In total, Medicare overpaid hospitals as much as \$25,754,171 during our audit period.

Based on our findings for the audit period, we performed additional data analysis for IMRT planning services billed in the 2 years after our audit period (with dates of service during CYs 2016 and 2017) and identified an additional \$3,675,988 in potential overpayments for complex simulations and \$1,736,309 in potential overpayments for other IMRT planning services. In total, Medicare overpaid hospitals as much as \$5,412,297 after our audit period.

## **RECOMMENDATIONS**

We recommend that CMS:

- implement an edit to prevent improper payments for IMRT planning services that are billed before (e.g., up to 14 days before) IMRT planning CPT code 77301 is billed, which could have saved as much as \$25,754,171 during our audit period and as much as \$5,412,297 in the 2 years after our audit period, and
- work with the Medicare contractors to educate hospitals on properly billing Medicare for IMRT planning services.

## **CMS COMMENTS**

In written comments on our draft report, CMS concurred with our recommendations and provided information on actions that it had taken or planned to take to address our recommendations. CMS's comments are included in their entirety as Appendix E.

## APPENDIX A: AUDIT SCOPE AND METHODOLOGY

### SCOPE

Our audit covered \$21,543,154 in Medicare Part B payments to 1,127 hospitals for 99,731 line items for complex simulations billed using CPT<sup>13</sup> code 77290. (A line item represented a complex simulation billed by a hospital on a claim that included one or more services.) These services were billed up to 14 days before IMRT planning CPT code 77301 was billed by the same hospital for the same beneficiary. These services had dates of service in CYs 2013 through 2015.

We selected a simple random sample of 100 line items for complex simulations, representing payments of \$21,390 to 91 hospitals. We evaluated compliance with selected billing requirements and used a medical review contractor to review 82 of the 100 line items to determine whether the services were performed as part of developing an IMRT treatment plan.<sup>14</sup>

We limited our review of CMS's controls to those applicable to outpatient IMRT services. Our review enabled us to establish reasonable assurance of the authenticity and accuracy of the data obtained from CMS's National Claims History file, but we did not assess the completeness of the file.

We conducted our fieldwork from June 2016 through February 2017.

### METHODOLOGY

To accomplish our objective, we:

- reviewed applicable Federal laws, regulations, and guidance;
- interviewed CMS officials to gain an understanding of the billing requirements for outpatient IMRT planning services;

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<sup>13</sup> The five character codes and descriptions included in this report are obtained from Current Procedural Terminology (CPT®), copyright 2013–2017 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 report should refer to the most current version of the Current Procedural Terminology available from AMA. Applicable FARS/DFARS apply.

<sup>14</sup> For the remaining 18 line items, as a result of our audit, hospitals determined that 17 line items were improperly billed and provided evidence they had refunded the overpayments. For one line item, the hospital refunded the overpayment before our review because it determined that the service was performed as part of IMRT planning and should not have been billed separately. Because we considered all 18 line items to be errors, we did not subject them to medical review.

- extracted paid claim data for outpatient IMRT planning services from CMS’s National Claims History file with dates of service during our audit period;
- identified \$25,754,171 in potential overpayments for separately billed IMRT planning services during our audit period;
- used computer matching, data mining, and data analysis techniques to identify line items for review;
- developed a sampling frame consisting of 99,731 line items for complex simulations, for which Medicare paid \$21,543,154 to 1,127 hospitals (Appendix C);
- selected a simple random sample of 100 line items for complex simulations billed using CPT code 77290 that were billed up to 14 days before IMRT planning CPT code 77301 was billed by the same hospital for the same beneficiary;
- reviewed available data from CMS’s Common Working File for the sampled line items to determine whether they had been canceled or adjusted;
- obtained and reviewed billing and medical record documentation provided by the hospitals to support the sampled line items;
- used an independent medical review contractor to determine whether the services for 82 of the 100 sampled line items were performed as part of developing an IMRT treatment plan;
- requested that each hospital conduct its own review of the sampled line items to determine whether the services were billed correctly;
- calculated the correct payments for sampled line items requiring adjustments;
- used the results of the sample to estimate total Medicare overpayments to the hospitals for complex simulations billed during our audit period (Appendix D);
- based on the results of our findings for complex simulations, identified potential overpayments for other IMRT planning services;
- extracted paid claim data for outpatient IMRT planning services from CMS’s National Claims History file with dates of service after our audit period;
- performed additional data analysis to identify \$5,412,297 in potential overpayments for separately billed IMRT planning services after our audit period; and
- discussed the results of our review with CMS officials.



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

**APPENDIX B: SERVICES INCLUDED IN THE BUNDLED PAYMENT FOR  
INTENSITY-MODULATED RADIATION THERAPY PLANNING<sup>15</sup>**

<b>CPT<sup>16</sup> Code</b>	<b>Description</b>
77014	CT scan for therapy guide
77280	Set radiation therapy field
77285	Set radiation therapy field
77290	Set radiation therapy field <sup>17</sup>
77295	3-D radiotherapy plan
77305	Teletx isodose plan simple
77306	Telethx isodose plan simple
77307	Telethx isodose plan cplx
77310	Teletx isodose plan intermed
77315	Teletx isodose plan complex
77316	Brachytx isodose plan simple
77317	Brachytx isodose intermed
77318	Brachytx isodose complex
77321	Special teletx port plan
77331	Special radiation dosimetry
77336 <sup>18</sup>	Radiation physics consult
77370	Radiation physics consult

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<sup>15</sup> The Manual, chapter 4, §§ 200.3.1 and 200.3.2.

<sup>16</sup> The five character codes and descriptions included in this report are obtained from Current Procedural Terminology (CPT®), copyright 2013–2017 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 report should refer to the most current version of the Current Procedural Terminology available from AMA. Applicable FARS/DFARS apply.

<sup>17</sup> Complex simulations are billed using CPT code 77290. (Simple and intermediate simulations are billed using 77280 and 77285, respectively.)

<sup>18</sup> Effective January 1, 2016, CPT code 77336 was removed from the Manual’s list of codes included in the APC payment for IMRT planning services. We excluded from our findings the potential overpayments for this code for CYs 2016 and 2017 (after our audit period).

## **APPENDIX C: STATISTICAL SAMPLING METHODOLOGY**

### **TARGET POPULATION**

The target population consisted of line items paid under the Medicare outpatient prospective payment system for complex simulations billed using CPT<sup>19</sup> code 77290. These services were billed up to 14 days before IMRT planning CPT code 77301 was billed by the same hospital for the same beneficiary. These services had dates of service in CYs 2013 through 2015.

### **SAMPLING FRAME**

The sampling frame consisted of 99,731 line items totaling \$21,543,154 for CPT code 77290 with dates of service in CYs 2013 through 2015. The sampling frame did not include line items with a paid amount of \$0, line items on claims with an outlier payment, and line items for which Medicare was a secondary payer.

### **SAMPLE UNIT**

The sample unit was a line item for a complex simulation billed using CPT code 77290.

### **SAMPLE DESIGN**

We used a simple random sample.

### **SAMPLE SIZE**

We selected a sample of 100 line items.

### **SOURCE OF RANDOM NUMBERS**

We generated random numbers with the OIG, Office of Audit Services (OAS), statistical software.

### **METHOD OF SELECTING SAMPLE ITEMS**

We consecutively numbered the sample units in the sampling frame from 1 through 99,731. After generating 100 random numbers, we selected the corresponding frame items.

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<sup>19</sup> The five character codes and descriptions included in this report are obtained from Current Procedural Terminology (CPT®), copyright 2013–2017 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 report should refer to the most current version of the Current Procedural Terminology available from AMA. Applicable FARS/DFARS apply.

## **ESTIMATION METHODOLOGY**

We used the OIG/OAS statistical software to calculate an initial estimate of the total amount of unallowable payments. We also used the software to calculate the corresponding lower and upper limits of the two-sided 90-percent confidence interval. Given the 100-percent improper payment rate identified in our sample, we determined that the total paid amount in our sampling frame was at risk for overpayment. This amount falls within the confidence interval calculated using the OIG/OAS statistical software. To remain consistent with our statistical design, we refer to the estimate as an “upper limit” within this report.

**APPENDIX D: SAMPLE RESULTS AND ESTIMATES**

**Table 1: Sample Results**

No. of Line Items in Sampling Frame	Value of Frame	Sample Size	Value of Sample	No. of Line Items Improperly Billed	Amount of Overpayment
99,731	\$21,543,154	100	\$21,390	100	\$21,390

**Table 2: Estimated Value of Overpayments  
(Limits Calculated for a 90-Percent Confidence Interval)**

Point estimate	\$21,332,212
Lower limit	20,947,324
Upper limit	21,543,154 <sup>20</sup>

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<sup>20</sup> The upper limit that we calculated using the OIG/OAS statistical software was \$21,717,099; however, we adjusted the estimate downward on the basis of the known value of the sampling frame. Given the 100-percent improper payment rate for our sampled line items, we used the frame value (i.e., the upper limit) for estimation purposes.

## APPENDIX E: CMS COMMENTS




DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

200 Independence Avenue SW  
Washington, DC 20201

**DATE:** JUL 16 2018

**TO:** Daniel R. Levinson  
Inspector General

**FROM:** Seema Verma   
Administrator

**SUBJECT:** Office of Inspector General (OIG) Draft Report: Medicare Improperly Paid Hospitals Millions of Dollars for Intensity-Modulated Radiation Therapy Planning Services (A-09-16-02033)

The Centers for Medicare & Medicaid Services (CMS) appreciates the opportunity to review and comment on the draft report from the Office of Inspector General (OIG). CMS is strongly committed to program integrity efforts in Medicare.

CMS makes bundled payments to hospitals for intensity-modulated radiation therapy, and this payment encompasses testing and planning services as well as delivery of the radiation procedure itself. Because hospitals receive a bundled payment for this group of services, they are not permitted to bill for planning services separately when performed as part of developing an intensity-modulated radiation therapy treatment program.

CMS has National Correct Coding Initiative edits in place to prevent payment for planning services when billed on the same date of service as the intensity-modulated radiation therapy treatment procedure. In 2016 and 2017, CMS issued change requests and Medicare Learning Network articles to clarify these edits and proper billing procedures for providers, and updated guidance in the Medicare Claims Processing Manual to state that complex simulations, a radiology procedure that can be used in planning intensity-modulated radiation therapy, are included in the bundled payment when provided prior to or as a part of the development of the intensity-modulated radiation therapy plan. In addition, in April 2018, CMS implemented a new edit on claims for intensity-modulated radiation therapy when certain planning services were billed previously.

OIG's recommendations and CMS's responses are below.

### **OIG Recommendation**

CMS should implement an edit to prevent improper payments for intensity-modulated radiation therapy planning services that are billed before (e.g., up to 14 days before) IMRT planning CPT code 77301 is billed, which could have saved as much as \$25,754,171 during our audit period and as much as \$5,412,297 in the 2 years after our audit period.

**CMS Response**

CMS concurs with this recommendation and has already implemented a time-based edit effective in April 2018 that adjusts payment for certain planning services billed prior to CPT code 77301.

**OIG Recommendation**

CMS should work with the Medicare contractors to educate hospitals on properly billing Medicare for intensity-modulated radiation therapy planning services.

**CMS Response**

CMS concurs with this recommendation and will continue to work with contractors to issue education to hospitals on properly billing Medicare for intensity-modulated radiation therapy planning services.