

Understanding APCs for nuclear cardiology

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On April 7, 2000, the Health Care Finance Administration (HCFA), which administers the Medicare program, published a final rule to implement a Hospital Outpatient Prospective Payment System (HOPPS).¹ The Ambulatory Payment Classification (APC) groups are the basis for Medicare hospital outpatient payments, which are scheduled to take effect August 1, 2000.² Essentially, APCs are the outpatient equivalent to the inpatient Diagnosis-Related Group (DRG) system implemented by HCFA in 1983. The APC system is an averaging and bundling system. APCs are a significant change from hospitals' current outpatient retrospective payment system.

From the DuPont Pharmaceuticals Company, Stoneham, Mass. Denise Merlino is Associate Director, Payer Relations, DuPont Pharmaceuticals Company. This article is the work of the author and does not represent official policies or positions of DuPont Pharmaceuticals. It is understood that the author and DuPont Pharmaceuticals are not rendering any legal or professional services or advice in providing this information and that DuPont Pharmaceuticals bears no liability for any results or consequences that may arise from the use of the article. This article is based on information available from a variety of resources including the American Medical Association CPT-4, HCPCS listings, and HCFA published documents, including national sources and Fiscal Intermediary Web information. CPT codes are copyright by the American Medical Association. The information in this article represents research done in good faith by the author and includes references derived from published sources and Web sites as indicated in the article. The author makes no representation as to the accuracy of any source information, and the author does not represent that any specific reimbursement outcome is to be expected when using the codes referenced in the article. Many factors affect payment for medical technologies, not all of which can be anticipated and described in this article. Providers should exercise independent clinical judgment when selecting codes and submitting claims to reflect accurately the services rendered to individual patients. Providers should also follow insurers' coding and billing instructions.

The information contained within the article is current through June 22, 2000. However, HCFA may implement other changes to the PPS system. As a result, the author makes no representation that this document is entirely accurate or complete. Please consult the Federal Register, available online, or HCFA's Web site for changes. Questions should be directed at CPT coding authorities, Medicare contractors, and other government agencies to obtain information from key decision-makers.

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There are 3 key reasons why HCFA will implement this new system: (1) the hospital inpatient DRG system has saved billions of dollars over the years, and it is expected that the outpatient APC system will do the same; (2) Congress, through several pieces of legislation, instructed HCFA to implement a prospective payment system (PPS); and (3) the current method for payment to hospital outpatients is largely retrospective (based on hospital-specific costs), meaning that co-payments for patients are based on hospital charges rather than hospital payments. In the APC system, when fully implemented, the co-payment will be 20% of the APC payment rate as opposed to 20% of the hospital charges, which have historically been high. Ultimately, patients' co-payments should be reduced significantly with the APC system.³

There are many new terms and acronyms to learn regarding this new Medicare hospital outpatient payment system (Table 1).¹ In addition, there are status indicators, developed by HCFA, to identify how the service or procedure described by the Health Care Financing Administration Common Procedure Coding System (HCPCS) codes would be paid under the hospital outpatient PPS (Table 2).¹ HCFA assigned a status indicator to each HCPCS code.

In this new PPS for outpatients, hospital billing forms do not change.⁴ Hospitals will continue to bill as they currently do with CPT-4 (CPT codes and descriptors are copyright ©1999 American Medical Association. All rights reserved.) HCPCS, and revenue codes. The difference in this new system is the method by which hospitals will get paid and how the patients' co-payments will be calculated. The most significant challenges hospitals will have are implementing the new HCPCS codes into their existing billing systems in a timely manner, shifting their focus to accurate billing, and identifying all procedure costs. This is a big change for hospitals that until this time, had little incentive within the payment system to reduce costs. In the new PPS system, those hospitals with lower costs will "win" and those with higher costs will "lose."

Background

There are several pieces of legislation that have guided the development of a PPS for hospital outpatients. First, with the Omnibus Budget Reconciliation Act of

Table 1. Acronym list

APC	Ambulatory Payment Classification
APG	Ambulatory Patient Group
AWP	Average Wholesale Price
BBA 1997	Balanced Budget Act 1997
BBRA 1999	Balanced Budget Refinement Act 1999
CAH	Critical Access Hospital
CPT	(Physicians') Current Procedural Terminology, 4th ed, 2000, copyrighted by the American Medical Association
CORAR	Council on Radionuclides and Radiopharmaceuticals
DRG	Diagnosis-Related Group
FI	Fiscal Intermediary
HCFA	Health Care Finance Administration
HCPCS	HCFA Common Procedure Coding System
HOPPS	Hospital Outpatient Prospective Payment System
ICD-9-CM	International Classification of Diseases, 9th ed, Clinical Modification
IHS	Indian Health Service
NM APC TF	Nuclear Medicine Ambulatory Payment Classification Task Force
OBRA 1986	Omnibus Budget Reconciliation Act 1986
PPS	Prospective Payment System

Table 2. APC status indicators

Indicator	Service	Status
E	Nonallowed items and services	Not paid
G	Current drug/biologic pass-through	Transitional 2- to 3-year additional payment
H	Device pass-through	Transitional 2- to 3-year additional payment
J	New drug/biologic pass-through	Transitional 2- to 3-year additional payment
N	Incidental service, packaged into APC rate	Packaged; no additional payment allowed
S	Significant procedure, not reduced when multiple procedures performed	Paid under hospital outpatient PPS (APC rate)
T	Significant procedure, multiple procedure reduction applies	Paid under hospital outpatient PPS (APC rate)
V	Visit to clinic or emergency department	Paid under hospital outpatient PPS (APC rate)
X	Ancillary service	Paid under hospital outpatient PPS (APC rate)

1986 (OBRA1986). Congress mandated, "the secretary shall develop a fully prospective payment system for ambulatory hospitals on an outpatient basis," and submit a report on the proposed system. In addition, this legislation mandated that fiscal intermediaries (FI) require hospitals to report with the HCPCS codes. The HCPCS coding enabled HCFA to determine which specific procedures and services were being billed and capture these hospital data, which would be used to develop the PPS.

The Secretary of Health and Human Services submitted this report to Congress on March 17, 1995.¹ The report stated that through a cooperative grant with 3M-

Health Information Systems (3M-HIS), HCFA contracted to develop this new hospital outpatient PPS. In 1990, the Ambulatory Patient Groups (APG) version 1.0, was the first attempt by 3M to create this new system. In APG version 1.0, all nuclear medicine (NM) procedures were placed into 3 groups: simple, intermediate, and complex. In 1995, the second version of APGs was developed and tested. In this APG version 2.0, all NM procedures were placed in 4 groups: simple, intermediate, complex, and therapy. Both these APG versions bundled all radiopharmaceuticals, related NM drugs, and supplies in with a single APG payment together with NM procedures.

Table 3. Nuclear cardiology APCs

APC	Status	Description	Relative weight	Payment
0097	S	Cardiovascular stress test	1.62	\$78.55
0286	S	Myocardial scans	7.28	\$352.99
0290	S	Standard non-imaging nuclear medicine	1.94	\$94.06
0291	S	Level I diagnostic nuclear medicine excluding myocardial scans	3.15	\$152.73
0292	S	Level II diagnostic nuclear medicine excluding myocardial scans	4.36	\$211.40
0917	X	Dipyridamole USP 10 mg, adenosine 6 mg	0.36	\$17.46

USP, United States Pharmacopela.

Table 4. APC 0097 cardiovascular stress test

CPT	Status	Description	Payment
93015	N	Cardiovascular stress test with maximal or submaximal treadmill or bicycle exercise, continuous ECG monitoring and/or pharmacologic stress, with physician supervision, with interpretation and report	0.00
93016	N	Cardiovascular stress test with maximal or submaximal treadmill or bicycle exercise, continuous ECG monitoring and/or pharmacologic stress, physician supervision only, without interpretation and report	0.00
93017	S	Cardiovascular stress test with maximal or submaximal treadmill or bicycle exercise, continuous ECG monitoring and/or pharmacologic stress, tracing only, without interpretation and report	78.55

ECG, Electrocardiogram.

The second very significant piece of legislation was the Balanced Budget Act of 1997 (BBA), in which Congress mandated that HCFA develop and implement an ambulatory PPS for hospital outpatients, with a deadline for implementation of January 1, 1999. HCFA reviewed the APG versions and developed the APC system based on the APG system. On September 8, 1998, HCFA published the proposed rules for the APC system.⁵ On June 30, 1999, HCFA published a correction to the proposed rules.^{6,7} In these proposed rules, APCs for NM consisted of 9 procedures and, similar to the APG system, the supplies, drugs, and radiopharmaceuticals continued to be bundled in with the single APC payment. Many professional organizations, physicians, industries, patients, and others sent written comments to HCFA regarding the proposed rule. The comment period for APCs closed on July 30, 1999, after four extensions.

Because of year 2000 computer and other administrative priorities, HCFA delayed the implementation date of this huge APC project. Early in 2000, HCFA promised

to implement the HOPPS by July 1, 2000, in part to respond to concerns about further delaying the reduction in beneficiary co-payments that will occur under the HOPPS.

In addition, on November 29, 1999, President Clinton signed the Balanced Budget Refinement Act of 1999 (BBRA). Notably, it restored an estimated \$3.9 billion to hospitals.¹ This legislation reversed an earlier decision by HCFA, requiring that hospital payments cover the cost of reducing outpatient beneficiary coinsurance.⁸ In addition, the BBRA is significant to NM because it allows for a 2- to 3-year transition period of separate payment for radiopharmaceuticals that, to this point, had been bundled into the APC procedure payments. To be eligible for transitional payment, HCFA is requiring that each radiopharmaceutical has a distinct HCPCS code and an average wholesale price (AWP), published in the "Redbook." If these two requirements are met, HCFA will set the payment level at 95% of the AWP as mandated by Congress in the BBRA.

Table 5. APC 286 myocardial scans

CPT	Status	Description	Payment
78460	S	Heart muscle blood, single myocardial perfusion imaging; (planar) single study, at rest or stress (exercise and/or pharmacologic), with or without quantification	\$352.99
78461	S	Heart muscle blood, multiple myocardial perfusion imaging; multiple studies (planar), at rest and/or stress (exercise and/or pharmacologic), and redistribution and/or rest injection, with or without quantification	\$352.99
78464	S	Heart image (3-dimensional), single tomographic (SPECT), single study at rest or stress (exercise and/or pharmacologic), with or without quantification	\$352.99
78465	S	Heart image (3-dimensional), multiple tomographic (SPECT), multiple studies at rest and/or stress (exercise and/or pharmacologic), and redistribution and/or rest injection, with or without quantification	\$352.99
78472	S	Gated heart, planar, single cardiac blood pool imaging, gated equilibrium; planar, single study at rest or stress (exercise and/or pharmacologic), wall motion study plus ejection fraction, with or without additional quantitative processing	\$352.99
78473	S	Gated heart, planar, multiple cardiac blood pool imaging, gated equilibrium; multiple studies at rest and/or stress (exercise and/or pharmacologic), wall motion study plus ejection fraction, with or without additional quantitative processing	\$352.99
78478	S	Heart wall motion, add-on, myocardial perfusion study with wall motion, qualitative or quantitative study	\$352.99
78480	S	Heart function, add-on, myocardial perfusion study with ejection fraction	\$352.99
78481	S	Heart first pass, single cardiac blood pool imaging (planar), first pass technique; single study at rest or with stress (exercise and/or pharmacologic), wall motion study plus ejection fraction, with or without quantification	\$352.99
78483	S	Heart first pass, multiple cardiac blood pool imaging (planar), first pass technique; multiple studies at rest and with stress (exercise and/or pharmacologic), wall motion study plus ejection fraction, with or without quantification	\$352.99

Table 6. APC 292 Level II diagnostic nuclear medicine excluding myocardial scans

CPT	Status	Description	Payment
78414	S	Non-imaging heart function, determination of central c-v hemodynamics (non-imaging) (ie, ejection fraction with probe technique) with or without pharmacologic intervention or exercise, single or multiple determinations	\$211.40
78428	S	Cardiac shunt imaging, cardiac shunt detection	\$211.40
78466	S	Heart infarct imaging, myocardial imaging, infarct avid, planar; qualitative or quantitative	\$211.40
78468	S	Heart infarct imaging (EF), with ejection fraction by first pass technique	\$211.40
78469	S	Heart infarct imaging (3-dimensional), tomographic SPECT with or without quantification	\$211.40
78499	S	Cardiovascular nuclear examination, unlisted cardiovascular procedure, diagnostic nuclear medicine	\$211.40

EF, Ejection fraction; SPECT, single photon emission computed tomography.

Table 7. APC 0917 dipyridamole, USP 10 mg, adenosine 6 mg

HCPCS	Status	Description	Payment
J1245	X	Dipyridamole, USP injection 10 mg	\$17.46
J0150	X	Injection adenosine 6 mg, adenosinard	\$17.46
J0151	E	Adenosine Injection	-

Table 8. Template for comparing payments in the APC system versus cost or current retrospective revenue system

Code number CPT or HCPCS code	Units	Subject to APC system (yes/no); If yes, APC group	Status	APC group relative weight
Enter procedure performed	Enter number of units	If the procedure or HCPCS code is subject to the APC system enter "yes" and the APC group	Incidental service, "N"; medical visit, "V"; significant procedure, "S"; surgical procedure, "T"; ancillary service, "X"; transitional pass-through, "G"; transitional pass-through, "J"	Obtain from tables
Enter radiopharmaceutical/drug/supply	Enter number of units	If the HCPCS code is subject to the APC system enter "yes" and the APC group		

Table 9. Example myocardial perfusion rest/stress study with 4 mCi of thallium 201

Code number CPT or HCPCS code	Units	Subject to APC system (yes/no); If yes, APC group	Status	APC group relative weight
78465 SPECT myocardial perfusion rest/stress	1	Yes, 286 myocardial scans	Significant procedure, "S"	7.28
A9505 Tl-201 per mCi	4	Yes, 1603 Tl-201 per mCi	Transitional pass-through, "G"	None
Total				

Payment rates above are the base national payment rate, unadjusted for local wage index and excluding patient co-payment. Examples used are not actual hospital payment costs and are for example use only.
*This example shows that the APC system will pay less than the retrospective system for this procedure.
SPECT, Single photon emission computed tomography.

HCFA reviewed the approximately 10,500 written comments to the proposed rules, incorporated the BBR provisions, and revised the proposed APCs. On April 7, 2000, HCFA published the APC final rule with an effective implementation date of July 1, 2000.¹ Specifically for NM and nuclear cardiology, the APCs were significantly restructured from the proposed 9 into 7 NM APCs

(Tables 3 through 7) and 1 new technology APC. This new technology APC included the oncology positron emission tomography procedures. When this final rule was published, only 4 radiopharmaceuticals were listed as eligible for separate payment under the BBR. However, on May 12, 2000, HCFA posted an expanded list on its Web site, which listed 39 radiopharmaceuticals as eligible for the separate payment.⁹ We can expect this list to grow and be modified as professional organizations, industry, and others work with HCFA on the translations of the AWP, the addition of new HCPCS codes, and the identification of all current and new radiopharmaceuticals eligible for transitional separate payment.

On Friday, June 2, 2000, in a letter to the American Hospital Association, HCFA delayed the outpatient PPS implementation by 1 month (until August 1, 2000). HCFA Administrator Nancy-Ann Min DeParle wrote, "I have made this decision because I believe that it is virtually impossible for HCFA or the hospital industry to implement [the new outpatient PPS] on July 1." Even after the outpatient PPS is implemented on August 1, 2000, DeParle says, "HCFA will encourage hospitals not to collect co-payments until the administration informs providers of the correct and generally lower coinsurance amounts."²

Nuclear Medicine Ambulatory Payment Classification Task Force

The Nuclear Medicine APC Task Force (NM APC TF) is composed of representatives from the following organizations: The American College of Nuclear Physicians (ACNP), the American Society of Nuclear Cardiology (ASNC), the Council on Radionuclides and Radiopharmaceuticals (CORAR), the Institute for Clinical Positron Emission Tomography (ICP), the Society of Nuclear Medicine (SNM), the Society of Nuclear Medicine Technologist Section (SNMTS), the Alpine Group as legislative counsel, and Reed, Smith, Shaw, & McClay, LLP, as reimbursement counsel.

For the past 3 years, this group of nuclear medicine professionals has united to interact, influence, and educate HCFA regarding APCs for nuclear medicine procedures. This group has dedicated thousands of hours and used a significant amount of money to educate and communicate a consensus message regarding nuclear medicine procedures to HCFA and key Congressional officials.

The NM APC TF has provided numerous comprehensive written comments and participated in meetings and conference calls with HCFA over the past 3 years to obtain an APC system that will accurately represent the resources used and needed to perform quality NM procedures. Through these outreach efforts aimed at HCFA

Discounting percentage of APC group	Total APC group payment rate	Nuclear cardiology cost or current revenue
Payment at 100% (no discounting applies); pay at 50%; pay at ___%; do not pay at all (bundled service)	Obtain from tables	Work with your finance department to obtain this valuable cost or revenue information for comparison

Discounting percentage of APC group	Total APC group payment rate	Current revenue example only not actual revenue
Payment at 100%, no discounting applies	\$352.99	\$484.00
perfusion with stress/rest		
Payment at 100%, no discounting applies	\$28.50 × 4 = \$114.00	\$80.00
	\$466.99	\$564.00 -\$97.01*

Table 10. Example myocardial perfusion rest/stress study with ECG gating and ejection fraction with technetium 99m sestamibi

Code number CPT or HCPCS code	Units	Subject to APC system (yes/no); If yes, APC group	Status	APC group relative weight
78465 SPECT myocardial perfusion with stress/rest	1	Yes, 286 myocardial scans	Significant procedure, "S"	7.28
78478 myocardial perfusion with wall motion	1	Yes, 286 myocardial scans	Significant procedure, "S"	7.28
78480 myocardial perfusion with ejection fraction	1	Yes, 286 myocardial scans	Significant procedure, "S"	7.28
93017 stress test	1	Yes, 097 CV stress test	Significant procedure, "S"	1.62
A9500 Tc-99m sestamibi per unit dose syringe	2	Yes, 1600	Transitional pass-through, "G"	None
Total				

Payment rates above are the base national payment rate, unadjusted for local wage index and excluding patient co-payment. Examples used are not actual hospital payment costs and are for example use only.

*This example shows that the APC system will pay more than the retrospective system for this procedure.
SPECT. Single photon emission computed tomography.

and Congress, the NM APC TF has been successful in increasing the number of APCs for NM procedures and identifying and correcting inconsistencies or irregularities in the proposed nuclear medicine APCs. The most significant change obtained through these efforts was separate payment of radiopharmaceuticals for a transition period of 2 to 3 years.

The NM APC TF will continue their efforts to educate, clarify, and refine the APCs for NM through work with HCFA and Congress. Specifically, they will work closely with CORAR and their industry partners to have all existing and new radiopharmaceuticals recognized and paid for appropriately. Because the process of translating a published radiopharmaceutical AWP into a product and HCPCS codes used to identify services to Medicare patients are complicated, this will be a difficult but important endeavor. In addition, the NM APC TF will continue to work with HCFA regarding the number of APCs and the placement of CPT and HCPCS codes into the appropriate APC groups.

April 7th, 2000, Hospital Outpatient Prospective Payment System Final Rule

APCs will affect approximately 5300 hospitals. Not affected are physicians' professional fees; inpatients, who will continue to be paid under the DRG system; procedures performed in physician offices, mobile units, and free-standing clinics not associated with a hospital tax identification number; 58 hospitals in Maryland that will continue to be paid in the state's payment system under the Act for Payment 1814 (b)³; and 40 other hospitals, including the Indian Health Services (IHS), and Critical Access Hospitals (CAH) 1834 (g) of the Act for Payment. Held harmless to the APC system, or those hospitals that will not be paid less under the APC system than they would have been paid under the prior retrospective system, will be 100-bed or fewer rural hospitals through December 31, 2003. In addition, some cancer hospitals will be permanently held harmless. A reconciliation will be done, if necessary, after an evaluation of the hospi-

Discounting percentage of APC group	Total APC group payment rate	Current revenue example only not actual revenue
Payment at 100%, no discounting applies	\$352.99	\$484.00
Payment at 100%, no discounting applies	\$352.99	\$64.00
Payment at 100%, no discounting applies	\$352.99	\$64.00
Payment at 100%, no discounting applies	\$78.55	\$113.00
Payment at 100%, no discounting applies	\$109.25 × 2 = \$218.50	\$160.00
	\$1,356.02 \$471.02*	\$885.00

tal payments under both systems, and HCFA will remedy any losses from the implementation of the HOPPS.

APCs cover only the hospital facility fees (technical fees). The professional fees will continue to be paid separately and are not part of the APC system. Specifically, the APCs will be paid with the UB-92 form sent out by hospitals for payment, containing such information as the CPT, HCPCS, International Classification of Diseases, 9th revision, Clinical Modification (ICD-9-CM) and revenue codes. There is no change to the billing form submitted to the FI in the APC system⁸; the change is how the hospital will get paid. The transition in payment is from a retrospective payment system to a PPS. PPSs are designed to support or motivate participants to reduce costs by allowing cost-reducing hospitals to benefit from set payments.

The implementation date for this new PPS is August 1, 2000. HCFA officials have stated that they can make changes to their computer systems effective only January, April, July, and October of each year. Please expect and

actively look for HCFA to make additions and corrections to this final rule over the next few years. Remember that the BBRA allows for only a 2- to 3-year transition payment for radiopharmaceuticals. "If providers fail to bill with appropriate HCPCS codes for radiopharmaceuticals, the cost of radiopharmaceuticals will not be paid, and the data used to determine the costs for radiopharmaceuticals APCs will be lost. As a result, the hospital will not be fully reimbursed and HCFA will underestimate the resources that are needed for nuclear medicine procedures because the true cost of radiopharmaceuticals will not be reflected in HCFA's database. If radiopharmaceutical costs are rolled back in to the APCs (at the end of the 2- to 3-year transition period), providers will not be fully paid under the APC system."¹⁰

Included in the PPS rule is a final rule concerning provider-based status for facilities and organizations created or acquired by a hospital Medicare provider and operated under the name, ownership, and control of the provider.¹¹ Many practice sites may find that under the new rules, they can no longer qualify to bill Medicare as a hospital-based outpatient setting. Effective with the implementation of the PPS, new practice sites must apply for a designation of provider-based status before billing as a hospital outpatient. Existing sites designated as provider-based do not have to reapply; however, it would be wise to obtain written verification from your regional office. Sites that do not qualify will be considered free-standing facilities by HCFA and must bill for services as physician office settings under the Medicare physician fee schedule. Medicare generally pays no facility charges to free-standing physician practice sites.¹²

How Will Ambulatory Payment Classifications Affect Nuclear Cardiology Departments?

Each hospital and specifically each nuclear cardiology department will be financially affected by the change from a retrospective payment system to the new PPS. Hospitals should place critical importance on accurate billing to maintain cash flow and perform cost analysis to determine which procedures will be paid appropriately in the new system. In addition, in this averaging and bundling system, there will be "winners" and "losers" based on a variety of factors. To evaluate and calculate the impact of APCs, individual departments will need to do several things.

Perform a billing "house cleaning." In this new PPS, the retrospective, cost-based method of payment will be replaced with the prospective system. The cost report will no longer be a fall-back method of payment for hospitals. This means that it will be critical for hospitals to code their bills accurately. If the coding is not cor-

rect on the bill, the hospital will not get paid. Each nuclear cardiology department should perform a billing house cleaning as follows:

1. Review and update the charge master and billing computer systems. Charge masters in most hospitals can be obtained from the billing or finance departments.
2. Check CPT, Revenue, and HCPCS codes to be sure they are up-to-date for each procedure.
3. Include all the recently published HCPCS codes for the radiopharmaceuticals.
4. Inform the billing and finance departments and administration about the transitional separate payment for radiopharmaceuticals.
5. Periodically check the HCFA and professional society Web sites for up-to-date information (www.HCFA.gov, www.asnc.org, and www.snm.org).
6. Read the HCPCS or CPT code descriptions carefully. If they are still unclear, contact the local FI in writing. Keep these letters to the FIs short and specific. Through the Freedom of Information (FOI) Act, a response is required. The billing department should have the FI contact information and mailing address.

Again, double check all the new HCPCS codes for radiopharmaceuticals and verify that the associated appropriate revenue code is in the billing system. Hospitals should use revenue code 636 for use with the radiopharmaceuticals and drugs in nuclear cardiology procedures.¹³ Always check with the FI if there is a question about the appropriate code for use with procedures. Remember that coding in the new PPS could be the determining factor in whether the nuclear cardiology department will get paid for the procedures performed and radiopharmaceuticals used. If the nuclear cardiology department is not billing accurately, the hospital's cash flow will be negatively affected. In addition, if billing systems do not allow for the important changes before the implementation of APCs, estimated potential losses should be discussed with the finance department. It may be more cost-effective for your hospital to purchase services and products to correct this rather than lose the revenue associated with prolonged inaccurate billing. Billing inappropriately also has potential legal implications; however, the Office of Inspector General (OIG) has indicated that it will not review billing mistakes as possible fraud during the initial implementation of the HOPPS.

Perform an analysis of your nuclear cardiology practice. Once the billing systems are updated, focus should be shifted toward a different financial implication within the nuclear cardiology department. Revenue in the

APC system can be affected differently depending on the type of procedures performed and the radiopharmaceuticals used to perform them. To estimate the financial impact APCs will have on a specific practice, an analysis should be performed.

In this analysis, determine the percentage of the outpatient procedures and the percentage of Medicare (aged 65 years and older) patients. Next, determine what the procedure mix is (high-volume or high-cost procedures with high outpatient Medicare populations). These procedures will be most affected by the APC system and need a detailed review. A worksheet is included to assist with this process (Table 8). In addition, collaborate with the finance department to define all costs associated with procedures identified as affected by APCs. It is imperative to include all costs for supplies in your analysis.

Table 8, an example of a worksheet, can be used as a template to review the revenue that will be received in the APC system for procedures performed in nuclear cardiology. The final column in Table 8 can be used to determine either cost information or current revenue. Tables 9, 10, and 11 are examples of completed worksheets for common procedures performed in nuclear cardiology. The revenue information is not actual hospital information but is for example only. Payment rates are the base national payment rate, unadjusted for local wage index and excluding patient co-payments. Examples used are not actual hospital payment costs and are for example use only.

Example 1 is a myocardial perfusion study (rest and stress) performed with 4.0 mCi of thallium-201 (Table 9). This example demonstrates that based on the estimated current retrospective system, revenue for this procedure will be less in the new APC system by approximately \$95.00 per patient. If myocardial perfusion studies are performed with this protocol and the radiopharmaceutical and a high percentage of the outpatient population is Medicare, then the department will not generate as much revenue after the implementation of the PPS. In these cases, it is necessary to shift focus and obtain current cost information to determine if these procedures will be losers or winners compared with the APC payment rates. The APC system is a unit-based system. Therefore departments must pay careful attention to the CPT and HCPCS descriptions and be sure to set up billing systems to capture and bill the appropriate units. In this example, thallium is to be billed per mCi; therefore it is important to bill for 4 units. If you are not careful with units, your hospital could be sacrificing dollars.

Example 2 is a myocardial perfusion study (rest and stress) with wall motion and ejection fraction with technetium-99m sestamibi (Table 10). In this example, the

Table 11. Example myocardial perfusion rest/stress study with wall motion and EF with Tc-99m sestamibi

Code number CPT or HCPCS code	Units	Subject to APC system (yes/no); If yes, APC group	Status	APC group relative weight	Discounting percentage of APC group	Total APC group payment rate	Current cost including overhead, example only not actual revenue
78465 SPECT myocardial perfusion with stress/rest	1	Yes, 0286 MS	S	7.28	100%†	\$352.99	\$350.00
78478 myocardial perfusion with wall motion	1	Yes, 0286 MS	S	7.28	100%†	\$352.99	\$100.00
78480 myocardial perfusion with ejection fraction	1	Yes, 0286 MS	S	7.28	100%†	\$352.99	\$100.00
93017 stress test	1	Yes, 0097 CVS	S	1.62	100%†	\$78.55	\$70.00
J1245 dipyridamole, USP per 10 mg	5	Yes, 0917	X	0.36	100%†	\$17.46 × 5 = \$87.30	\$35.00
A9500 Tc-99m sestamibi per unit dose syringe	2	Yes, 1600	G	None	100%†	\$109.25 × 2 = \$218.50	\$160.00
Total						\$1443.32 \$628.32*	\$815.00

Payment rates above are the base national payment rate, unadjusted for local wage index and excluding patient co-payment. Examples used are not actual hospital payment costs and are for example use only.

*This example shows that the APC system will pay more than the cost for this procedure.

†Payment at 100%, no discounting applies.

SPECT, Single photon emission computed tomography; MS, myocardial scans; CVS, CV stress test; S, significant procedure; X, ancillary procedure; G, transitional pass-through.

APC payment is greater than the retrospective system per patient.

Example 3 is an example of a myocardial perfusion study (pharmacologic stress and rest) with wall motion and ejection fraction with Tc-99m sestamibi (Table 11). This example is compared with the estimated current cost of the procedure including overhead and shows a profit for this procedure.

These examples demonstrate varying procedures with profit or losses on the basis of the current retrospective or cost information. There are winners and losers

with this new averaging APC system. These worksheets should be completed with hospital-specific information to demonstrate how specific nuclear cardiology departments will end up under the new APC system.

Excluded from the examples are the coinsurance and wage index adjustments. The printed payment rate is the base national payment rate, without the adjustment for local wage index. If you require additional information on how to calculate final payments taking into account the local wage index and patient co-payments, refer to *APC Essentials for Nuclear Medicine*.¹⁴

Summary

The new HCFA HOPPS with APCs is a reality. This system is an averaging and bundling system mandated by Congress and implemented by HCFA to save health care dollars and reduce patient co-payments. The BBRA allows for a 2- to 3-year transition period of continued separate payment of radiopharmaceuticals. Please review your current systems to ensure your hospital has complied with the August 1, 2000, implementation of the APC system. In addition, please continue to monitor the HCFA (www.hcfa.gov), American Society of Nuclear Cardiology (www.asnc.org), and Society of Nuclear Medicine (www.snm.org) APC link Web sites for changes to the evolving final rule, published on April 7, 2000. Any questions regarding APCs for Nuclear Cardiology can be directed to your FI, the Nuclear Medicine APC Task Force (NMAPC@snm.org) or the American Society of Nuclear Cardiology.

Finally, I would like to emphasize that nuclear cardiology departments can survive and live with APCs if you code accurately. Of key importance is to know the hospital revenue in the APC system and calculate actual costs for procedures performed in the nuclear cardiology department.

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