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American Society of Nuclear Cardiology

Medicare Reimbursement for Positron Emission Tomography (PET) Scans: The Importance of Charges and Cost-to-Charge Ratios

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ASNC understands that navigating Medicare reimbursement can be challenging. This challenge is especially pronounced for providers of nuclear cardiology services, as Medicare hospital outpatient payment rates for PET scans can be volatile, and do not always seem to reflect the true costs of providing the services.

Fortunately, there are solutions. In this document, we explain how Medicare sets its hospital payment rates and what hospitals can do to help ensure more appropriate payment in the future. The document focuses on the importance of charges and cost-to-charge ratios (CCRs), which are both crucial components of the Medicare ratesetting process.

Disclaimer: *Due to the inherent complexity of the subject matter, certain details regarding CCRs and Medicare ratesetting have been simplified or omitted to enhance the reader's understanding of overall concepts. All examples included in the document are hypothetical. ASNC cannot and does not recommend specific charge or markup amounts. It is the hospital's responsibility to determine appropriate charges and markups for all the products and services that it provides to patients.*

Background

To better understand the challenges associated with Medicare reimbursement for PET scans, it is helpful to look at recent payment changes affecting PET/CT Current Procedural Terminology (CPT) codes 78431-78433 under the Medicare hospital outpatient prospective payment system (OPPS). These codes have only been in place for a few years, but have already experienced dramatic fluctuations in payment—for example:

- Payment for CPT code 78431 increased by 22 percent between 2022 and 2023, and then decreased by 18 percent in 2024.
- Payment for CPT codes 78432 and 78433 decreased by 33 and 29 percent, respectively, from 2022 to 2023.[1]

It is also worth noting that the 2024 OPPS payment rate for CPT code 78432 is $400 lower than the payment rate for CPT code 78431, even though the service described by 78432 uses more clinical resources than the service described by 78431. This suggests that the payment rate for 78432 may not adequately account for the higher costs associated with that service.

The issues surrounding PET/CT payments raise larger questions about Medicare reimbursement, such as: What causes OPPS payment rates to fluctuate from year to year? And why do the payment rates for some services not seem to align with the actual costs of providing the service?

1. CMS. October 2022 Addendum B Update; October 2023 Addendum B Update; July 2024 Addendum B Update. Available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalOutpatientPPS/Addendum-A-and-Addendum-B-Updates. Accessed July 30, 2024.

The answer, as we explain below, is that Medicare's payment rates are based on your hospital charges.

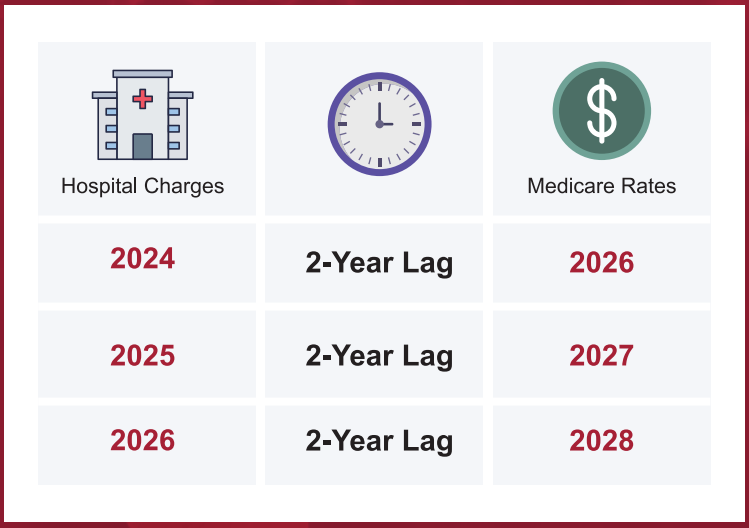
CPT†	Description	2024 National Unadjusted OPPS Payment Rate[2]
78431	Myocardial imaging, PET, perfusion study (including ventricular wall motion[s] and/or ejection fraction[s], when performed); multiple studies at rest and stress (exercise or pharmacologic), with concurrently acquired computed tomography transmission scan	$2,250.50
78432	Myocardial imaging, PET, combined perfusion with metabolic evaluation study (including ventricular wall motion[s] and/or ejection fraction[s], when performed), dual radiotracer (e.g., myocardial viability)	$1,850.50
78433	Myocardial imaging, PET, combined perfusion with metabolic evaluation study (including ventricular wall motion[s] and/or ejection fraction[s], when performed), dual radiotracer (e.g., myocardial viability); with concurrently acquired computed tomography transmission scan	$1,950.50

** Services for CPT code 78431 require two full procedures and two separate injections of radiotracer for a perfusion study. CPT code 78432 requires identical services, but rather than using two injections of the same radiotracer, two different tracers are injected for image acquisition: one for the perfusion study and one for the metabolic study. The tracer used for the metabolic study, flurodeoxyglucose (FDG), needs additional prep time than those tracers used in the perfusion study. Thus, services for 78432 require additional staff and clinical workflows than 78431.*

2. CMS. October 2024 OPPS Addendum B Update. Available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalOutpatientPPS/Addendum-A-and-Addendum-B-Updates. Accessed July 30, 2024.

Charges are the Foundation for Future Medicare Payments

Under the OPPS, the Centers for Medicare and Medicaid Services (CMS) uses the charges that hospitals report on claim forms to set future Medicare payment rates for covered services. Specifically, the charges that hospitals submit during a given year generally will be reflected in Medicare payment rates two years later, as illustrated in the following diagram:



However, hospital charges are only the starting point for future Medicare payments. Before the charges become payment rates, there is an additional step in the process: CMS converts the charges to costs using CCRs, and the average costs ultimately are the basis for the future OPPS payment amounts. CCRs and the ratesetting process are described in more detail below.

CCRs Explained

A cost-to-charge ratio, or CCR, is calculated by dividing a hospital's total costs by its total charges, based on information from the facility's cost report.[3] Each hospital has multiple CCRs, which generally correspond to different departments or cost centers.

CCRs essentially measure the extent to which hospitals mark up their costs when setting charges; the lower the ratio, the greater the markup. For example, a CCR of 0.10 would mean that a hospital marks up its costs on average by a multiple of 10x, while a CCR of 0.20 would mean that a hospital marks up by a multiple of 5x.

CCRs vary significantly by hospital and by department, which makes it difficult to generalize about CCR values. However, CMS has calculated national averages for several departmental CCRs, including the following:

Department	FY 2024 National Average CCR[4]
Cardiology	0.086
Radiology	0.128
MRIs	0.067
CT Scans	0.033

3. Research Data Assistance Center. Calculating "cost": Cost-to-charge ratios. August 14, 2013. Page 3. Available at: https://resdac.org/sites/datadocumentation.resdac.org/files/Calculating%20Cost%20-%20Cost-to-Charge%20Ratios%20%28Slides%29.pdf. Accessed July 30, 2024.

4. CMS. FY 2024 Medicare hospital inpatient prospective payment system final rule. August 28, 2023. Fed Regist 2023;88(65):58792. Available at: https://www.govinfo.gov/content/pkg/FR-2023-08-28/pdf/2023-16252.pdf. Accessed July 30,

How Charges and CCRs are Used to Set Medicare Payment Rates

Both charges and CCRs play an integral role in OPPS ratesetting. As mentioned above, CMS sets future Medicare payment rates based on average costs, which are derived by multiplying past hospital charges by the applicable CCR.

> "The OPPS is a prospective payment system that relies on hospital charges on the claims and cost report data from the hospitals that furnish the services in order to determine relative costs for OPPS ratesetting."
>
> -CMS, CY 2021 OPPS Final Rule[5]

Hospital Charges
Reported on past Medicare claim forms

X

CCR
From hospital cost reports

=

Costs
Used to set future Medicare payment rates

Because hospital charges are adjusted down using CCRs, the resulting cost amounts and Medicare payment rates will be significantly lower than the corresponding charge amounts. The following hypothetical examples use the FY 2024 radiology national average CCR of 0.128 to illustrate how five different charge amounts for CPT code 78431 (ranging from $7,500 to $17,500) would be reduced through the Medicare ratesetting process:

$7,500 Avg hospital charge	X 0.128 National avg CCR for radiology	= $960 Avg cost -> Future Medicare payment rate
$10,000 Avg hospital charge	X 0.128 National avg CCR for radiology	= $1,280 Avg cost -> Future Medicare payment rate
$12,500 Avg hospital charge	X 0.128 National avg CCR for radiology	= $1,600 Avg cost -> Future Medicare payment rate
$15,000 Avg hospital charge	X 0.128 National avg CCR for radiology	= $1,920 Avg cost -> Future Medicare payment rate
$17,000 Avg hospital charge	X 0.128 National avg CCR for radiology	= $2,240 Avg cost -> Future Medicare payment rate

5. CMS. CY 2021 OPPS final rule with comment period. December 29, 2020. Fed Regist 2020;85(249):85958. Available at: https://www.govinfo.gov/content/pkg/FR-2020-12-29/pdf/2020-26819.pdf. Accessed July 30, 2024.

As a point of reference, the 2024 national unadjusted OPPS payment rate for CPT code 78431 is $2,250.50. Although all five of the charge amounts listed above greatly exceed the 2024 OPPS rate, the application of the CCR (0.128) means that only the highest of the charge amounts ($17,500) results in an average cost ($2,240) that approximates the payment rate. The average costs associated with the other four charge amounts are significantly lower than the 2024 OPPS rate, which would likely have the effect of reducing the Medicare payment rate for CPT code 78431 in a future year.

Important: These examples are hypothetical and provided for illustrative purposes only; the listed charge amounts should not be viewed as recommendations. Actual charge amounts and CCRs will vary—often significantly—by hospital.

How Can Hospitals Use This Information to Ensure that Charges are Set at Appropriate Levels?

Reporting appropriate charges is one of the most important things that hospitals can do to help improve future Medicare payment rates. By understanding the role of charges and CCRs in the ratesetting process, providers of nuclear cardiology services will be in a better position to determine whether their facility's charges for PET scans are set at appropriate levels.

Remember: Your Charges Determine Future Payments

It is important for hospitals to review their charge amounts on a regular basis, usually at least annually. This is especially true for newer services (such as those described by PET/CT CPT codes 78431-78433), as a hospital's understanding of the costs of a service may evolve as it gains more experience with the service.

Charges for services should be evaluated to ensure that they account for both direct and indirect expenses—such as costs related to time, labor, space, supplies, and equipment, as well as administrative and other overhead expenses—and also include an appropriate markup. Where relevant, it may be helpful to examine the relative costs of different services. For example, if one service is clearly more resource-intensive than another service, is this reflected in the charge amounts for the services?

Charges also should be considered in the context of the hospital's CCR for the applicable department or cost center: What does a charge amount look like once it has been reduced by the CCR? If the resulting amount no longer covers the costs associated with a service, or if it falls below Medicare's payment rate for the service, then that could suggest a problematic charge that may need to be revisited.

A hospital's review of its nuclear cardiology charges should include not only the charges for PET scans, but also the charges for associated services and items, such as radiopharmaceuticals. This is important even for services and items that are "packaged" (i.e., not paid separately) under OPPS, as CMS may incorporate the costs of packaged services/items into future PET payment rates.

> "… it is extremely important that hospitals report all HCPCS codes consistent with their descriptors, CPT and/or CMS instructions, and correct coding principles, as well as all charges for all services they furnish, whether payment for the services is made separately or is packaged."
>
> -CMS, Medicare Claims Processing Manual[6]

Where to Start

Even if you understand the importance of appropriate charges and would like to review your hospital's charges for PET scans, the idea of taking action can seem daunting if you do not know where to begin. As a first step, we recommend starting in your own department. Many hospitals have chargemaster teams or coordinators who work with clinical departments to update charges, so there may already be someone in your department who has experience dealing with the chargemaster or charge capture; if you are able to find such a person, then they could probably help you figure out the appropriate steps to take. Examples of the types of questions to ask include the following:

- Who is the best person to talk to regarding chargemaster-related issues?
- What is the gross charge amount (i.e., before any discounts) listed in the hospital's chargemaster for CPT code 78431/78432/78343?
- How does the charge amount for each CPT code compare to the Medicare hospital outpatient payment rate?
- What is the hospital's process for evaluating and updating charge amounts?

In some cases, it may be necessary to go beyond your department. In most hospitals, the ultimate responsibility for setting and updating chargemaster prices lies with the finance department, so that is often the best place to look. People or groups with charge capture responsibilities may have titles with keywords such as chargemaster (e.g., chargemaster coordinator, chargemaster director), revenue (e.g., revenue cycle, revenue integrity), compliance, controller, or health information management. The first person you find may not be able to answer all (or even most) of your questions, but if they can point you in the right direction, that can be a significant first step. You may need to work with multiple people or groups to obtain all the assistance you need.

6. CMS. Medicare Claims Processing Manual, Chapter 4, Section 10.4. As quoted in CMS. Transmittal 12665. May 31, 2024. Available at: https://www.cms.gov/files/document/r12665cp.pdf. Accessed October July 30, 2024.

Final Thoughts

Decisions regarding appropriate charges and markups are made by each individual hospital, usually based on a variety of factors. In this document, we have highlighted important considerations related to setting charges for PET scans, but readers should defer to their hospital's own policies and practices.

Regardless of the specific approach that your facility may take, reporting appropriate charges now will help to ensure that future Medicare payment rates for PET scans more accurately reflect the true costs of nuclear cardiology services.

YOUR CHARGES MAKE A DIFFERENCE!

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